

NAVIGATING INCLUSIVE INNOVATION:

THE ROLE OF INSTITUTIONAL ENTREPRENEURS
IN INCLUSIVE INNOVATION INITIATIVES

Mario Andrés Pinzón-Camargo



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CHAPTER 1

Introduction

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Since their beginning, humans have had to navigate this complex world. The complexity of the world has been increasing due, in part, to human development. It has been reflected in the number of challenges faced across the years and their multidimensionality. Today, scholars call attention to address grand challenges (Kuhlmann & Rip, 2018) or defined by the United Nations, Sustainable Development Goals (United Nations, 2021). Challenges are related directly or indirectly to disparities between societies with access to the benefits of the so-called development and those who have not had access to them. Most of the time, these disparities are linked to societies placed in the denominated Global South. However, it cannot be forgotten that there are Souths in the Global North, where disparities are present, raising concerns and challenges for those Norths. Those disparities have produced, intentionally or not, processes of exclusion affecting the daily life and the future of communities in all corners of the world.

The idea of innovation has played a central role in answering those challenges linked with excluded societies. Since the last century, this idea has been linked with the desire of achieving development and social progress (Godin, 2015). In this vein, innovation has been considered a crucial driver to foster industrial productivity as the basis to increase economic growth, thus allowing the States to redistribute income to address social challenges. The role of innovation described in this paragraph to attend social challenges has been classified under an indirect approach to development (Arocena & Sutz, 2017). This role has raised several concerns because of the possibility of producing adverse effects on society instead of contributing to solving disparities (Chataway, Hanlin, & Kaplinsky, 2014; Schillo & Robinson, 2017; Opola, Klerkx, Leeuwis, & Kilelu, 2020; Westley, et al., 2011).

Innovation can be viewed as a direct approach to development, addressing directly the concerns and needs of those excluded from the benefits of the development (Arocena & Sutz, 2017). In this regard, a constellation of x-novation alternatives is emerging with the aim of coping with world challenges and driving a more sustainable and inclusive development (Thomas, Juarez, & Picabea, 2015; Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann, 2020). One of these x-novation alternatives is *Inclusive Innovation*. Conceptually, this alternative has a fuzzy definition for some scholars (Opola, Klerkx, Leeuwis, & Kilelu, 2020). However, it could be defined preliminarily as a multidimensional process (Schillo & Robinson, 2017) with the purpose of bringing conditions and tools that allow people to overcome situations of social exclusion.

Inclusive Innovation is an exciting approach to attend social concerns and needs under a direct approach to development for those living in the Global Souths. However, the fuzziness of this approach demands understanding better this concept and its scope. It is possible to identify the efforts made by different scholars to advance in the understanding of *Inclusive Innovation*. For example, Opola, Klerkx, Leeuwis, & Kilelu (2020) advanced in studying the different narratives that *Inclusive Innovation* has both in the theory and the field. Heeks, Foster, & Nugroho (2014) explained Inclusive Innovation as a process illustrated in the ladder metaphor. Schillo & Robinson (2017) discussed the multidimensional feature of the concept. Researchers like Osongo & Knorrninga (2020) and Patiño-Valencia, et al. (2020) studied the conceptual differences between Inclusive Innovation, Frugal Innovation and Social Innovation, respectively.

Considering the relevance of Inclusive Innovation to address social concerns and needs entails a process of building *path-transformative alternatives*. These *path-transformative alternatives* mean advancing toward a more sustainable and inclusive development, as mentioned before. Nevertheless,

also, it means defeating *path dependence* situations. In understanding *path dependence* situations, several authors have been working to unveil this phenomenon to explain “how the past shapes the future” (Dawley, Pike, & Tomaney, 2010, p. 655). In these efforts to study *path dependence*, its handy contribution has been identified to explain the change process (David, 2007). However, *path dependence* as a theory has received several criticisms of its canonical understanding based on David (1985) and Arthur (1989) in the 1980s. These criticisms opened the space to complement the theory with concepts like *path creation* coined by Garud and Karnøe (Sydow, Schreyögg, & Koch, 2009).

The concept of *path creation* allows for the consideration that communities are not doomed to path dependence situations but to the building of path-transformative alternatives. This consideration is possible based on the attention to the human agency as a powerful source of change and basis to building paths. This human agency exhibits two critical features. On the one hand, the agency is relational and distributed (Garud & Karnøe, 2001b; 2003; Cabero Tapia, 2019). Thus, instead of considering the existence of heroes changing the paths, it is acknowledged that a constellation of actors from different stances and roles intervene in building the path-transformative process. On the other hand, the second feature of this agency is its high level of reflexivity. It is reflected in their *critical revision* of the actions performed and in their *mindful deviation* as the capability to decide if a change from a specific course of action is needed (Garud & Karnøe, 2001b). Therefore, *Path dependence* is considered a suitable approach to understand how *inclusive innovation* contributes to building path-transformative alternatives.

Considering that communities are not doomed to path dependence situations, like those that social exclusion depicts, draws attention to their role in building path-transformative alternatives. However, as some scholars have pointed out (Farla, Markard, Raven, & Coenen, 2012; De Haan & Rotmans, 2018), the actors’ role in transformative changes has not been studied enough. In this vein and acknowledging that agency in the path-transformative changes is distributed and relational, I suggest that these changes are promoted by actors who defeat the current path and foster the building of alternative paths. One actor studied by the literature that resonates with the idea that certain actors defeat path dependencies and promote building paths is the *Institutional Entrepreneur*. Based on the development of this concept by DiMaggio (1988), Battilana, Leca, & Boxenbaum (2009) a definition of those actors is created. They suggest that these actors are agents who trigger and support the implementation of changes in a setting, which diverge from a dominant set of institutions.

Institutional Entrepreneurs can contribute to explaining how communities build path-transformative alternatives. Several studies have shown the role of *Institutional Entrepreneurs* in introducing divergent changes to build new paths in areas like regional integration (Fligstein, 1997), global sustainability (Westley, et al., 2011), or water management systems (Brouwer & Huitema, 2018). The introduction of the divergent changes understood as changes in practices are supported by the *vision of change* championed by the Institutional Entrepreneurs. In turn, the *vision of change* and the *divergent change* rely on Institutional Entrepreneurs’ *skills and strategies* (Pacheco, York, Dean, & Sarasvathy, 2010), among others, to find allies who support the building process. However, and despite the broad study of these actors, little is known about them and their performance in emerging fields (Battilana, Leca, & Boxenbaum, 2009), like those in the Global South, and their role in building path-transformative alternatives (Sotarauta & Pulkkién, 2011).

To sum up, *Inclusive Innovation* could bring an alternative to cope with the current challenges that are linked, directly or indirectly, with the paths of exclusion in the Global South. However, this direct approach to development demands a better conceptual understanding. For this purpose, *Path dependence theory*, mainly in its branch connected to *path creation*, jointly with *Institutional Entrepreneurship theory*, can support the study of *Inclusive Innovation* from an actor's perspective. Thus, combining these three theoretical branches will contribute to understanding how communities are building path transformative alternatives. These alternatives are understood as the results of a set of phases whereby the Institutional Entrepreneurs take decisions to advance in building more sustainable and inclusive development. Their reflexivity, skills, strategies, together with the acknowledgement that the agency is distributed and relational support these decisions.

The study of *Inclusive Innovation* combined with the two theoretical branches mentioned could be too ambitious. Two variables can contribute to narrowing the scope of this study. The first variable entails the question about who triggers *Inclusive Innovation*. In this regard, among different sources that can trigger *Inclusive Innovation*, like the non-profit organisations, multilateral organisations (Chataway, Hanlin, & Kaplinsky, 2014) or self-organised communities, this book draws attention to the State. Despite discussions about its role, it is still the main player responsible for finding solutions to solve the social disparities and the exclusion process produced by indirect approaches to development. However, it is also necessary to acknowledge the efforts that the society represented by local communities in remote settings, like those that the Global South symbolises, has been making over the years. Those efforts have been guided by people who have to guide their communities to build a path-transformative process, performing the role of Institutional Entrepreneurs for overcoming the disparities that are featured in their settings.

A second variable that contributes to defining the boundaries in this research is the research setting. In this sense, this study will draw attention to those settings where the State and communities have to deal with problems of poverty and inequality which are expressions of social disparities produced by economic development models, intentionally or not, and linked with the Grand Challenges that the State has to navigate. Most of the time, settings that exhibit these problems are assumed as being placed in the Global South. However, as previously mentioned, there are Souths in the Global North where the lessons from the Global South can contribute to addressing social needs and concerns.

The elements above guide me to pose the following research question in this study: *What is the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in local communities?* In this research question, Institutional Entrepreneurs are the unit of analysis. This study looks to contribute to cementing direct approaches to development that, like *Inclusive Innovation*, offer opportunities for building a path-transformative process.

From a constructive viewpoint, this study follows an abductive approach (Awuzie & McDermott, 2017), that combined with a case study research (Yin, 2018), will allow me to go back and forth between theory and data. This process can be illustrated through the idea of sailing the ocean using a sextant as a metaphor. *Sextants* are technologies that combine the position of celestial bodies with the horizon to identify coordinates (Britannica, T. Editors of Encyclopaedia, 2019). In this study, the celestial bodies are the constellation of concepts that emerge from the three theoretical branches that assemble the conceptual framework: *inclusive innovation, path dependence and creation, and*

institutional entrepreneurship. The horizon is represented by three in-depth cases of study from the Colombian Andean mountains. In this study, I developed two heuristics as an exploratory research strategy (Kuhlmann, Stegmaier, & Konrad, 2019) which worked as a sextant to find the coordinates to answering the research question mentioned. Thus, like a sailor, I used a sextant to navigate a ship that was rocking from side to side due to the socially complex waves in a back and forth movement between theory and data.

The arrival to the coordinates of the answer to the research question in this study makes five sets of contributions. The first unveils the development of a set of heuristics, the *Path-transformative heuristic* and the *InIn-Radar*. These heuristics guide the study of the case studies and allow me to find the answer to the research question of this study. These heuristics depart from the conceptual realm in Chapter Two, and by doing the study of the three cases, they are enriched, challenged, and reconsidered in their assembling. This development in the heuristics can be tracked in Chapter Two, where the first heuristic is assembled. In Chapter Three, the starting concepts to operationalise those heuristics are presented. At the end of Chapter Four, the enrichment of the Path-transformative heuristic is described in detail. Finally, Chapter Five begins with the description and explanation of the InIn-Radar. Each heuristic has a special purpose in this research. The *Path-transformative heuristic* informs me about the context, the features, the Institutional Entrepreneurs and their characteristics, strategies, and mechanisms to build a Path-transformative pathway. In turn, the *InIn-Radar* spotlights the role of InIn supported by National Entities in Local Communities and how those initiatives are linked with the Institutional Entrepreneurs and their path-transformative processes. In this way, it is possible to realise that the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities is to be the channeliser between the InIn and their Path-transformative processes.

The second set of contributions of this research is linked with the concept of Inclusive Innovation. This research provides building blocks to advance in decoding this concept. In this sense, this research suggests, drawing on the work of Schillo & Robinson (2017), to understand Inclusive Innovation as a multidimensional concept. Along with the development of the heuristics, this concept and its dimensions are challenged, enriched, and reconsidered. The exercise of going back and forth between theory and data allows me to sharpen this concept by discussing it and clarifying the notion of *Inclusive Innovation Initiatives*. Besides, it is possible to realise the crucial role that tentative governance plays to trigger Inclusive Innovation and the role played by Inclusive Innovation in the Path-transformative process.

In the third place, based on Path dependence and creation, the third set of contributions are built. Besides offering insightful concepts to explain the path-transformative process from an agency perspective, the operationalisation of Path dependence and creation guide me to discuss the apparent linearity of the paths. In this discussion, Path dependence and creation are conceived and studied as a set of interchangeable modules or phases that Institutional Entrepreneurs boosted to build their Path-transformative processes. This modularity, in turn, provides a more real perspective to the explanatory capability of these approaches by capturing the advances and setbacks in building paths.

The fourth set of contributions from this study belongs to the Institutional Entrepreneurship theory and agency. It makes four contributions:

1. It is possible to advance in the endeavour of studying the role of actors in transformative processes.
2. The study of Institutional Entrepreneurs in Inclusive Innovation Initiatives confirms that the agency is distributed and relational instead of considering Institutional Entrepreneurs as heroes.
3. This study allows me to analyse Institutional Entrepreneurs in not common settings like those explored in the literature and linked with the Global South.
4. Studying Institutional Entrepreneurs open a space to reflect on the links between agency and social capital.

The last but not least contribution of this research reflects the specificity of the contributions mentioned above and arises from the Colombian context, a country in the Global South. This reflection attempts to explain how the fourth sets of contributions mentioned above aim to expand the Global North's understanding of their and our Global Souths. Even more, considering that beyond a geographical category, the Global South refers to those excluded from the benefits of the so-called development. In this sense, it is possible to claim the existence of Global Souths within Global Norths (Lopez, 2007; Kloß, 2017; Schneider, 2017).

This research comprises eight chapters divided into four sets with the aim of reflecting the back and forth movement between data and theory from the abductive approach. The first set is constituted by Chapters Two and Three. Chapter Two has two purposes. The first one is to establish the conceptual framework that will support the navigation. In this sense, this Chapter discusses the celestial bodies that will guide my cruise. The second purpose of this Chapter is to build the first sextant, the Path-transformative heuristic, to sailing the complexity of the case studies. In turn, Chapter Three describe the methodology followed in this research, the cases selection process, the general features of the dominant setting of the cases, and the data considered in this study. The second set comprises the analysis of the three case studies. This analysis is conducted in Chapters Four and Five and presented as a complementary exercise where Chapter Four is guided by the Path-transformative heuristic and Chapter Five by the InIn-Radar. The InIn-Radar as the second heuristic to tune my sextant is introduced in Chapter Five before navigating the cases. The third set has a twofold purpose. First, to present a plausible explanation of the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in local communities. This purpose is achieved in Chapter Six by an effort in combining the Path-transformative heuristic and the InIn-Radar as a solid sextant. The second purpose of this third set is to present and discuss the conclusions of this navigation. This purpose is addressed in Chapter Seven. The final set of this research is shaped by Chapter Eight. Chapter Eight aims to acknowledge the limitations of this research and to point out further opportunities for research. Besides, this Chapter reflects on possible policy advice that emerges after concluding this sailing experience.

CHAPTER 2

Navigating Inclusive Innovation

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Innovation has evolved from being forbidden in the eighteenth century to being linked to development and social progress in the last century (Godin, 2015). This link between innovation and social progress has emerged mainly from its contribution to fostering economic growth (Schillo & Robinson, 2017; Papaioannou, 2014) by boosting industrial productivity and, economic competitiveness (Levidow & Papaioannou, 2017). Currently, this role assigned to innovation is considered to be the mainstream in innovation policies. However, several scholars have pointed out concerns (Patnaik & Bhowmick, 2020) about possible adverse effects that this mainstream can or is producing in society in terms of marginalisation (Opola, Klerkx, Leeuwis, & Kilelu, 2020), social exclusion (Mortazavia, Eslamib, Hajikhanic, & Väätänen, 2020; Schillo & Robinson, 2017; Chataway, Hanlin, & Kaplinsky, 2014), and inequality (Levidow & Papaioannou, 2017; Patiño-Valencia, Villalba-Morales, Acosta-Amaya, Villegas-Arboleda, & Calderón-Sanín, 2020; Schillo & Robinson, 2017).

The beforementioned concerns have led to considering the role that innovation and innovation policies can play in addressing grand societal challenges (Kuhlmann & Rip, 2014), mainly in the so-called Global South (Patnaik & Bhowmick, 2020), and considering the contemporary global economic situation (Fressoli, et al., 2014). Thus, a large set of innovation alternatives has emerged regarding innovation's role in coping with the need to achieve sustainable, inclusive development (Thomas, Juarez, & Picabea, 2015; Schillo & Robinson, 2017). According to Onsongo and Knorringa, this new set of alternatives aims “at improving the welfare of marginalized communities and low-income groups” (2020, p. 1). Several scholars share this interpretation (Patnaik & Bhowmick, 2020; Schillo & Robinson, 2017; Mortazavia, Eslamib, Hajikhanic, & Väätänen, 2020; Thomas, Juarez, & Picabea, 2015). These elements explain why several scholars have suggested the current interest in these alternatives from international organisations (Arocena & Sutz, 2017; Heeks, Foster, & Nugroho, 2014; Smith, Stirling, & Berkhout, 2005). Examples of those organisations are the OECD, UNDP, The World Bank, Nesta, the Interamerican Bank of Development, and the Economic Commission for Latin America and the Caribbean.

This research will focus on the concept of Inclusive Innovation (InIn hereinafter). This concept forms part of a set of different innovation alternatives which are trying to cope with the unfortunate incidence that STI policies and their institutional arrangements have produced in terms of inequality and poverty (Cozzens S. E., 2008; Heeks, Foster, & Nugroho, 2014; Pansera & Owen, 2018). This selection relies on the potential of InIn for coping with economic and social concerns in complementary and direct ways. This concept contrasts with alternatives like the Base of the Pyramid (BoP hereinafter) or frugal innovation. Hence, while the first one is part of a set of alternatives focused on attending economic concerns directly and social concerns indirectly (Thomas, Juarez, & Picabea, 2015), the second one belongs to a trend centred on the “product design processes, business model innovation and resource use” (Onsongo & Knorringa, 2020, p. 3). Another concept that offers an exciting contrast to InIn is Social Innovation. As it will be discussed in Section 2.1.3, despite the aim of Social Innovation to address social concerns, it does not consider the possible effects on social exclusion¹.

1 A discussion around the possible differences between InIn and other approaches will develop in section 2.1.3.

InIn has a set of features that could support the process of creating alternative paths, or Path-transformative pathways, with the aim of bringing “new opportunities for sustainable, social, economic development” (Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann, 2020, p. 9). In building the Path-transformative process, the notions of Path dependence (David, 1985; Arthur, 1989) and Path creation (Garud & Karnøe, 2001a) are essential as a framework for explaining interplays between actors, their context, and their intentions. On the one hand, Path dependence will contribute to explaining situations like the current lock-in of the role assigned to innovation. On the other hand, Path creation will provide elements to understand how actors can exert processes of mindful deviation and critical revision (Garud & Karnøe, 2001b) to overcome situations of inequality and poverty by using innovation. Thereby, the past, present, and future are part of the social journey (Mouritsen & Dechow, 2001) and crucial to unveil change processes (Martin & Sunley, 2006).

Besides InIn, Path dependence and Path creation, the role of actors is crucial for this research. This research finds in Institutional Entrepreneurs a type of agency that contributes to building path-transformative processes and is aligned with the Path Creation’s human agency (Garud & Karnøe, 2001b; 2003). Breaking poverty and inequality paths will be the InIn’s lighthouse that will guide the Institutional Entrepreneurs’ implementation of their skills, strategies, and self-reinforcement mechanisms. These elements will support introducing a divergent change (Battilana, Leca, & Boxenbaum, 2009) where new and modified practices may transform the future for all the actors involved in the Institutional Entrepreneurs’ endeavours.

The study and discussion of these three sets of theoretical approaches, InIn, Path dependence and Path creation, and Institutional Entrepreneurship, will act as an aid in answering the following research question: *What is the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities*. To this end, this chapter has been organised into four sections, including this short introduction. Thus, while the following section (section 2.1) will address the conceptualisation of InIn, section 2.2 will reflect on the concepts of Path dependence and creation and Institutional Entrepreneurs. These sections will cover discussions about the concepts, weaknesses, and possibilities of these three fields to explain the role of Institutional Entrepreneurs in Inclusive Innovation initiatives supported by National Entities in Local Communities. The last section of this chapter (section 2.3) will unveil an operationalisation perspective, instead of a conceptual one, of the concepts that shape each of the three theoretical approaches mentioned. The Path-Transformative heuristic presented by Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann (2020) will contribute to that aim.

2.1. Understanding Inclusive Innovation

InIn is the first conceptual pillar in this research. It is a promising concept, although it has been considered a fuzzy research field by several scholars (Onsongo & Knorrninga, 2020; Chataway, Hanlin, & Kaplinsky, 2014; Opola, Klerkx, Leeuwis, & Kilelu, 2020; Patiño-Valencia, Villalba-Morales, Acosta-Amaya, Villegas-Arboleda, & Calderón-Sanín, 2020). Examples of this fuzzy situation include the broad set of possible definitions of this concept (See *Table 1*) and its lack of neutrality (Papaioannou, 2014) regarding its association with the approaches to development. As discussed in the introduction to this chapter, InIn entails the promise to cope with exclusion problems, like poverty and inequality, using innovation.

This section aims to contribute to the discussion and to provide a more precise description of the InIn concept. In doing so, this section has six sub-sections. The first will set the concept based on two different narratives about the role of innovation. Afterwards, in section 2.1.2, I will analyse the role of inclusion or exclusion in InIn as an essential element of its conceptualisation. Based on these elements, section 2.1.3 will describe some attempts at defining InIn, their limitations and advantages, and in section 2.1.4, I will advance the definition of this concept. The fifth subsection will draw attention to the role of Institutional Logic as a relevant feature in InIn. Finally, it will discuss the State's role in InIn considering that this study aims to understand the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities. Accordingly, the role of the State, represented by National Entities, in the research question is crucial.

2.1.1. Indirect and Direct approaches to development and InIn

The previous section depicts two possible roles assigned to innovation. To understand these roles is relevant to unfold the concept and identify where InIn is located among the innovation narratives. This section will discuss these two possible roles assigned to innovation and innovation policies.

Those roles assigned to innovation have emerged conceptually speaking from reflections between Science, Technology and Innovation Studies (STIS) and Development Studies (DS). The strong link between innovation and development is acknowledged by several authors (Cozzens, Gatchair, Kim, & Ordóñez-Matamoros, 2007; Cozzens & Kaplinsky, 2009; Fagerberg & Srholec, 2009; Bortagaray & Ordoñez-Matamoros, 2012; Kuhlmann & Ordóñez-Matamoros, 2017). And like Cozzens & Sutz (2014), they call for action to identify alternatives for all those that do not benefit from the market.

These roles have been defined in categories that contrast between them. For example, technonationalism vs development and inclusion (Rennkamp, 2011), indirect vs direct approaches to development (Arocena & Sutz, 2017), and market-centred vs social-centred approaches (Pansera & Owen, 2018). Despite these examples describing the same elements, I will follow Arocena and Sutz's model regarding its simplicity and explanatory capacity to describe those roles assigned to innovation and innovation policies.

In this vein, the indirect approach to development depicts the innovation policy's mainstream in research and development (Bortagaray & Ordoñez-Matamoros, 2012) and productivity (Heeks, Foster, & Nugroho, 2014). Romer's studies in economic growth (1986) were robustly helpful to

support this perspective by showing the relevance of technological change in the production function. This approach suggests that society will increase their well-being due to the positive effect of innovation policies on economic productivity by boosting firm competitiveness and efficiency. Once innovation policies foster economic productivity, economic growth will increase. Then, the State will have more resources to be redistributed for addressing social concerns like poverty and inequality.

In contrast, in a direct approach to development, the role of innovation is to deal with social concerns directly. It means that innovation and innovation policies are conceived to increase cooperation, participation, and learning, among other social capabilities (Bortagaray & Ordoñez-Matamoros, 2012). The strength and development of these capabilities will allow society to address its own social needs firsthand, thus improving the well-being of all. In this approach, innovation provides spaces and tools to societies to solve their problems, making them the owners of their future.

A reflection around InIn in the frame of direct and indirect approaches to development is challenging because of the lack of neutrality conveyed in this term (Papaioannou, 2014). It allows associations between this concept and any of the approaches to development previously referred to. Thus, market-centred or social-centred approaches can explain InIn initiatives' implementation (Papaioannou, 2014; Pansera & Owen, 2018). Besides, they can compete between them from a policy perspective (Pansera & Owen, 2018). A market-centred understanding of InIn is aligned with the idea of Inclusive Growth (George, McGahan, & Prabhu, 2012; Patiño-Valencia, Villalba-Morales, Acosta-Amaya, Villegas-Arboleda, & Calderón-Sanín, 2020). In this realm, the role of InIn aims to make markets, products, and services accessible to people (Papaioannou, 2014; Pansera & Owen, 2018). Thus, people living under marginalised conditions become active consumers.

A non-market-oriented approach to InIn goes beyond the economic growth literature that supports the inclusive growth stream (Schillo & Robinson, 2017). In this sense, InIn is considered better aligned with the idea of innovation for inclusive development² (Onsongo & Knorrninga, 2020), and in general, they are viewed as synonyms. Regarding the direct and indirect approaches to development, I argue that InIn is settled under the direct development approach. As it will be discussed in the following section, InIn is a set of strategies to foster development in marginalised settings, and it is featured by working directly with these communities and empowering them (Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann, 2020). Thus, the consistency between the notion of InIn and the direct approach to development is clear. However, for a better understanding of InIn, it is necessary to discuss the idea of *Inclusion* as a central element of this set of strategies to promote development directly. The focus of the next section will be the discussion on *Inclusion*.

2.1.2. The Inclusion or Exclusion in InIn

One central element to work on InIn conceptualisation is the notion of inclusion. It is considered “a fashionable word at the moment, it involves a diversity of interpretations and ways of framing

2 Development: It “refers to changing people’s conditions by removing various types of socio-economic, political and natural constraints, which leave them unfree to enjoy equal social relations and pursue the kinds of life they value” (Papaioannou, 2014, p. 187).

what gets included, and what remains excluded” (Fressoli, et al., 2014, p. 278). Likewise, inclusion has been considered to add or incorporate something (Sengupta, 2016). Some authors have tried to define inclusion, highlighting the need of building capabilities as a medium to be part of the market (Gupta, 2012) and avoid marginalisation (Papaioannou, 2014). Besides, other scholars (Heeks, Amalia, Kinty, & Shah, 2013) have considered that inclusion could be understood as being the active participation of marginalised actors.

In studying InIn, Onsongo & Knorringa (2020) make an interesting and illustrative analysis around the negative understanding of inclusion in connection to society, and social exclusion. The concept of social exclusion emerged around the 1970s in France (Sen, 2000; Rizo López, 2006; Onsongo & Knorringa, 2020), and it expressed the lack of integration of a specific set of people³. It depicted the “rupture in the social fabric of the society due to the failure of the state” (Onsongo & Knorringa, 2020, p. 5). In a contemporary reinterpretation of this concept, social exclusion is considered a structural process since the end of the 1980s and early 1990s (Rizo López, 2006).

Social exclusion is a multidimensional process (Rizo López, 2006; Onsongo & Knorringa, 2020) featured by “dynamic processes and institutions that cause and reinforce deprivation” (Onsongo & Knorringa, 2020, p. 7). Following Castel’s explanation (Castel, 1990), three concentric circles (see *Figure 1*) can explain a process of social exclusion. A small white circle represents the centre, and it comprises the section of society that is included. A medium grey circle depicts those who are not totally included nor completely excluded. They are labelled as a vulnerable group. Finally, the black outer ring illustrates those who “are in an isolation situation, deprived of the more basic social rights” (Rizo López, 2006, p. 5)⁴. Considering that social exclusion is a dynamic process, people can go back and forth between the three circles.

Four sources of exclusion can explain people’s movements between the three concentric circles illustrated in *Figure 1*. These sources of exclusion can be divided into two sets. The first set is integrated by the State, the Society and the Market (Rizo López, 2006; Patiño-Valencia, Villalba-Morales, Acosta-Amaya, Villegas-Arboleda, & Calderón-Sanín, 2020). These exogenous exclusion sources can push and displace people from the first concentric circle’s centre towards the third circle’s borders. The blue arrows in *Figure 1* depict these movements, which can start in any of the three circles. The green arrows represent movements from the black outer ring toward the white centre. Section 2.1.4 will explain those green arrows. The second set of social exclusion sources relies on people’s own decisions to be self-excluded (Rizo López, 2006).

3 It is worth considering that there are differences between the Eurocentric and the Anglo-Saxon understanding of social exclusion. Rizo López explains such differences in the following terms: Thus, while a Eurocentric comprehension of social exclusion expressed a social fracture that constrained the enacting of rights and duties by some citizens who were left outside the labour market and social benefits, the Anglo-Saxon understanding relied on concepts such as poverty and underclass (Rizo López, 2006, pp. 3-4).

4 Free translation.

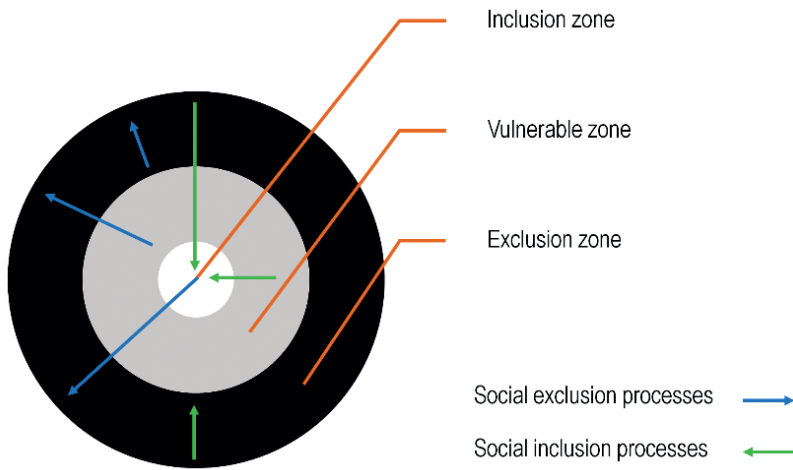


Figure 1. Processes of Social Exclusion or Inclusion.
 Source: Own elaboration.

Regarding these two sets of social inclusion sources, I will focus this research on the first set. The analysis of the second set of exclusion sources goes beyond the scope of this research. The study of the possible motivations and rationalities that lead actors to be self-excluded suggests a different research question from the understanding of Institutional Entrepreneurs’ role in InIn initiatives supported by National Entities in Local Communities.

To sum up, social exclusion is “a multidimensional and multicausal process where several factors and agents take an active role” (Rizo López, 2006, p. 9). A better understanding of this process’ role in InIn requires discussing the latter concept’s meaning and features. It will be the purpose of the following sections.

2.1.3. Discussions and attempts at defining InIn

InIn is a challenging concept because it “is a weakly defined area of enquiry, with multiple roots and little synthetic analysis” (Chataway, Hanlin, & Kaplinsky, 2014, p. 39). The fuzziness of the InIn concept can be acknowledged by the different definitions assigned. **Table 1** shows an illustrative example of the different meanings that InIn holds, including the policy realm.

Table 1. Attempts to define InIn

Authors	Definition
Altenburg	“Especially in poor countries, innovation policy should focus on inclusive innovation and their diffusion. Innovations are inclusive in [that] they benefit the poor in terms of additional income and employment. Although creative destruction is part of the process of innovation, the emerging productive activities that replace less efficient ones should be accessible for poor people” (2009, p. 50).
George, McGahan, & Prabhu	“we define inclusive innovation as the development and implementation of new ideas which aspire to create opportunities that enhance social and economic wellbeing for disenfranchised members of society” (2012, p. 663).
Foster & Heeks	“inclusive innovation explicitly conceives development in terms of active inclusion of those who are excluded from the mainstream of development (...) inclusive innovation therefore refers to the inclusion within some aspect of innovation of groups who are currently marginalized” (Foster & Heeks, 2013, p. 335).
Heeks, Amalia, Kinty, & Shah	“(...) this is the means by which new goods and services are developed for and/or by those who have been excluded from the development mainstream; particularly the billions living on lowest incomes” (2013, p. 1).
OECD	“implementing ‘inclusive innovation policies’ – a specific set of innovation policies that aim to boost the innovation capacities and opportunities of individuals and social groups that are underrepresented in innovation, research and entrepreneurship activities. Their goal is that all segments of society have opportunities to successfully participate in and benefit from innovation (here termed ‘social inclusiveness’)” (OECD, 2017, p. 9).
Swaans, et al.	“inclusive innovation, that is, the means by which new goods and services are developed for and by the poor” (2014, p. 239).
Harsh, et al.	“Inclusive innovation focuses on how poor and marginalized communities can benefit from innovation. Where mainstream or traditional innovation often widens inequalities, inclusive innovation reduces inequalities” (2017, p. 597).
Levidow & Papaioannou	“‘inclusive innovation’ initially emphasized innovations accommodating needs of lower income people, enhancing their capabilities, improving their welfare and potentially empowering them” (2017, p. 1).

Source: Own elaboration.

The InIn fuzziness definition has led some researchers to consider that:

Rather than trying to clarify the ambiguity, further research could provide insights on how different pathways of inclusive innovation can be pursued simultaneously rather than merging the different narratives into an all-encompassing theory of inclusive innovation (Opola, Klerkx, Leeuwis, & Kilelu, 2020, p. 20).

Despite the warning by Opola, Klerkx, Leeuwis, & Kilelu (2020), it is possible to identify some common but distinctive dimensions among these definitions (See section 2.1.4). I agree with the idea of considering InIn based on different understandings and, therefore, narratives from the actors involved in these initiatives. However, acknowledging these narratives should not mean

rejecting the need to find building blocks that allow a better understanding of this phenomenon. For this purpose, for example, Heeks, Foster, & Nugroho (2014) provides an account of InIn by using a metaphor of a ladder.

Six steps shape the InIn ladder developed by the beforementioned authors. According to *Table 2*, these steps start from a first step linked with the “intention” of an InIn initiative to the sixth step connected with a “post-structural” phase of such initiative. The movement from the first to the sixth step expresses an increase in the complexity of the ladder. Thus, each level in the ladder represents a challenge for InIn initiatives and seeks to explain InIn as a complex process instead of a small and straightforward phenomenon focusing only on outputs (e.g. frugal innovation). In this sense, InIn initiatives may achieve different levels of inclusion in this ladder.

Table 2. Inclusive innovation as a ladder

Step-ladder	Description
i) Intention	Ways to improve user-producer interaction; strengthen local regulation.
ii) Consumption	“The way that horizons for good practice expand as one’s perspective moves up the inclusive innovation ladder”.
iii) Impact	“Improvements to design and use of new goods and services”.
iv) Process	“To improve the process by which those innovations are designed, developed and diffused”.
v) Structure	“Practitioners on recommendations around the structuring of those processes”.
vi) Post-structural	“Examination and understanding of the frames of knowledge which key actors bring to inclusive innovation”.

Source: Heeks, Foster, & Nugroho (2014, p. 183).

Understanding InIn as a ladder can be used to support some authors who suggest understanding InIn as an umbrella term (Pansera & Owen, 2018; Onsongo & Knorrninga, 2020; Pinzón-Camargo & Centeno, 2021). According to Pansera & Owen (2018)⁵, this umbrella will contribute to connecting “(...) previously distant discursive worlds (e.g. innovation, development and inclusion) and, in doing so, promote different normative agendas” (p. 25). In light of this, other innovation streams such as Based of the Pyramid, Frugal Innovation, Grassroots Innovation, Social Innovation, among others, can be understood as part of the InIn umbrella. *Table 3* presents a summary of the most commons models around inclusive innovation.

5 These authors took this metaphor from Rip & Voß (2013).

Table 3. Some Innovation Streams

Innovation Stream	Description
The Base of the Pyramid	Developing products and services by large enterprises is affordable and in accordance with poor populations' reality (Thomas, Juarez, & Picabea, 2015), making them active actors.
Below the radar innovation	"Exploiting local markets and using locally available resources, they introduce new products more accessible to the poor and utilize new technologies which are more inclusive of poor producers" (Chataway, Hanlin, & Kaplinsky, 2014, p. 38).
Cluster innovation	"(...) is innovation that takes place within a collocated group, in which the innovation cannot be attributed to any individual but to a process of group learning. Typically – as in this case – this is a group of micro-/small enterprise owners" (Heeks, Foster, & Nugroho, 2014, p. 179).
Frugal innovation	According to Chataway, Hanlin, & Kaplinsky (2014), this term is from India. It represents all those innovations that are developed trying to minimize the number of resources that should be invested in all the production process, achieving products and services affordable for low-income populations (Arocena & Sutz, 2017; Mortazavia, Eslamib, Hajikhanic, & Vääätänen, 2020; Onsongo & Knorringa, 2020).
Grassroot innovation	In this case, marginalized people in their organisations mainly develop innovations (Arocena & Sutz, 2017). They can involve academic, activists and practitioners' participation (Fressoli, et al., 2014), all of them to generate alternative solutions to their local needs. Some traits of this stream "include affordability, availability, awareness, and acceptability" (Patnaik & Bhowmick, 2020, p. 3).
Innovation platforms	"(...) are mechanisms to bring together a group of stakeholders with a focus on innovating to address a particular issue of common interest" (Heeks, Foster, & Nugroho, 2014, p. 179).
Participatory innovation	According to Buur & Matthews (2008), it seeks to mix participatory design and anthropology design in a market-oriented approach. Its primary motivation is pecuniary, and its crucial success measures are profits (Borgen & Aarset, 2016).
Reverse Innovation	It is similar to frugal innovation. However, its distinctive feature is that "reverse innovation is launched ultimately in developed countries (MNEs test products or services through frugal innovation in developing countries, and then launch the offering in the developed market of their origin)" (Mortazavia, Eslamib, Hajikhanic, & Vääätänen, 2020, p. 5).
Social Innovation	It is understood as a collective endeavour with the aim of "achieving productivity, business competitiveness and the creation of social values" (Patiño-Valencia, Villalba-Morales, Acosta-Amaya, Villegas-Arboleda, & Calderón-Sanín, 2020, p. 4). Other authors suggest, "Social innovation is broadly defined as the emergence of new social, organisational and institutional arrangements or new products and services designed to address aspirations, to meet needs, or to bring about a solution to a social challenge" (Bitencourt, Marconatto, Cruz, & Raufflet, 2016, p. 14).
User-producer interaction	"(...) focuses on the learning and innovation which occurs in the connection between producers and consumers" (Heeks, Foster, & Nugroho, 2014, p. 179).
Transformative Innovation	It can be referred to policies with that aim to "change socio-technical systems towards a more sustainable direction. It entails changing the economy, social relationships and the relationships between the people and their environment" (Schot, et al., 2020, p. 10).

Source: Own elaboration.

However, both the InIn ladder and considering InIn as an umbrella term have some drawbacks. From the viewpoint of the ladder metaphor, it is possible to identify three shortcomings of this metaphor. First, it is mainly focused on one dimension of InIn, the procedural dimension. In that sense, the ladder looks to explain the process to increase the complexity in implementing InIn initiatives, but it does not account for other traits of InIn. Second, the ladder has a linear understanding of the InIn process implicitly. It does not contribute to explaining processes where actors can achieve, for example, the process' ladder-step without having access to the consumption' ladder-step (Pinzón-Camargo & Centeno, 2021). Finally, this metaphor has a market-centred tone which does not account for non-market-oriented InIn initiatives (Pinzón-Camargo & Centeno, 2021).

Regarding the consideration of InIn as an umbrella term, this consideration does not contribute to bringing conceptual clarity and understanding to InIn. On the contrary, considering InIn as an umbrella term adds fuzziness to the concept, making it less clear. In that regard, several scholars (Thomas, Juárez, & Picabea, 2015; Onsongo & Knorrninga, 2020; Patiño-Valencia, Villalba-Morales, Acosta-Amaya, Villegas-Arboleda, & Calderón-Sanín, 2020) have been working on setting the boundaries between InIn and other innovation streams like those illustrated in *Table 3*. For example, Onsongo & Knorrninga (2020) suggest that “an inclusive innovation lens accentuates the participation of marginalized actors and poverty reduction, while a frugal innovation lens highlights product design processes, business model innovation and resource use” (p. 3). In the same vein, Patiño-Valencia and his colleagues argue that in contrast to InIn, Social Innovation aims to provide solutions to social concerns but disregards the effect on decreasing levels of people experiencing exclusion conditions (Patiño-Valencia, Villalba-Morales, Acosta-Amaya, Villegas-Arboleda, & Calderón-Sanín, 2020). Besides, looking at InIn and *Transformative Innovation*, it could be argued that the hierarchy in their targets is different. Thus, while *Transformative Innovation* seems to promote a socio-technical system change, InIn is focused on addressing social needs and concerns, disregarding whether a socio-technical system is transformed or not. Considering the challenge of working on the objective of a better conceptualisation of InIn, the next section will draw attention to the existing literature on InIn to provide insights on it.

2.1.4. Towards an InIn definition based on its dimensions

Considering that in section 2.1.2 it was pointed out that social exclusion is a multidimensional process, InIn should contemplate a similar perspective. In light of this, based on the process of social exclusion or inclusion which drew on the ideas by Castel (1990), it is possible to claim that InIn is not a binary process of inclusion-exclusion. This claim also considers Bijker's reflections about the notion of inclusion (Bijker, 2012). Thus, InIn should be understood as a dynamic process with grey areas along the black exclusion and the white inclusion circles in *Figure 1*. It means that people can be in a certain degree of exclusion or inclusion (Bijker, 2012). In this frame, the role of InIn is to provide conditions and tools for people to create opportunities and allow them to move in the direction of the green arrows in *Figure 1*. In other words, InIn should contribute to alleviating the people's social condition regarding the process of exclusion produced by the first set of sources of social exclusion discussed in section 2.1.2.

Moving forward by contemplating InIn as a multidimensional process, the work by Schillo & Robinson (2017) provides a useful starting point to discuss the possible InIn dimensions. In their work, they suggest four dimensions to understand InIn. Those dimensions are “people”, “activities”, “outcomes”, and “governance”. They emerge from the author’s reflections about the who, the what, the why and the how. Based on an analysis of the literature, it is possible to identify two additional dimensions that complement their work, *Inputs and places*. The study of these six dimensions will contribute to the process of the conceptualisation of InIn.

Figure 2 illustrates these dimensions, and the objective of the following sections will be their explanation.

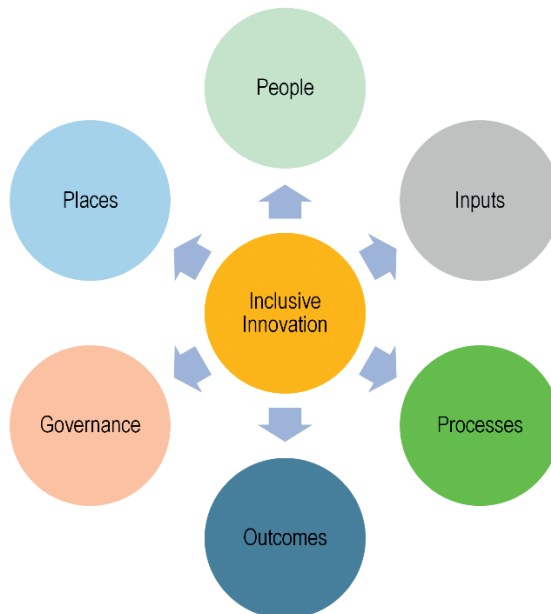


Figure 2. InIn Dimensions.

Source: Own elaboration.

2.1.4.1. People

The first InIn dimension is *the people*. Several authors point out that the first element that InIn should consider is that of those who are in the process of marginalisation (Heeks, Amalia, Kinty, & Shah, 2013; Fressoli, et al., 2014) or are excluded (Swaans, et al., 2014). Thus, the InIn targets people or communities who live under poverty, inequity, inequality⁶ or, in general terms, in marginalised conditions.

6 It is helpful to highlight conceptual differences between Inequity and Inequality. Thus, while the first concept “refers to unfair, avoidable differences arising from poor governance, corruption or cultural exclusion” (Global Health Europe, 2009), the second is linked to the uneven process of distribution or lack of resources (Global Health Europe, 2009).

Regarding the living conditions that feature the people under the scope of InIn, there are two caveats. As Onsongo & Knorringa point out (2020), the first is the oversimplification in assuming exclusion as equivalent to income poverty. Following Rizo López (2006) in her analysis of social exclusion, she explains that although poverty has been acknowledged as a multidimensional process (De Janvry & Sadoulet, 2000; The World Bank, 2000), in the best case scenario, poverty and social exclusion are complementary concepts. Thus, “not all excluded are poor, nor are all poor excluded” (Rizo López, 2006, p. 5). The second caveat in this InIn dimension comes from the previous one. In this vein, Schillo & Robinson (2017) have pointed out that marginalised conditions are not only linked with groups historically excluded or with specific geographical regions. These conditions can and are emerging in the Global North and the Global South⁷.

2.1.4.2. *Inputs*

Besides considering the people and their living conditions, a second dimension to look at is shaped by their needs, concerns, or interests (Foster & Heeks, 2013; Swaans, et al., 2014). The relevance of attending needs, concerns or interests in InIn is broadly accepted (Thomas, Juarez, & Picabea, 2015; Sengupta, 2016; Levidow & Papaioannou, 2017; Patiño-Valencia, Villalba-Morales, Acosta-Amaya, Villegas-Arboleda, & Calderón-Sanín, 2020). Thus, this dimension contributes to the understanding and comprehension of the challenges to be addressed by InIn.

To define this dimension, it is essential to acknowledge two elements. First, people’s needs can emerge due to the possible adverse effects of the innovation mainstream and other factors that can produce social exclusion. Second, meeting people or community needs should not necessarily have an economic objective such as the generation of profits, “but create social values through an innovative approach, emerging from an interplay between the innovative practices along with relevant stakeholders” (Patnaik & Bhowmick, 2020, p. 10). The two elements discussed should be considered to design policies that can anticipate the possible process of social exclusion and attend current communities living in exclusion (Schillo & Robinson, 2017).

Open discussions between communities or people and third parties who, like the State, play a part in fostering InIn are required to meet their needs, concerns, or interests. In this frame, governance becomes a critical dimension to guarantee the democratic process (Sengupta, 2016) within InIn initiatives. Therefore, the following section will discuss governance as a dimension of InIn.

2.1.4.3. *Governance*

The InIn governance dimension considers the participation of all the possible actors who can ameliorate or attend to the needs, concerns or interests of the people or communities (Sengupta, 2016; Onsongo & Knorringa, 2020). Among all possible actors, the State and its capability to design, implement and assess policies to address social concerns (Altenburg, 2009; Sengupta, 2016) should be on board. Governance can be interpreted as bargaining and negotiation processes between different actors – public, enterprises, local communities, academia and so on – to agree on decisions

7 An illustrative example of social exclusion processes in the Global North is the effects of the so-called *Fourth Industrial Revolution* and the negative pressures produced in people with high and low qualification levels (Kovacs, 2018).

around conflicts of interest (Kuhlmann, 2001). Including the governance dimension in InIn helps to explain how InIn changes happen and how actors can influence, guide, and create arenas to decide the direction of the change (Arnold, et al., 2003; Smith, Stirling, & Berkhout, 2005).

According to Palmberg & Lemola, governance “(...) has several dimensions including power, culture, incentives, leadership, and coordination (2012, p. 469). Kuhlmann (2001) points out that governance has at least five tasks: defining problems, building consensus, making decisions, implementing, and building up cooperation. Laranja (2012) complements these tasks, including creating shared visions of the future and analysing barriers to progress. Within the governance arrangement, they are completed through processes of negotiation and bargaining (Smith, Stirling, & Berkhout, 2005) and collibration (Jessop, 2012). Those processes emerge through first-order learning activities when actors look to improve a defined path, or second-order, which means the path’s transformation (Rip A., 1992; Kuhlmann, Shapira, & Smits, 2010). All those tasks demand a high level of effective coordination (Borrás, 2009).

2.1.4.4. *Activities/processes*

The fourth InIn dimension is focused on the innovation activities or processes followed to meet the people’s needs, concerns or interests. These activities should be distinguished by the active involvement of those who have been socially excluded or marginalised (Foster & Heeks, 2013; Heeks, Amalia, Kinty, & Shah, 2013; Papaioannou, 2014; Arocena & Sutz, 2017; Swaans, et al., 2014). The active involvement should allow socially excluded people to perform roles that go beyond the role of consumers. It means that they should be taken into account as designers, producers or responsible individuals for executing their own solutions (Schillo & Robinson, 2017; Onsongo & Knorringa, 2020; Patnaik & Bhowmick, 2020). The ladder metaphor by Heeks, Foster, & Nugroho (2014) discussed in section 2.1.3 is a clear example of the possible activities or processes for including communities.

The consideration of communities and people in other roles, not just consumers, of the InIn solutions challenge the top-down approaches. An active role of the communities means, for example, allowing them to include their concerns in the public agenda and find and develop their own solutions. Setting the agenda, finding, and designing solutions are activities that can be supported by other actors in processes of co-creation (Balanzó, Nupia, & Centeno, 2020). In this sense, InIn assume a bottom-up approach to meet communities’ needs where governance and inputs dimensions are crucial in building the InIn.

2.1.4.5. *Outcomes*

The consideration of the last four dimensions should be a driver to meet the community’s or people’s needs. Attending the community’s needs has been understood by some authors in terms of delivering products, services or processes, and thus, opening opportunities for marginalised people (Sonne, 2011; Heeks, Amalia, Kinty, & Shah, 2013; George, McGahan, & Prabhu, 2012). However, this narrow understanding of InIn’s outcomes could put InIn under an indirect approach to development, contrary to the direct approach claimed in section 2.1.1.

Access to markets and their possible benefits is not the only outcome of InIn, neither the most important. InIn allows for finding situations where the community is looking for other results.

For example, the primary community's interests can be linked with a non-market consideration (Patnaik & Bhowmick, 2020) or situations where access to market benefits is just an intermediate step to achieve something beyond that (Mortazavia, Eslamib, Hajikhanic, & Vääätänen, 2020). In this sense, social and environmental outcomes are expected in InIn (Thomas, Juarez, & Picabea, 2015; Schillo & Robinson, 2017; Patnaik & Bhowmick, 2020). In other words, structural outcomes, or transformations (Levidow & Papaioannou, 2017) are targets in InIn. Some examples of those outcomes could be improving social well-being (Onsongo & Knorrington, 2020), equity (Onsongo & Knorrington, 2020; Patnaik & Bhowmick, 2020; Levidow & Papaioannou, 2017), or empowerment (Sengupta, 2016). The latter can be achieved by developing capabilities (Mortazavia, Eslamib, Hajikhanic, & Vääätänen, 2020; Onsongo & Knorrington, 2020; Patnaik & Bhowmick, 2020).

2.1.4.6. Places

The relevance of the places where people have been excluded has been acknowledged in the literature (Heeks, Amalia, Kinty, & Shah, 2013; Papaioannou, 2014). Therefore, the inclusion of a “places” dimension in InIn is important for an interpretative and contextual process that allows for better fine tuning between InIn and the community's concerns. Thus, the “places” dimension is not understood as a criterion for targeting people or communities. I would argue that including this dimension in InIn will better explain processes and interplays along the other five dimensions of InIn discussed.

The “places” dimension plays a crucial role to identify and understand innovation constraints and likely alternatives to overcome them according to the context (Thomas, Juarez, & Picabea, 2015; Mortazavia, Eslamib, Hajikhanic, & Vääätänen, 2020). Also, it contributes to explaining the potential courses of action and roles that InIn actors can play to meet the community's needs (Onsongo & Knorrington, 2020; Patnaik & Bhowmick, 2020).

To wrap up this section, I would suggest that InIn is a multidimensional process. It has the aim of providing conditions and tools that allow people to overcome situations of social exclusion. As a multidimensional process, I would argue that it is shaped by six complementary dimensions that support the InIn's aim and separately contribute to understanding what InIn entails. Thus, InIn entails the possibility of building path-transformative processes⁸ for communities in black or grey areas of social exclusion (See *Figure 1*).

2.1.5. The Institutional Logic in InIn

A final feature of InIn is its Institutional Logic. Although it has been tacit in the previous sections, a detailed analysis is essential to build a better understanding of InIn. For this purpose, an Institutional Logic is defined as a set of principles that establish the borders within which specific practices may or may not be allowed (Salerno, 2007; Alvia Palavicino, 2016). In other words, Institutional Logics are the set of underlying principles that explain how the institutions (Leca & Naccache, 2006) can be built and under what intentionality.

Discussing the InIn Institutional Logic is relevant because it allows for having the same understanding between the actors, their expectations, interests, concerns, needs, practices, and

⁸ In section 2.3 will be discussed the concept of the Path-transformative process.

possibilities to cope with social exclusion. In such a way, scholars like Onsongo & Knorringa have described the logic of InIn in the following terms:

“The logic behind inclusive innovation, on the other hand, is underpinned by the aspiration to include ‘the excluded’ in some aspect of the innovative endeavour, with a focus on extending access to those who are marginalized and/or narrowing the inequality gap – factors that in one way or the other have been connected to economic poverty” (2020, p. 9).

This description is a valuable starting point in building the InIn’s Institutional Logic that can be expanded and deepened considering three elements, the scope, aim, and approach of InIn. Regarding the scope, the InIn’s Institutional Logic should not be constrained, as it seems in the Onsongo & Knorringait description, to include ‘the excluded’ within the innovation realm. Instead, those who are suffering or who could suffer exclusion should have opportunities to be included in that realm in similar manner to any other domain of their interest or need. In both cases, innovation is the source that addresses the community needs in line with the direct approach to development discussed in section 2.1.1.

Considering the InIn’s aim, it should look for narrowing the inequality gap, which is broader in scope, beyond economic poverty and the inequity gap. Finally, the InIn’s approach should provide conditions and tools that turn communities and people into active actors in coping with their needs, concerns, and interests. Thus, the InIn’s Institutional Logic seeks to distance itself from welfarism and paternalism approaches. In short, and based on Papaioannou’s and Sengupta’s work, the InIn’s Institutional Logic is set under participation principles (Sengupta, 2016) and equity (Papaioannou, 2014).

A final point in this section draws attention to the coexistence of different Institutional Logics and sets contradictory and complementary settings (Leca & Naccache, 2006). InIn is not the exception to this situation. Different scholars suggest that InIn can have different understandings or narratives (Opola, Klerkx, Leeuwis, & Kilelu, 2020) and that these narratives can change considering the actors (Onsongo & Knorringa, 2020). These elements depict the tensions between Institutional Logics behind a field in stabilisation such as InIn. Thus, Institutional tensions lead to situations where the logics are challenged or changed for others (Alvial Palavicino, 2016). In InIn, these tensions are reflected in the indirect and direct role that innovation can play in InIn.

To sum up, the study of InIn as an Institutional Logic is crucial to share and build common understandings around the InIn field. In turn, these common understandings give certainty to the involved actors in building InIn (Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann, 2020) by guiding the development of the objectives and activities to achieve them (Battilana, Leca, & Boxenbaum, 2009; De Haan & Rotmans, 2018). These features are essential for State participation in InIn, as will be discussed in the following section.

2.1.6. The role of the State in InIn

It is possible to identify five sources that foster InIn. Chataway, Hanlin, & Kaplinsky (2014) point out the following: the private sector, non-profit organisations, governments, and multilateral organisations. A complementary source for these last four is self-organised communities. These five

fostering sources of InIn can be classified into two sets. The first set comprises those endeavours by self-organised communities who define and build up their institutional arrangements to cooperate and produce social well-being by InIn. Ostrom (2000) and Ostrom & Hess (2007) have studied this viewpoint. Despite the limitations in terms of the understanding of InIn discussed in the previous sections, the following are examples of studies carried out on this set: Heiskanen, Hyysalo, Kotro, & Repo (2010), Gupta (2012), Foster & Heeks (2013), Heeks, Amalia, Kinty, & Sha (2013), Pansera & Owen (2018).

The second set of sources that can foster InIn is shaped by the four entities pointed out by Chataway, Hanlin, & Kaplinsky (2014). Among these four entities, the role of the State shows at least three advantages for InIn. First, the State can go beyond looking for profits or projects with assured returns, like the private sector's main interest, and assuming risky endeavours (Mazzucato, 2011). Second, the State could bring more stability than a non-profit or multilateral organisation for InIn. Finally, the State can provide policy guidelines to guide and foster cooperation from different actors (Rennkamp, 2011) for the efficient production of public goods and to correct inequalities (Chataway, Hanlin, & Kaplinsky, 2014). However, reaching these advantages relies on the type of State model of each society. Thus, for example, non-democratic states “do not necessarily involve all groups in decision-making. Hence, InIn gets limited to the kind of government a State possesses” (Sengupta, 2016, p. 13). Also, States with an excess of faith in the market economy will consider correcting market failures as their main, perhaps the only, *raison d'être*. In accordance with this, indirect approaches to development will be justified and, the role assigned to innovation will fall into the innovation mainstream. Thus, the possibility of offering alternatives to use the role of innovation as a mechanism to address directly the community needs will be set aside.

Regarding the importance of the State in InIn, this research is focused on InIn initiatives fostered by National Entities. These initiatives will be considered the working space to study the role of an agent of change: the Institutional Entrepreneurs. This research's focus does not mean that the other four sources of InIn are not relevant. Their importance in fostering InIn is acknowledged. However, the study of each of these four sources entails independent research processes. For this reason, one of the aims of this research is to contribute to a better understanding of InIn considering the State's role.

The role of the State is essential in InIn from a normative stance. Despite the drawbacks, constraints and weaknesses that have been assigned to the State, it is still the actor drawn on to navigate social challenges (Sengupta, 2016). However, compared to previous decades, the State's role is now embedded in the arenas of governance. It means that it has to perform “the role of a coordinating change agent who is trustworthy, nonpartisan, and ready to invest” (Kuhlmann & Rip, 2018, p. 451). In performing this role, along with the InIn governance actors, the State can enact a new generation of innovation policies (Kuhlmann & Rip, 2018), where InIn is one example of such policies.

A new generation of innovation policies entails a transformative aim (Kuhlmann & Rip, 2018) and shows the social dimension's relevance and necessity (Kuhlmann & Ordóñez-Matamoros, 2017). It is also the case of InIn, as it was pointed out in section 2.1.4, which entails the possibility of building path-transformative processes. The understanding of these processes of creating new paths can be explained by looking at concepts from Path dependence and Path creation theories

(Garud & Karnøe, 2001a; Martin, 2010; Dawley, Mackinnon, Cumbers, & Pike, 2015). That will be the objective of the following section.

2.2. Path-dependence and Institutional Entrepreneurs

Path dependence and Institutional Entrepreneurship theories are the second and third conceptual sources in this research. On the one hand, using path dependence aims to explain the processes and the context where the InIn initiatives have been developed. At least in emerging economies, a popular saying suggests that “those who ignore their past are doomed to repeat the same mistakes in the future”. This saying depicts the concerns about the role of history and past decisions in shaping the present and the future. Path dependence theory has a similar way to express the mentioned saying, “How the past shapes the future” (Dawley, Pike, & Tomaney, 2010, p. 655). This expression of the saying depicts topics that have been at the core of the analysis of this theory.

On the other hand, Institutional Entrepreneurship theory can contribute to explaining how actors deal with exclusion situations by introducing divergent changes. In this vein, Institutional Entrepreneurs will use skills, strategies, and self-reinforcement mechanisms to break the path where they are embedded or linked. The divergent change introduced by the Institutional Entrepreneurs will differ from the current path and its practices, and it will open a new set of opportunities for Institutional Entrepreneurs, their followers, and allies. In this research, the importance of other actors in changing or breaking paths is acknowledged. However, the focus will be on the Institutional Entrepreneurs’ role in breaking paths in InIn initiatives supported by National Entities in local communities.

This section will discuss the main concepts to unfold the capability of this theory to explain path-transformative processes. To this end, this section has six subsections. The following two will discuss the main concepts, features and criticism of path dependence. The third subsection will introduce the path creation concept as an alternative to overcome some of the critics and increase path dependence’s explanatory capability. The fourth subsection will be focused on discussing one of the main elements of path creation, the notion of agency. The analysis of agency in path creation will lead to introducing the study of Institutional Entrepreneurs in building paths in the fifth and sixth subsections.

2.2.1. Path dependence: Concept and main features

Path Dependence is one of the three possible sources of explanation of technical development, along with Induced technological change and Evolutionary theory (Hirsch & Gillespie, 2001; Ruttan, 2001). In general, this theory is being highlighted for how relevant it is in the matter of unfolding change processes (David, 2007). In this frame, Path Dependence emerges as a valuable approach to study, for example, how innovation evolved from being forbidden, to being linked with development and social progress, as was mentioned in section 2.1. It is also considered a handy set of concepts that contribute to understanding how the mainstream of innovation policies has arrived at a lock-in situation, for example, in emerging economies like Colombia (Pinzón-Camargo & Ordóñez-Matamoros, 2021). Thus, path dependence theory helps to understand the processes

followed to be in a lock-in situation of the innovation's role in an indirect development approach. Therefore, the lack of attention and interest in improving social well-being directly.

Several authors (Hathaway, 2003; Martin & Sunley, 2006; Schreyögg, Sydow, & Holtmann, 2011; Henning, Stam, & Wenting, 2013) have pointed out the emergence and relevance of path dependence due to the work from the economists David (1985) and Arthur (1989). In light with the former, following David (1985), Path dependence can be defined as:

“A path-dependent sequence of economic change is one of which important influences upon the eventual outcome can be exerted by temporally remote events, including happenings dominated by chance element rather than systematic forces” (1985, p. 332).

According to this definition, Path dependence expresses an understanding of the present due to serendipitous events or historical accidents in the past (Garud & Karnøe, 2001b; Kenney & von Burg, 2001). Broadly, “path dependent models emphasize how history constrains the evolution of technologies, products and organizational forms, and leave little room for social action” (Rao & Singh, 2001, p. 243).

In general, Henning, Stam, & Wenting (2013) explain that this concept has been used to explain two phenomena. On the one hand, it has been applied to explain the reasons that guide a process of change in a particular direction, and on the other hand, it has been used to describe the achieving of inefficient results. Path dependence has been used to study phenomena from different fields (Martin & Sunley, 2006). It is possible to point out, by way of illustration, their use in Economic Geography (Kenney & von Burg, 2001; Martin & Sunley, 2006), Economic History of Technology (David, 1985), in Law and Economics (Hathaway, 2003), in Science of Complexity (Baum & Silverman, 2001), or Political Science (Pierson, 2000).

Based on the work by David (1985) and Arthur (1989), some features of Path dependence have been identified (Henning, Stam, & Wenting, 2013; Wink, Kirchner, Koch, & Speda, 2017). The first one is those small events have strong effects in the long term. The second feature describes the role of increasing returns in achieving a specific outcome, leaving aside other possibilities, and producing a lock-in situation. The third feature is the consideration of Path dependence non-ergodic processes, “or, in other words, a process where the current situation is dependent on its own history, but not to the extent that it eventually will, or can, return to its previous state” (Henning, Stam, & Wenting, 2013, p. 1350). In this sense, this last feature implies the irreversibility of the actions that shape a path (Levi, 1997; Bassanini & Dosi, 2001).

Some of the main concepts to consider in a Path dependence analysis are explained in **Table 4**; they were identified considering the work by Sydow, Schreyögg, & Koch (2009).

Table 4. Main Concepts to explain a Path Dependent situation

Concept	Description
Critical Juncture	Critical Juncture “may involve a relatively brief period in which one direction or another is taken or an extended period of reorientation” (Collier & Collier, 2002, p. 27). The directionality into the Critical Juncture can emerge from events or decisions (Sydow, Schreyögg, & Koch, 2009), and it allows the introduction of self-reinforcement processes (Salerno, 2007; Schreyögg, Sydow, & Holtmann, 2011).
Increasing returns	Increasing returns, positive feedback, reinforcing mechanisms or self-reinforcement processes can be considered synonyms (Pierson, 2000; Salerno, 2007). They entail actions or procedures that produce positive feedback because of their repetition (Salerno, 2007). These actions are highlighted because of their ability to create self-reinforcing processes, and, therefore, contribute to path building (Martin & Sunley, 2006; Sydow, Schreyögg, & Koch, 2009; Schreyögg, Sydow, & Holtmann, 2011). Typically examples of these self-reinforcing processes or mechanisms are “economies of scale, (direct and indirect) network externalities, learning effects, adaptive expectations, coordination effects, and complementarities” (Schreyögg, Sydow, & Holtmann, 2011, p. 84).
Lock-in	The occurrence of self-reinforcement mechanisms in the process of path building guides the course of action “onto an irreversible course” (Salerno, 2007, p. 25), making a particular pattern dominant and discarding the flexibility of considering other alternative paths (Schreyögg, Sydow, & Holtmann, 2011). Martin & Sunley (2006) explain a lock-in process as having two stages. The first stage is named <i>positive lock-in</i> . It is featured by positive feedback from the self-reinforcement mechanisms driven to strengthen the path. The second stage is the <i>negative lock-in</i> , where the processes produced by the first stage become rigid and inflexible and achieve a negative outcome.

Source: Own elaboration.

The conceptualisation of Path dependence based, mainly on the works by David (1985) and Arthur (1989), are considered a canonical understanding of this concept (Martin & Sunley, 2006; Martin, 2010; Henning, Stam, & Wenting, 2013). However, if Path dependence is only considered in its canonical interpretation, it will describe inefficient outcomes without any hope for changing or imaging new path-transformative processes. Accordingly, this research advocates a more broad or comprehensive understanding of path dependence, considering that it is a process that “involves coevolution of social, cognitive, and institutional dimensions along with the technological dimension” (Hirsch & Gillespie, 2001, p. 81). Thus, this theory entails a never-ending process of path dependence, path destruction and path creation (Hirsch & Gillespie, 2001; Martin & Sunley, 2006). This broad understanding of Path dependence will result from Path creation. However, before discussing its features and main concepts, I will review in the following section the Path dependence criticisms to understand the weaknesses of this approach and the advantages of Path creation.

2.2.2. Some criticisms of Path Dependence

Despite the broad use of path dependence, it has received several criticisms from its canonical interpretation and the explanatory constraints produced by such interpretation. (Martin & Sunley, 2006; Martin, 2010). These criticisms can be organised into at least five groups. The first one is focused on its strong deterministic tone (Pinch, 2001; Martin & Sunley, 2006) that sometimes leads to understanding Path dependence as a synonym of “past dependence”. The determinism in path dependence sometimes is framed by ideas such as serendipity, windows of opportunity, external shocks, or exogenous sources of change (Henning, Stam, & Wenting, 2013; Dawley, 2013).

The second set of criticisms point out the little attention that path dependence has paid to explaining path creation processes (Hirsch & Gillespie, 2001; Martin & Sunley, 2006). This situation shows high levels of stasis rather than evolution, and undermines its explanatory capacity about, for example, regional changes and development (Dawley, Pike, & Tomaney (2010) and Cooke (2012)). The third set of criticisms highlights the bias of path dependence towards studying adverse or inefficient outcomes. However, like different scholars have suggested (Hirsch & Gillespie, 2001; Pinch, 2001), path dependence can be used to explain both positive and negative situations. This bias makes path dependence sociology of error (Pinch, 2001).

The fourth set of criticisms targets the possible limitations of Path dependence’s main concepts (See **Table 4**). The notion of *Critical Juncture* is explained mainly because of external events like those discussed in the first set of criticisms. However, the windows of opportunity or serendipity events can be cultivated instead of considering them only as random events (Garud, Kumaraswamy, & Karnøe, 2010). In turn, scholars (Sydow, Schreyögg, & Koch, 2009) have pointed out the concept of *increasing returns* to having a narrowing scope focused only on utility-driven behaviours. Therefore, Path dependence may consider other *self-reinforcing* processes or mechanisms to increase their explanatory capability. For example, from organisations like emotional reactions, cognitive biases and political processes (Sydow, Schreyögg, & Koch, 2009), or those which can emerge from “social customs, conventions and collectively shared norms” (Bassanini & Dosi, 2001, p. 59). Besides, like *Critical Junctures*, *increasing returns* or *self-reinforcement mechanisms* “do not just exist, but instead are cultivated” (Garud, Kumaraswamy, & Karnøe, 2010, p. 769). Lastly, regarding the concept of *lock-in*, it should be considered not as an equilibrium point from the viewpoint of the orthodox or neoclassical economy but as a “conditional equilibrium” or as a “transitory state of affairs” (Martin & Sunley, 2006). In turn, this “conditional equilibrium” has to lead not only to adverse outcomes, in line with one of the previous criticisms mentioned.

Finally, several scholars have highlighted the lack of agency theory contributing to explaining paths’ creation (Garud & Karnøe, 2001b; Hirsch & Gillespie, 2001; Kenney & von Burg, 2001; Martin & Sunley, 2006). This final criticism is linked with the historical determinism that entails the canonical understanding of path dependence. In consequence, concepts like serendipity, external shocks, or windows of opportunity are largely considered explanations of change processes without having enough information about the reasons and activities that entail procedures of path change or creation. Relying on serendipity or exogenous sources of change erode the possibility of considering purposive actions performed by organisations or individuals to change their paths.

To sum up, the lack of interest in explaining processes of creation or change and discussing a theory of agency, along with the other criticisms discussed, constrains the explanatory capability

of path dependence. For example, phenomena like social exclusion could be explained as a situation where people are doomed to live in inequality and/or inequity unless windows of opportunity or serendipities emerge. In this description, the State's intervention as a pathbreaker or an entrepreneur (Mazzucato, 2011), and other actors' participation, like people suffering social exclusion, is rejected. The following section will study the idea of *Path Creation* as an alternative to overcome the criticisms explained in this section.

2.2.3. Path Creation: One source for overcoming Path Dependence criticisms

The notion of path creation can have different interpretations. For example, it has been understood as the emergence of a totally new set of industries in a region (Isaksen, 2015; Trippl, Grillitsch, & Isaksen, 2018) from the economic geography. However, Path Creation entails more than only new industries (Fornahl, Hassink, Klaerding, Mossig, & Schröder, 2012). In this respect, and since this research advocates a broad understanding of Path dependence, the conceptual approach based mainly on the work by Garud and Karnøe will be considered (Garud & Karnøe, 2001a; Garud & Karnøe, 2001b; Karnøe & Garud, 2012; Garud, Kumaraswamy, & Karnøe, 2010).

In this frame, the idea of Path Creation has been suggested as an alternative (Dawley, Mackinnon, Cumbers, & Pike, 2015) to the criticisms of path dependence. This concept was coined by Garud and Karnøe (Sydow, Schreyögg, & Koch, 2009; Pforr, Pechlaner, Volgger, & Thompson, 2014), and it has the aim of breaking with the past and bringing new hope for the future (Baum & Silverman, 2001; Rao & Singh, 2001). It can be understood as an endogenous process (Henning, Stam, & Wenting, 2013) that looks for moving from the deterministic or canonical understanding of Path Dependence.

A Path Creation process does not imply the automatic destruction of a path-dependent situation. But instead, it means the emergence and coexistence of the new path with the current one (Sydow, Schreyögg, & Koch, 2005; Salamonsen, 2015). This path's coexistence has been interpreted from two perspectives. On the one hand, it has been argued that this coexistence entails competition between new possible paths to replace the current path (Arthur, 1988). On the other, from the perspective of Strategic Niche Management, it is suggested that the creation of new paths happen in protected spaces (Niches) that challenge the dominant path (Kemp, Rip, & Schot, 2001)⁹.

The coexistence of Path Dependence and Path Creation "presuppose each other and form two moments in social life that cannot be separated" (Mouritsen & Dechow, 2001, p. 357). However, and despite the fact that they "are two interrelated dimensions of the history" (Mouritsen & Dechow, 2001, p. 356), there is a clear difference between them. Lampel (2001) explains this difference in the following terms:

"The difference between path dependence and path creation therefore comes down to a different views on how the mind works. *In path dependence theories, the human mind is essentially a very powerful computer, whereas in path creation the human mind is conceived more broadly as having the capacity to feel and imagine.*" (2001, p. 323) Italics out of the text.

9 However, it is essential to underline that competence between Niches is also possible.

Both Path Dependence and Creation are relevant (Martin & Sunley, 2006) pieces for understanding changing processes. According to Garud, Kumaraswamy, & Karnøe (2010), while the notion “Path” entails the past, “Creation” resonates with the future and “Path Creation” makes reference to the present. In a study of Path Creation, Garud, Kumaraswamy, & Karnøe (2010) pointed out its constitutive elements. Those elements can be considered a reinterpretation of the main concepts that explain a path-dependent situation as described in *Table 4*; and considering the criticisms discussed in section 2.2.2, the reinterpretation of these main conceptual elements in the frame of Path Creation is in *Table 5*.

Table 5. Reinterpretation of main concepts of a path-dependent situation in the frame of Path Creation

Concept	Reinterpretation
Critical Juncture	These events can be exogenous but also created by actors. In the case of exogenous events, they can be used by the actors to support their actions.
Increasing returns	Like Critical Junctures, the increasing returns can be produced and used strategically by the actors. Also, increasing returns that emerge in the forms of “contingencies” can be managed by the actors to reinforce their path creation process.
Lock-in	It is a state of temporary stabilization that allows both positive and negative outcomes.

Source: Own elaboration.

One of Path Creation’s distinguishing features is introducing and highlighting the agency’s role in building paths (Mouritsen & Dechow, 2001; Pinch, 2001; Martin & Sunley, 2006; Wink, Kirchner, Koch, & Speda, 2017). The following section will analyse the understanding and the possible roles of the agency in Path Creation.

2.2.4. The relevance of agency for building paths

Like Mouritsen & Dechow suggest, “path creation depends on agency, or the potentiality to act otherwise” (2001, p. 357). This affirmation is supported by considering the actors’ explicit role in each reinterpretation of Path dependence main’s concepts (See *Table 5*). In this sense, for example, Henning, Stam, & Wenting affirm that “path creation allows for the purposeful establishment and reinforcement of paths by actors” (2013, p. 1351). Pinch also explains that considering the agency allows for seeing “how actors struggle to maintain a particular path.” (2001, p. 398).

Path creation draws attention to human agency, which is relational and distributed (Garud & Karnøe, 2001b; 2003). In this frame, this human agency entails the different interplays between committed actors and the heterogeneous resources that they can bring to cooperate in the path-building process (Garud & Karnøe, 2001b; Park & Lee, 2005). Those interplays can be explained based on the concept of *bricolage*, one of the terms exposed by Boschma, Coenen, Frenken, &

Truffer (2017, p. 35)¹⁰. However, this research considers that bricolage entails more than industrial development, in the same sense as Path Creation.

Actors foster Path creation by performing different activities included in *Table 5*. In general, those actors evoke (Garud & Karnøe, 2001b) or introduce visions of the future without ignoring the past. An example of this process is the technological dramas described by Lampel (2001), whereby individuals are persuaded to embrace the future in the present. Actors in Path Creation also define their desirable options of interest (Wink, Kirchner, Koch, & Speda, 2017). They make it easy to seek and reach these options by shaping increasing returns or self-reinforcement mechanisms. Thus, actors look for shaping the history while it is being written (Garud & Karnøe, 2001b) by producing practices and changing institutions (Garud & Karnøe, 2001b; Karnøe & Garud, 2012).

Their high level of reflexivity features actors in Path creation. Two processes represent this reflexivity. First, it is a *critical revision* by the actors of all activities performed in the Path creation route. A process of *critical revision* allows actors to assess if “the original idea is not feasible and must be modified or abandoned” (Garud & Karnøe, 2001b, p. 18). The second process is *mindful deviation*. It “implies disembedding from the structures that embed entrepreneurs” (Garud & Karnøe, 2001b, p. 7). In this sense, *lock-in’s* stages are temporal time-lapses where the actors can practice *critical revision* and *mindful deviation* to decide whether to continue the path or the necessity of shifting the course.

As was mentioned, different actors intervene through the process of bricolage in Path creation. In these interventions to forge a new Path, different roles have been considered in Path creation and in less canonical Path dependence approaches. For example, the leaders’ role in changing paths has been viewed (Horlings, 2013), or in general, leadership (Dawley, Pike, & Tomaney, 2010). Also, the role of agents of transformation has been mentioned (Petrov, 2008), or the role of brokers to build bridges between different actors has been highlighted (Swaans, et al., 2014), intermediaries (Kivimaa, Boon, Hyysalod, & Klerkx, 2019), frontrunners (Brown, Farrelly, & Loorbach, 2013). Finally, Garud & Karnøe (2001b) stress the role of entrepreneurs. However, the analysis of actors has been considered as having been insufficiently studied from a different but complementary standpoint: transformative changes (Farla, Markard, Raven, & Coenen, 2012; De Haan & Rotmans, 2018).

Looking at the role of entrepreneurs in Garud & Karnøe (2001b), they are depicted as boundary spanners (Garud & Karnøe, 2001a). These entrepreneurs are equipped with several skills and

10 These authors explain the concept of bricolage in the following terms: “The term ‘bricolage’ alludes to the consideration of a multiplicity of actors embedded in networks who collectively draw on a broad set of distributed resources such as money, material components, discourses, knowledge, legitimacy and skills, organisational arrangements and political regulation in order to create new industrial pathways through processes of mindful deviation (Baker & Nelson, 2005; Duymedjian & Rüling, 2010). The key ability of actors in bricolage is to enable the alignment of a heterogeneous set of actors, institutions, and technologies to establish socio-technical ‘configurations that work’ (Callon, 1998; Rip & Kemp, 1998). Through bricolage, path creation is understood as an iterative construction process where networks of distributed actors jointly create new market segments and user profiles, adapt regulations, lobby for subsidies, or define new technical standards and thereby ultimately create the conducive environment that helps a new industry develop and prosper in a region (Garud & Karnøe, 2003; Garud, Kumaraswamy, & Karnøe, 2010)” (Boschma, Coenen, Frenken, & Truffer, 2017, p. 35).

strategies to mobilise different elements strategically (2001b). Examples of such skills and strategies are: using narratives to frame one message among different audiences (Garud & Karnøe, 2001a); being aware of looking for allies to support their endeavours (Garud & Karnøe, 2001a); or using technological dramas to boost their visions of the future (Lampel, 2001). Besides those discussed in this section, the elements mentioned above allow for finding several intersections with the Institutional Entrepreneurs' notion developed by DiMaggio (1988).

The following section will explain the intersections between Institutional Entrepreneurs and Garud & Karnøe's entrepreneurs. Before moving to the next section, it is necessary to make an important caveat. Regarding the interlinks between Path creation's agency and Institutional Entrepreneurs, this research considers the latter a suitable agency source for a better study of actors in Path Creation or transformative changes. However, it does not mean disregarding other actor's roles in a Path creation process. In this sense, the agency that Institutional Entrepreneurs represent is distributed and relational (Cabero Tapia, 2019).

2.2.5. The role of Institutional Entrepreneurs in building paths

The usefulness of Institutional Entrepreneurs (IEs hereinafter) in Path Creation relies on the fact that these actors offer an endogenous explanation for building paths and institutional change (Leca, Battilana, & Boxenbaum, 2008). This endogenous explanation comes from the possibility to explain, by mixing institutional and entrepreneurial approaches, "how and why certain novel organizing solutions – new practices or new organizational forms, for example – come into existence and become well established over time." (Garud, Hardy, & Maguire, 2007, p. 960)¹¹. In this vein, the IEs "are the driving forces behind the creation of new organizational forms" (Hirsch & Gillespie, 2001, p. 87)¹². Therefore, changes in fields like economy, technologies, or demography "can be created only if institutional entrepreneurs combine or blend existing knowledge with new knowledge" (Rao & Singh, p. 244).

According to several authors (Leca, Battilana, & Boxenbaum, 2008; Pacheco, York, Dean, & Sarasvathy, 2010), Eisenstadt (1980) introduced the concept of the *Institutional Entrepreneur*. However, DiMaggio was who developed the idea in the following terms regarding the processes of institutional change:

-
- 11 According to Rao & Singh, "new organizational forms are novel recombinations of core organizational features involving goals, authority relations (including organization structure and governance arrangements), technologies, and client markets (Rao & Singh, 1999)." (2001, p. 244). The ideas by Tracey, Philips, & Jarvis (2011) expand this definition in the following way: they suggest that new organisational forms can be understood as being "manifestations of institutional logics and require legitimacy in order to become viable and "taken for granted as a social fact" (Rao et al. 2000, p. 242)." (2011, p. 62).
- 12 On this point, it is worth mentioning that the works by Mintrom & Norman (2009) and Mintrom (2020) have suggested the policy entrepreneurs' notion. This notion seeks to explain the role of policy actors in building new paths based on their advocacy for a policy change (Mintrom & Norman, 2009). This definition entails elements intersected with the notion of Institutional Entrepreneurs, like their joint advocacy for change, but also they have differences in the scope of their actions. In this vein, while the notion of Institutional Entrepreneurs is considered for promoting different organisational forms, policy entrepreneurs seem attached to the policy realm. Further research will be necessary to set the boundaries between these notions. However, such analyses are out of the scope of this research.

“Creating new institutions is expensive and requires high levels of both interest and resources. New institutions arise when organized actors with sufficient resources (*institutional entrepreneurs*) see in them an opportunity to realize interests that they value highly.” (DiMaggio, 1988, p. 14), italics out of the text.

A more detailed definition of IEs is provided by Battilana, Leca, & Boxenbaum (2009). They define IEs as “agents who initiate, and actively participate in the implementation of, changes that diverge from existing institutions, independent of whether the initial intent was to change the institutional environment and whether the changes were successfully implemented.” (p. 69).

IEs could be individual or collective actors (Battilana, Leca, & Boxenbaum, 2009; Pacheco, York, Dean, & Sarasvathy, 2010; Sotarauta & Pulkkien, 2011) with four main characteristics. First, it is the existence of intentionality in the IEs’ actions (Sotarauta & Pulkkien, 2011). The second characteristic is the IEs’ ability to promote current institutional changes (Leca & Naccache, 2006; Weik, 2011; Sotarauta & Pulkkien, 2011) or paths to create new ones. Third, beyond their intentionality and ability to create new paths, IEs must make effective these characteristics by attempting to break “with existing rules and practices associated with the dominant institutional logic(s) and institutionalize the alternative rules” (Garud, Hardy, & Maguire, 2007, p. 962). Finally, IEs’ attempt to break with the current path requires their active participation in building the new path (Battilana, Leca, & Boxenbaum, 2009).

Studies around IEs have been done following mainly two approaches, institutional theory and institutional economics (Pacheco, York, Dean, & Sarasvathy, 2010). Although those approaches use a different language, they deal with the same phenomena (Pacheco, York, Dean, & Sarasvathy, 2010). Therefore, mixing those approaches could contribute to unfolding the IEs’ work. The research in Institutional Entrepreneurship has covered a wide variety of fields. For example, the study of traditional civilisations (Eisenstadt, 1980), regional integration (Fligstein, 1997), the introduction of radical new technology in the society (Munir & Phillips, 2005), social rating agencies (Leca & Naccache, 2006), social enterprises (Tracey, Philips, & Jarvis, 2011), global sustainability (Westley, et al., 2011), sustainable urban development (Klein Woolthuis, Hooimeijer, Bossink, Mulder, & Brouwer, 2013), and water management system (Brouwer & Huitema, 2018). Regarding the Institutional theory perspective, Pacheco, York, Dean, & Sarasvathy (2010) pointed out a wide variety of Institutional Entrepreneurship cases. Some examples are commercial music, business education, social movements, and various field industries like accounting, radio broadcasting, high technology, and fishing. Despite the extensive use of these actors in different realms, Battilana, Leca, & Boxenbaum (2009) have pointed out the necessity of more study in emerging fields, like those from the Global South.

IEs build paths through the introduction of *Institutional change*. Institutional change is considered a result of the IEs work in the field of their interest. In this work, IEs’ capability to consider the past, intervene in the present and embrace the future is crucial (Emirbayer & Mische, 1998; Garud, Hardy, & Maguire, 2007), like in Path creation (Garud, Kumaraswamy, & Karnøe, 2010) (see section 2.2.3). Thus, IEs performed two general actions. First, they define their vision of change (Battilana, Leca, & Boxenbaum, 2009) or imagine new futures. Second, they begin to implement their skills and strategies to reframe or create new institutions that support their vision

of the future (Tracey, Philips, & Jarvis, 2011). The introduction of institutional change requires that IEs overpass current practices, install the new ones, and then spread them among other actors (Leca & Naccache, 2006). The process of Institutional change fostered by IEs must be seen with caution. It means that IEs must not be seen as heroes (Klein Woolthuis, Hooimeijer, Bossink, Mulder, & Brouwer, 2013). Instead, IEs should be acknowledged as one group among other actors involved in this process, in line with the notion of bricolage discussed in section 2.2.4.

A better understanding of the IEs' work in building paths or the path-transformative process, as section 2.3 will discuss, requires two activities. First, it is critical to review the main Institutional Entrepreneurship concepts, and second, it is important to consider models that have tried to depict IEs' work. These activities will be the focus of the following two sections.

2.2.6. Unfolding IEs' work: Key concepts

A better understanding of IEs requires reviewing some concepts that contribute to explaining the IEs' work in building paths. I consider critical the following six concepts for understanding the processes led by IEs. The first concept to consider is the *context*. It has a strong link with the InIn dimension of "places". This strong link is explained because the context or the places support both social action and human agency (Leca & Naccache, 2006). The relevance of studying the *context* has been pointed out from the policy studies. For example, Mintrom & Norman have argued that studying the context contributes to overcoming the theorisation borders that emerge from an association of policy change with the idiosyncratic characteristics of the individual or teams driven by the force of the change (2009)¹³. The *context* has two aspects. First, it is the social dimension or social context. This social context comprises the institutional logics that IEs could use to initiate institutional change (Leca & Naccache, 2006). Second, the *context* refers to the geographical conditions (Sachs, 2003), which affect how those paths were shaped and how they could be (re)shaped.

The second concept to consider in studying IEs is the *enabling conditions*. These are variables that define the IEs' scope of action. According to Battilana, Boxenbaum, & Leca (2008; 2009), two categories have received attention: the *field conditions* and the *actors' position* in the organisational field. From a *field conditions* perspective, three situations could allow IEs to deploy their skills and initiate a process of institutional change (Leca, Battilana, & Boxenbaum, 2008). The first situation occurs when precipitating jolts or crises emerge. The second one is the presence of acute field-level problems that might precipitate crises. The last situation is the organisational field characteristics. Furthermore, when there are higher heterogeneity levels¹⁴. The second enabling conditions considered is the *social position*. It covers the analysis of the positions that the actors

13 According to these authors, the policy entrepreneur – in this case, the Institutional Entrepreneur – has to be analyzed "(...) in a manner that paid attention simultaneously to contextual factors, to individual actions within those contexts, and to how context shaped such actions" (Mintrom & Norman, 2009, p. 651).

14 Generally speaking, Fligstein (1997) suggests that fields with a lack of order or structuration provide a fertile place of action for the institutional entrepreneur.

have in the field. From this viewpoint, the place that IEs occupy defines both the level of access to resources (tangible or intangible) that they will require and their perception of the field (2008)¹⁵.

The third and fourth critical concepts to understand the IEs work are quite close between them. Those are the *vision of change* and the *divergent change*. The *vision of change* describes the narratives that will mobilise the skills, strategies from the IEs and their allies. The *vision of change* has to be developed “in terms that appeal to the actors needed to implement it” (Battilana, Leca, & Boxenbaum, 2009, p. 79). The development of the *vision of change* requires that the IEs consider the past, present and future. The past should inform the path that they want to change. The present will provide the frame to show the advantages of the actions they are willing to implement. And finally, the future will resonate with the promising futures that these actions will provide. Based on a framing approach, Battilana, Leca, & Boxenbaum (2009) suggest three processes that IEs have to undertake. These three processes are described in *Table 6*.

Table 6. Framing activities for developing a vision of change

Activity	Description
<i>Diagnostic framing</i>	This activity’s target is to show the path’s failure that wants to be changed by making salient its drawbacks, including the disadvantages of its practices.
<i>Prognostic framing</i>	In this activity, while the IEs are focused on delegitimizing the current path, they are looking for legitimating the new path and their supporters. In this last set of actions, IEs present their initiatives in such a way that it vibrates with the potential allies.
<i>Motivational framing</i>	This activity could be considered a more profound stage of the <i>prognostic framing</i> . The motivational framing entails developing narratives that support and justify the IEs’ initiative and provide bridges to connect with potential allies’ interests.

Source: Own elaboration based on Battilana, Leca, & Boxenbaum (2009).

The fourth concept announced at the beginning of the last paragraph was *divergent change*. It has been defined as “changes that break with existing institutions” (Battilana, Leca, & Boxenbaum, 2009, p. 68). The origin of the introduction of these changes relies on the IEs social position. Therefore, the changes can come from inside or outside the path. It depends on whether the IEs belong or not to the path (Battilana, Leca, & Boxenbaum, 2009, p. 69). The implementation of the divergent change is far from being a smooth process. Instead, it is highly contested by the actors embedded in the path to breaking and producing political opposition (Battilana, Leca, & Boxenbaum, 2009). In this sense, it is not strange that IEs’ work is understood to be a political process (Garud, Jain, & Kumaraswamy, 2002; Garud, Hardy, & Maguire, 2007; Leca, Battilana, & Boxenbaum, 2008; Tracey, Philips, & Jarvis, 2011).

The process of implementing a *Divergent change* requires the IEs to use and implement *skills* and *strategies*. These are the fifth and sixth concepts in studying the IEs’ work in building paths. According to Tracey, Philips, & Jarvis (2011), the *skills* and *strategies* implementation occur in parallel rather than in series. In general, two types of *skills* have been considered central in IEs’s

15 Other enabling conditions are highlighted in *Annex 1*.

work, social and political skills¹⁶. On the one hand, social skills, like empathy and legitimacy, have been considered typical IEs' characteristics (Fligstein, 1997; Leca, Battilana, & Boxenbaum, 2008). These skills allow IEs to build up cooperation between different actors (Garud, Jain, & Kumaraswamy, 2002). This cooperation is essential to building support and access to critical resources (tangible – financial – or intangible – social capital) for building paths (Leca, Battilana, & Boxenbaum, 2008). On the other hand, political skills draw attention to the process of bargaining and creation of agreements between actors with different understandings or interpretations of the IEs' *vision of change* (Garud, Jain, & Kumaraswamy, 2002). These two skills are central to introduce the IEs' *divergent change*. However, their implementation could lead to contradictory situations, and the IEs should have the ability to craft a synthesis of them (Garud, Jain, & Kumaraswamy, 2002). Regarding the implementation of these two IEs' skills and the bargaining processes that they comprise, the study of governance's role could help to understand the IEs' building path process among several actors (Garud, Jain, & Kumaraswamy, 2002).

Finally, *strategies* are fundamental to achieving IEs' purposes¹⁷. IEs can drive their initiatives leveraging a broad spectrum of strategies (Fligstein, 1997)¹⁸. Different authors (Pacheco, York, Dean, & Sarasvathy, 2010; Tracey, Philips, & Jarvis, 2011) have identified, among others, agenda-setting, brokering and the use of the political process (for more examples, see *Annex 1*). Similarly, Brouwer & Huitema (2018) did an interesting exercise grouping similar strategies based on policy entrepreneurship literature¹⁹. Among those strategies, some authors (Leca, Battilana, & Boxenbaum, 2008; Tracey, Philips, & Jarvis, 2011; Brouwer & Huitema, 2018; Munir & Phillips, 2005) have acknowledged the relevance of discursive strategies for IEs literature. The significance of these strategies relies on giving meaning to situations and practices (Garud, Hardy, & Maguire, 2007) and thus, support the IEs' *divergent change* implementation. This process of giving meaning entails a process of translation that is not necessarily smooth between actors and fields, even more, when actors are trying to adopt or follow the IEs' initiative (Garud, Hardy, & Maguire, 2007).

So far, in this chapter, I have discussed three critical fields for understanding the role of Institutional Entrepreneurs in InIn initiatives supported by National Entities in Local Communities. Those fields are InIn, Path dependence and Institutional Entrepreneurship. The discussion and analysis of those fields aim to provide a better understanding of the concepts that each of them comprises. Thus, the study of InIn showed that this field is not well stabilised. However, it is possible to argue that InIn aims to provide conditions and tools to people to create opportunities and allow them to move from exclusion towards inclusion. This interpretation entails processes of empowering the communities and directionality of InIn based on its Institutional Logic. I suggest considering six dimensions for a better study of this field. The study of Path dependence shows the relevance of Path creation for overcoming the explanatory limitations of Path dependence. The introduction of Path creation required a redefinition of basic concepts in

16 Although social and political skills have been highlighted as being crucial for Institutional Entrepreneurship processes, there other possible IEs skills. Some examples are illustrated in *Annex 1*.

17 *Annex 1* describes two examples of IEs using their strategies.

18 This author highlights at least 14 different strategies. For more detail, see *Annex 1*.

19 They designed four categories that cover ten different strategies share by various scholars. For more detail, see *Annex 1*.

this field and human agency's consideration in building paths. This final consideration guides the study of Institutional Entrepreneurship as suitable agents of change for fostering building paths or path-transformative processes. This selection relies on the IEs' ability to define a vision of change and introduce divergent changes supported by their skills and strategies. These actions allow IEs to break with path dependence situations and create a promising paths.

Now, before moving to the methodological chapter of this research, the last section of this chapter will provide a heuristic to study these concepts in the three in-depth cases conducted. This heuristic was discussed in conferences, and workshops²⁰, and it was published in the article "Towards a Path-Transformative Heuristic in Inclusive Innovation Initiatives. An illustrative case in rural communities in Colombia" (Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann, 2020).

2.3. A Path-transformative Heuristic

In the XVIII century, a powerful device to navigate the world was developed, *the sextant*. It is a device that, based on celestial bodies' position in relationship with the horizon, allowed the identification of coordinates in terms of latitude and longitude (Britannica, T. Editors of Encyclopaedia, 2019). Like the sextant, the Path-transformative heuristic has been designed to navigate the social world. Here, the celestial bodies are the constellation of concepts that shape the three fields studied in sections 2.1 and 2.2. The horizon is provided by the cases or social situations to be explored. Thus, the relationship between concepts and cases will help navigate the path-transformative process and the coordinates of IEs' practices in InIn initiatives.

In practical terms, "in social sciences a heuristic is used as an explorative research strategy combining a set of different perspectives" (Kuhlmann, Stegmaier, & Konrad, 2019, p. 1093). In this respect, the Path-transformative heuristic is shaped by three perspectives, InIn, Path dependence and creation, and Institutional Entrepreneurship. This heuristic was designed to understand Institutional Entrepreneurs' role in Inclusive Innovations supported by National Entities in Local Communities. In this frame, InIn provides the directionality in terms of explaining the Institutional Logic of the phenomena to study. In turn, Path dependence and creation and Institutional Entrepreneurship will be ensembled by the process of layering for explaining the role of IEs in building a path-transformative process.

This section will describe the conceptual elements and how these three perspectives were organised to refer to a navigation strategy to this research. Thus, this section has four subsections. The first three subsections will describe each of the elements in the Path-Transformative heuristic. The fourth subsection will present the final heuristic version after being ensembled.

20 The heuristic was presented and discussed in the International Congress of Governance of Science and Innovation, August 2019, Bogotá; in the Atlanta Conference On Science and Innovation Policy, October of 2019, Atlanta; and in a workshop organised as part of my fieldwork in Colombia, "Science, Technology and Innovation for Sustainable and Inclusive Development in Colombia", February of 2020, Bogotá. Also, it was discussed in the Winter School "A New Political Sociology of Science" at the Netherlands Graduate Research School of Science, Technology and Modern Culture (WTMC), January of 2021, The Netherlands; and in the Science, Technology, and Policy Studies (STePS) Colloquiums, April of 2021, The Netherlands.

2.3.1. The first layer in the Path-Transformative heuristic: Path dependence and creation

Path dependence and path creation are the first layer in the Path-transformative heuristic. Although in Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann (2020), Path dependence and creation were considered the second layer in shaping the heuristic, I believe that it is better to begin from this layer for a more fluent explanation. This layer was built on the models of Path dependence and creation from Sydow, Schreyögg, & Koch (2005), Martin (2010), and Westley et al. (2011). These models allowed us to illustrate a Path-transformative process depicted in **Figure 3**.

The Path-Transformative process depicted in **Figure 3** has four phases. The concepts included in each phase should be read using Path creation reinterpretation of the Path dependence concepts (See **Table 5**). In this regard, the first phase, *the preformation phase*, entails a lock-in situation where the actors can use their *critical revision* and their *mindful deviation* abilities to choose or create an alternative for building a new path. To build a new path, the actors will trigger a critical juncture by creating the conditions or using exogenous events that contribute to their endeavour.

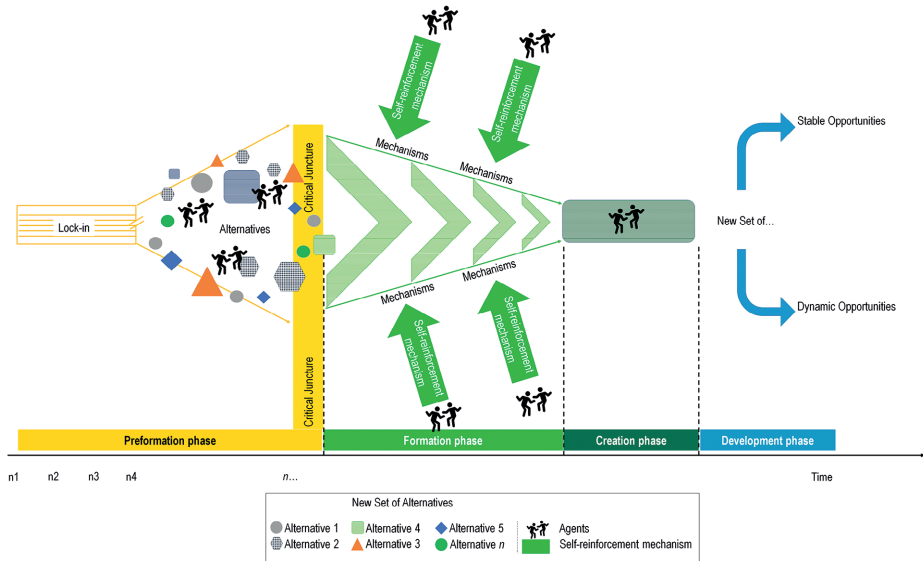


Figure 3. A Path Transformative Process.

Source: Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann (2020).

The second phase is the *formation phase*. After boosting the *critical juncture*, the actors will be involved in shaping their path by using self-reinforcement mechanisms or actions that produced increasing returns. Following Westley et al. (2011)s’ ideas, this phase depicts a process that could be considered a result of a process of “creative destruction” regarding Schumpeter ideas, which requires parallel work. On the one hand, developing niches to protect new organisational forms and, on the other one, destabilising the dominant path.

The third phase in the Path-Transformative heuristic is the *creation phase*. In this phase, the niche is gaining stabilisation due to the self-reinforcement mechanisms. Stabilisation is expressed

in terms of the emergence of a new set of practices guided by the new path's Institutional Logic. This new set of practices can shape two types of them. There could be old practices in the process of aligning with the new path's Institutional Logic. In contrast, they could be totally new practices. The actors' role is focused on nurturing and encouraging this new set of practices.

The final phase is the *development phase*. According to Martin (2010), in this phase it is possible to find two types of results. On the one hand, a new set of stable opportunities reinforced the old path. On the other hand, "[t]he second type of trajectory is more open and allows for endogenous change and evolution" (2010, p. 21).

2.3.2. The second layer in the Path-Transformative heuristic: Institutional Entrepreneurship

The second layer in the Path-Transformative heuristic comes from the Institutional Entrepreneurship field. In this layer the ideas from Battilana, Leca, & Boxenbaum (2009) and Westley, et al. (2011) were considered. The inclusion of this layer seeks to focus on the IEs as agents of change. It was designed to integrate Institutional theory and Institutional Economics perspectives following Pacheco, York, Dean, & Sarasvathy (2010)²¹. However, regarding the role of other actors, their relevance is not denied. As it was mentioned in section 2.2.4, the IEs' agency is distributed and relational. Hence, other actors that intervene are considered allies that can support the vision of change or provide valuable assets to the IEs' work. Also, other actors could play the role of opponents of the IEs' work.

Based on the models of IEs' work from the last authors, in Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann (2020), a four stages model was suggested to explain the activities performed by the IEs. It is illustrated in *Figure 4*. The first stage in the IEs's work is *vision development*. This stage captures the internal and external factors that contribute to featuring the IEs. These factors, along with enabling conditions (IEs' social position and the context characteristics), will explain the possibilities for initiating the development of their *vision of change*.

The second stage in the IEs' work is named *Vision Conciliation/Framing*. In this stage it is expected that IEs' use their *vision of change* to support and guide the deployment of the IEs' skills, strategies and self-reinforcement mechanisms. Strategies such as finding allies and skills like their discursive capability will contribute to gaining enough support from other actors for their vision of change. These strategies, among others, besides self-reinforcement mechanisms like financial investments, will support the process of opening a niche and begin to introduce a divergent change.

21 According to these authors, the integration of these two perspectives requires "an understanding of (a) the individual institutional entrepreneur; (b) the social and economic environment that surrounds the entrepreneur; (c) the nature of the opportunity and the market conditions that define it; (d) the strategies that the entrepreneur uses to manipulate the institutional environment; (e) the outcomes—intended or unintended, collective or individual—of such actions; and (f) the evolution of the institutions that the entrepreneur sets out to establish." (Pacheco, York, Dean, & Sarasvathy, 2010, p. 1004).

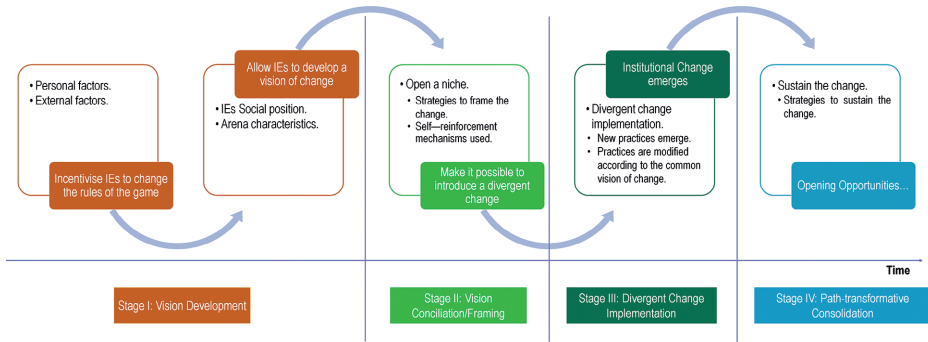


Figure 4. Stages in the Institutional Entrepreneurs’ work.
 Source: Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann (2020).

The divergent change will be implemented in the *Divergent Change Implementation’s stage*. In this stage, the IEs will continue using their skills, strategies, and self-reinforcement mechanisms to foster the emergence of a new set of practices. This new set of practices will include both new and old ones which have been modified for alignment with the vision of change championed by the IEs. In this frame, the divergence between the practices from the path that the IEs want to change and the new set will account for the *transformative stage* in the Path-transformative process.

Finally, in the fourth stage, the *Path-Transformative Consolidation stage*. IEs will be focused on deploying strategies that allow them to sustain the vision of change and the divergent change implemented in the last stages. Thus, IEs will continue strengthening the niche and the new set of practices inside it. Based on this work, IEs will open new opportunities to sustain and expand their path-transformative process.

2.3.3. The Institutional Logic in the Path-Transformative heuristic

Before assembling the Path-Transformative heuristic, a third crucial element to draw attention to is the role of InIn. In this heuristic, the role of InIn as Institutional Logic is considered critical. As mentioned in Section 2.1.5, an Institutional Logic defines the borders within a set of practices that are allowed based on certain principles. In this sense, InIn guides a set of practices oriented toward:

1. Addressing the community needs from a direct approach to development.
2. Narrowing the inequality gaps.
3. Liberating actors from welfarism and paternalism approaches.

The understanding of InIn as Institutional Logic in the Path-Transformative heuristic will play the role of a lighthouse. This lighthouse will guide the IEs’ work across the fourth phases of the Path-transformative process. Accordingly, the IE’s work is considered under the Institutional Logic based on the IE’s intentionality to overcome the inequality gaps and bring new opportunities for their communities. This intentionality will be tracked in the Path-transformative heuristic from the *Preformation phase* and across the following phases.

2.3.4. The heuristic ensembled: A Path-Transformative heuristic

The ensemble of the two layers described in the previous subsections is illustrated in *Figure 5*. The layering process requires considering the better alignment of the two layers to describe Path-transformative processes more fluently and have a better match between them. Therefore, the elements included in the first IEs' work stage were reassigned to the first and second phases in the Path-transformative process in the following way. The IEs' personal and external factors were aligned with the first Path-transformative phase, and elements linked to the development of the IEs' vision of change were assigned to the second phase. The description of the four phases in the heuristic will justify these decisions.

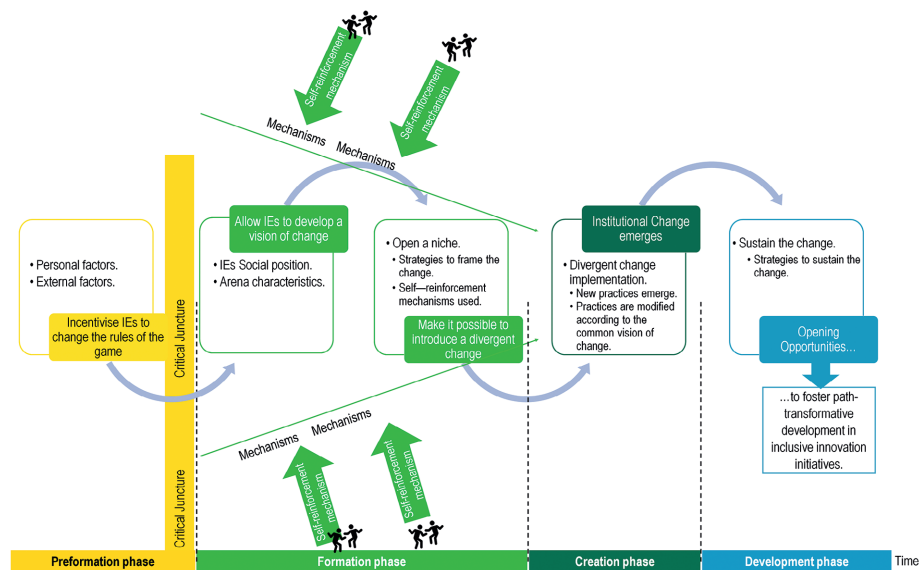


Figure 5. The Path-Transformative heuristic.

Source: Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann (2020).

A Path-transformative process begins with a *Preformation phase*. In this phase, IEs are in a state of temporary stabilisation. In this situation, they find are motivated by personal and external factors to exert *mindful deviation* and *critical revision* processes regarding the path where they are embedded or linked. The *Institutional Logic* of InIn plays a crucial role in this phase by bringing the directionality in these processes to imagine innovative paths for narrowing the inequality and inequity gaps. After exerting these processes, IEs will build a *critical juncture* to gather momentum in their endeavour.

In the second phase, *the formation phase*, IEs will capitalise the momentum gathered by the critical juncture to develop and spread their vision of change among other actors. However, their social position and the contextual characteristics around them will enable or block the possibility of developing their vision of change. In this process of developing their vision of change, IEs can

use their skills, strategies, and self-reinforcement mechanisms to show the advantages of their vision and the current path disadvantages to their potential allies, besides weakening their opponents. By completing these actions, IEs will open a niche to introduce their divergent change.

The creation phase will account for the introduction of the divergent change. This accounting will rely on the emergence of new practices or the adaptation of practices from the old path according to the IEs' vision of change. Again, IEs will implement skills, strategies, and self-reinforcement mechanisms to strengthen the niche and foster the new set of divergent practices. As it was mentioned in section 2.3.2, this new set of divergent practices will account for the *transformative* in this heuristic.

The last phase of the heuristic is *the development phase*. This phase will achieve a dynamic trajectory regarding the ideas of Martin (2010). This dynamic trajectory is explained because of the implementation of a divergent change in the previous phases. In this last phase, the IEs will be focused on implementing strategies to sustain their vision of change and “opening new opportunities for sustainable, social, and economic development” (Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann, 2020, p. 9).

This section aimed to bring an operationalisation of the constellation of concepts that shape the three pillars of this research, as was pointed out in this chapter's introduction. The following chapter will describe the criteria and processes followed to operationalise these concepts in the field. It will be the purpose of the methodological chapter in this research.

CHAPTER 3

Research Design

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The last section of Chapter Two referred to the idea of *the sextant* as a metaphor to explain the elements required to navigate from point A to point B. In line with that metaphor, there are four main elements. First, the celestial bodies that will guide the cruising of the social complexity. Those celestial bodies are represented by the constellation of concepts discussed in Chapter Two. The second element is the horizon to navigate. In this case, it is shaped by the three in-depth cases of study. The third element is the sextant that will allow for combining the celestial bodies with the horizon to guide the navigation. In this research, two heuristics assemble the sextant to navigate the social complexity. Finally, there are the coordinates where I am looking to arrive. This study's research question represents these coordinates. It aims to understand what the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities is.

In this regard, the purpose of this Chapter is twofold. First, it aims to describe the methodology followed to use the sextant to guide the navigation using the celestial bodies and the horizon. Second, this Chapter looks for depicting the three cases that shape the horizon to navigate. To achieve the mentioned purpose, this Chapter is divided into four sections. The first section will discuss the use of the abductive approach (Awuzie & McDermott, 2017) as the navigation methodology in this research. As it will be described, this approach will allow me to go back and forth between theory and data. This exercise of going back and forth between theory and data is supported, as mentioned, in three in-depth cases selected as the horizon in this cruise. The second section of this Chapter will describe the criteria and selection process to choose those cases following the case study research approach (Yin, 2018).

The third section of this Chapter will set the scene of the three case studies in this research. Furthermore, a brief description of the policy programs that supported the cases to be studied in Chapters Four and Five will be done. Besides, general features of the settings where the case studies took place will be presented to understand the horizon better to navigate. In this line of describing the scene, Section four will describe the data and the processing methods followed in their analysis to arrive at the coordinates defined by the research question of this study.

3.1. The research methods: How did I use them in this research?

The research methodology that this study will follow relies on two research approaches. On the one hand, I chose the abductive reasoning approach, and on the other, the case study approach. The mixing of these approaches has been named as *Systematic combining* by Dubois & Gadde (2002). Systematic combining is defined as "a process where theoretical framework, empirical fieldwork, and case analysis evolve simultaneously" (p. 554). However, before explaining the methodology of this research, I will briefly present the considerations that led me to choose these approaches.

3.1.1. The reasoning logic behind this research

The first logic of reasoning that supports this research is the abductive approach²². Some scholars (Patokorpi & Ahvenainen, 2009) have affirmed that “Abduction is the middle ground between induction and deduction” (2009, p. 126). Thus, while deductive reasoning is considered the most suitable approach for testing existing theories (Kovács & Spens, 2005), an inductive approach is seen as appropriate for testing hypotheses (Burks, 1946). And, in this frame, Abduction is the logic of reasoning for discovering hypotheses (Burks, 1946) or most plausible explanations (Awuzie & McDermott, 2017). In short, “abduction generates new hypotheses; deduction analyzes the hypotheses; and finally, induction justifies the hypothesis” (Lu & Liu, 2012, p. 144).

In detail, the abduction reasoning approach entails the possibility of going back and forth between theory and data (Kovács & Spens, 2005; Awuzie & McDermott, 2017). This process aims to develop or modify theory (Awuzie & McDermott, 2017). Some scholars have described abduction as a process where the researcher goes from observing a phenomenon to presenting the most plausible explanations or theories of such a phenomenon (Svennevig, 2001; Kovács & Spens, 2005; Plutynski, 2011; Lu & Liu, 2012; Awuzie & McDermott, 2017). Besides, it has been affirmed that abduction is “a cerebral process, an intellectual act, a mental leap, that brings together things which one had never associated with one another: a cognitive logic of discovery” (Reichertz, 2013, p. 127). The most straightforward way to express this reasoning approach is that “abduction is always informed guessing” (Reichertz, 2013, p. 127).

In this frame, I chose this logic of reasoning considering the aforementioned explanation of this approach and taking into account three further considerations. First, that the possibility of going back and forth between theory and data increases the researchers understanding of both of those realms (Dubois & Gadde, 2002). Second, that this approach is suitable for those researchers, as in my case, looking to “discover new things – other variables and other relationships” (Dubois & Gadde, 2002, p. 559). Finally, that abduction provides “the tools of thought to describe and explain scientific innovation and creativeness” (Patokorpi & Ahvenainen, 2009, p. 126). Thus, following Reichertz reflections, abduction supports social researchers in their aim of making “new discoveries in a logically and methodologically ordered way” (Reichertz, nd, p. 300).

The abductive approach is coupled with case study research. It was chosen based on three considerations. The first consideration is that case study research offers a systematic approach to design, collect and analyse the data from the three case studies in this research. This consideration will offer a sounding field to the process of back and forth between a theory and data suggested by the abductive reasoning. Second, case study research shows a great potential to explain the real world and its contextual conditions (Yin, 2018). In this respect, the analysis of the features, strategies, and mechanisms around Institutional Entrepreneurs will have better descriptions.

Finally, the third consideration realises the capability of case study research to unfold the social interplays that emerge between different actors who intervene in the social phenomenon to study

22 This approach can be tracked from translations of the Aristotelian apagoge in the XVI Century (Reichertz, nd; Awuzie & McDermott, 2017). However, in the XIX Century, Charles Sanders Peirce began the development of the Abduction in its contemporary understanding (Svennevig, 2001). According to Plutynski (2011), Pierce identified Abduction as an alternative to the two traditional forms of inference, induction, and deduction.

(Swanborn, 2010). This actors' analysis will be done along with studying "their values, expectations, opinions, perceptions, resources, controversies" (Swanborn, 2010, p. 12). In accordance with this, the analysis of the alternative actors in the cases, like those from the national entities that support the Inclusive Innovation Initiatives, the local communities, among others, will be studied, interpreted, and contrasted in more detail.

3.1.2. The methodology flow

As previously mentioned, the methodology of this study will combine the abductive and the case study research approaches. The combination was suggested by Dubois & Gadde. According to them, the mixing of these approaches aims to build "more on refinement of existing theories than on inventing new ones" (2002, p. 559). This combination was further developed by Kovács & Spens (2005) to provide frameworks for further studies in the logistics research field. The latest work inspired the methodology process that will be explained below, and that is depicted in *Figure 6*.

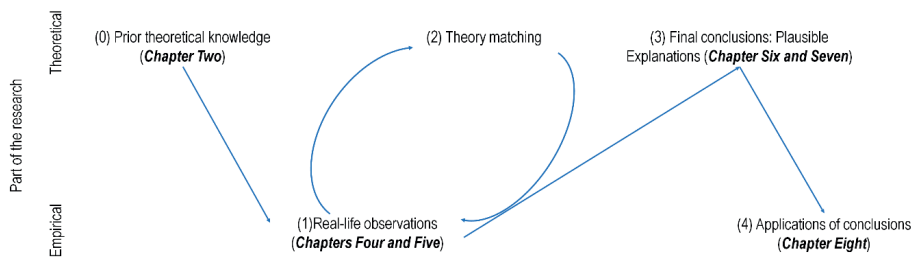


Figure 6. Methodology Flow.

Source: Own elaboration based on Kovács & Spens (2005, p. 139).

According to Kovács & Spens, the abductive approach happens between points (1) and (3) in *Figure 6*. However, it is impossible to disregard that the researcher has preconceptions and theoretical knowledge (Dubois & Gadde, 2002; Kovács & Spens, 2005). The former elements are depicted with the point (0), and they should be constituted by an evolving framework that will "direct the research for empirical data" (Dubois & Gadde, 2002, p. 555). The last point in *Figure 6* is point (4). This point signals the process of implementing the plausible explanations from point (3) in the empirical realm.

The methodology strategy followed in this research entails the four points depicted in *Figure 6*. It aims to get the benefits from back and forth between theory and data in terms of expanding the "understanding of both theory and empirical phenomena" (Dubois & Gadde, 2002, p. 555). And thus, answer the research question of this study: What is the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities? The understanding of these four points can be described in the following terms:

1. **Point (0):** Chapter Two offers the prior theoretical knowledge that will guide the navigation of the empirical data in Chapters Four and Five. That Chapter works as a starting point and offers the assembling of a Path-transformative heuristic as a preliminary understanding of the processes, actions, strategies, and mechanisms performed by Institutional Entrepreneurs.
2. **Point (1):** Chapters Four and Five shapes a joint exercise to study the data. This exercise comprises two steps. In the first step, Chapter Four will describe the data analysis applying the Path-transformative heuristic. In the second step, Chapter Five will report the analysis following a second heuristic developed for this research, the Inclusive Innovation Radar (InIn-Radar). Section 3.4.3 will explain in more detail these two steps.
3. **Point (2):** This point in *Figure 6* has the label *Theory matching*. This label depicts the process of back and forth between data and theory and the learning loop that emerges from that process (Kovács & Spens, 2005). It is the reason why point (2) and point (1) are linked by arrows that illustrate a circular process. The theory matching the process in point (2) will be reflected in the content structure of Chapters Four and Five. Thus, while Chapter Four will begin with the data analysis following the Path-transformative heuristic (Empirical realm), it will end with a heuristic enrichment (Theoretical Realm). This heuristic enrichment will lead to confirm, adjust, disregard, and strengthen the conceptual variables considered in Chapter Two (Theoretical realm) from the data analysis (Empirical realm). In turn, Chapter Five will begin in the theoretical realm by assembling a second heuristic (The InIn-Radar). This heuristic will interpret the data regarding the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities (Empirical realm).
4. **Point (3):** After the Theory matching process, the reflections from back and forth between data and theory will be reported and discussed in Chapter Six and Seven. Firstly, in Chapter Six there will be an attempt to combine the Path-transformative and the InIn-Radar heuristics to explain the role of Institutional Entrepreneurs in line with theory and each case. Based on that exercise and in the reflections from the matching process, a plausible explanation of the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities will be presented. In turn, Chapter Seven will present and discuss some reflections regarding the theoretical realm that emerge after doing this research.
5. **Point (4):** Although this point is not considered part of the abductive approach according to Kovács & Spens (2005), I consider it part of the process of going back and forth between the theory and the empirical realm. For this reason, I will offer a set of further research opportunities based on the limitations of this study and policy recommendations in Chapter Eight. Despite these research opportunities and policy recommendations not being directly applied in the empirical realm of the conclusions and reflections that emerged from doing this research, they are aimed to be considered by researchers and policymakers.

To summarise, this section allowed me to explain the decisions, reasoning and flow behind the methodology that will follow the navigation of this research. Like a ship rocked from one side to another by the ocean's waves, in this research, I will be rocking between the theory and the data, in a back and forth movement. In this navigation, a crucial component is the horizon. It is shaped by three cases from the Colombian Andean Mountains that I will study in-depth. The criteria for choosing the case studies and the description of this horizon to navigate will be done in the following sections.

3.2. A Multiple case selection: Criteria and selection process

The three cases that will support this research were chosen from the Colombian Andean mountains. Before referring to the criteria to select the cases and briefly describing them, it is worth describing three considerations that led me to choose Colombia as a general setting for this research.

3.2.1. The general setting of this research

First, Colombia is considered an illustrative country of those settled in the Global South dealing with problems of poverty and inequality. Colombia has approximately 48 million inhabitants, where 77.1 % live in municipalities, and 22.9 % remain in rural areas (DANE, 2021a). This country faces several challenges around poverty, inequality and marginality that have increased due to the COVID-19 pandemic. *Table 7* contributes to illustrating the mentioned challenges that this country faces.

Table 7. Colombia's Monetary Poverty and Inequality situation

Indicators	Before the Pandemic (2018)			Due to the Pandemic (2020)		
	Municipal centres*	Populated Centres** and Rural Areas	National	Municipal centres	Populated Centres and Rural Areas***	National
Monetary Poverty	31.4 %	46 %	34.7 %	42.4 %	42.9 %	42.5 %
Extreme Monetary Poverty	5.8 %	16.2 %	8.2 %	14.2 %	18.2 %	15.1 %
Inequality (Gini Index)	0.497	0.446	0.517	0.537	0.456	0.544

Source: Own elaboration based on DANE (2021b).

* Municipal centres are geographical delimitations established for statistical ends by the National Statistic Department (DANE by its acronym in Spanish). They comprise the census areas within which the city hall is placed (DANE, 2018).

** Populated Centres are a statistic category defined by the DANE. This category is defined as a "minimum of twenty contiguous, neighbouring or attached houses, located in the rest of the municipality area or a non-municipality area" (DANE, 2018, p. 11).

*** Rural Areas are a statistic category defined by the DANE. It is the area "between the census perimeter of the municipal capitals and the populated centres, and the municipal limit. It is characterized by the dispersed arrangement of dwellings and existing farms in it" (DANE, 2018, p. 13).

Table 7 shows that 34.7 % of the population was living in conditions of poverty, and inequality reached a level of 0.517 in 2018. Those indicators show high levels of poverty and inequality. For example, regarding inequality measured by the Gini Index, Colombia shows higher levels than countries like the Netherlands or France, which had 0.281 and 0.324, respectively, in 2018 (The World Bank, 2021). Also, this is in contrast with similar countries like Argentina with 0.413 and Mexico with 0.454 in the same year (The World Bank, 2021). Those indicators produce several concerns for the future of Colombia's population. However, they also provide an exciting frame to study the relevance and the possibilities that a direct approach to development, like Inclusive Innovation, can bring to similar countries like Colombia or communities placed in the Global South.

The second consideration to choose Colombia as a general setting for this research emerges from the role assigned to innovation. Innovation policies have been aligned or designed in this country following the innovation mainstream discussed in Chapter Two. This situation has given few spaces for alternative and direct approaches to development in this country (Pinzón-Camargo & Ordóñez-Matamoros, 2021). Concerning this, the analysis of the Colombian cases selected will contribute to understanding the following research question: *what is the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in local Communities?* The study of these cases will also help to explore how path-transformative processes emerge due to the role of Institutional Entrepreneurs and provide lessons to foster and scale up these processes.

Finally, the last consideration to select this country is its history with its internal armed conflict. It has been considered one of the longest in Latin American history, with around 50 years of bloody combats. This history arrived at a partial episode of peace with the signing of a peace agreement in 2016 between the Revolutionary Armed Forces of Colombia – People's Army (FARC – EP by its acronym in Spanish), one of the largest guerrillas in Colombia, and the Colombian State.

Although the peace agreement mentioned was a step towards achieving a real peace in Colombia, some organised armed groups are still reluctant to seek an unarmed alternative for a variety of reasons. As of June 30th of 2021, the internal armed conflict had produced circa 9.153.078 victims acknowledged officially (UARIV, 2021), and “from January 2016 to June 2020, there have been 753 murders of social leaders (and counting)” (INDEPAZ, 2021). Despite this adverse situation, hundreds of people are looking for fostering alternative path-transformative processes, like the case of Institutional Entrepreneurs in the Andean Colombia mountains, giving hope to their communities. In this frame, also discussions about the role of Science, Technology, and Innovation to build effective peace have emerged (Ordóñez-Matamoros, Centeno, Arond, Jaime, & Arias, 2018). It is a reason to study and learn from the role of these actors in Inclusive Innovation Initiatives supported by National Entities in Local Communities in the Colombia Andean mountains.

3.2.2. The multiple case selection process

As mentioned, besides the abductive approach reasoning, this research will follow the case study research approach (Yin, 2018). The case study will rely on the in-depth analysis of three cases. Those cases were selected considering the advantages that this selection can provide to my research in terms of “boosting the external validity and enhances replicability, both literal and theoretical alike” (Awuzie & McDermott, 2017, p. 364).

The case selection process followed five criteria based on the conceptual framework in Chapter Two. Those criteria worked as filters to select the cases, and *Table 8* describes each of them.

Table 8. Filters description considered for the selection of the cases

Filter	Filter Name	Description
1	State support and Community involvement	This filter looks at identifying cases with two features. First, cases supported by the State addressing the necessities and concerns defined by local communities using innovation. Second, cases where local communities can participate in the solution design for addressing their concerns and needs.
2	Project's life cycle	This filter draws attention to those projects with at least two years after finishing. It is expected that studying finished projects will bring the possibility of studying the role of Institutional Entrepreneurs in all the possible project's stages. Also, the study of these projects will allow for making comparisons and reflections between the cases.
3	Productive projects narrative	This filter acknowledges the multiple narratives that inclusive innovation initiatives can take (Opola, Klerkx, Leeuwis, & Kilelu, 2020). In this respect, it looks to identify those cases where the narratives are linked with productive projects leads by the communities. This filter will contribute to reflecting in those path-transformative processes where the Institutional Entrepreneurs aim to provide alternatives to deal with poverty and marginalisation regarding the access to alternative sources of income.
4	Socioeconomic context	This filter aims to capture the diversity of settings where Institutional Entrepreneurs can be placed regarding the country's social, cultural, and geographical diversity, which could work as enabling conditions for them. Therefore, this filter classifies the cases selected to this point in three socioeconomic bands based on the performance of a set of sixteen indicators selected ²³ . Those indicators included access to public services, education, people displacement, health, security, among other variables.

23 This filter was built using a web application developed by the National Planning Department of Colombia (DNP, by its acronym in Spanish), named TerriData (<https://terridata.dnp.gov.co/>). It was considered a suitable source of indicators and data to identify some socioeconomic features of the municipalities where the cases took place. Sixteen over 529 indicators were chosen as a proxy of the State attention and the conditions of life in municipalities. The selection of these sixteen indicators considered the availability of data and representativeness of the following socioeconomic dimensions: Rural population percentage, Access to public services, Education, Health, Security, Displaced people expelled, Investment - Attention to vulnerable groups - social promotion, Investment - Culture, Investment - Sports and recreation, Investment - Community development, Investment - Institutional strengthening, Investment - Justice and security, Investment - Promotion of development, Investment - Public services other than sewerage and sanitation aqueduct (not including social housing projects), Percentage of the added value in the department, Value-added per capita. Based on the selected indicators' performance, three bands were configured and named in the following way: i) low level of performance, ii) medium level of performance, iii) high level of performance. According to these three sets, municipalities ranked in set one were considered environments with a deficit of State attention and settings with adverse living conditions. In turn, municipalities whose indicators performance was in the middle of the rank were considered part of set two. Finally, municipalities with high-performance indicators were assumed as settings with proper public attention and sound conditions of life. From each band, the municipalities with more hits in each indicator were considered preliminary cases.

Table 8. Continued

Filter	Filter Name	Description
5	Safety, accessibility, and proximity	Three elements compound this filter. The first element entails a conditions assessment of each potential place where cases guarantee the researcher's safety. Some areas could not be suitable for visiting due to conditions of security and public order. This assessment is based on discussion with social organisations and human rights defenders with knowledge about the places considered potential cases to study. The second element considers the geographical accessibility to the municipalities where the cases took place. Geographical conditions are close to the third element, the proximity of the places. This last element considers logistics and budget restrictions to conduct this research giving privilege to those more accessible places and that are close to each other between them in each band.

Source: Own elaboration.

Applying the five filters to Colombia as a general setting for this research led to the following results. The first filter described in *Table 8* guides me to consider two policy programs *A Ciencia Cierta* and *Ideas para el Cambio*. Those programs form part of the Administrative Department of Science, Technology, and Innovation of Colombia (COLCIENCIAS by its acronym in Spanish)²⁴, and they will be described briefly in section 3.3.1. The second filter assessed 112 cases of projects implemented since 2012 in the frame of the two mentioned programs. Among them, 74 fulfilled the criteria defined in the second filter. The third filter allowed me to identify three types of narratives based on the information provided in the official programs' webpages²⁵. These three narratives linked the cases with environmental protection projects, basic infrastructure provision, and productive solutions. This last set of projects was constituted by 40 projects implemented between 2012 and 2016 in the frame of two programs in 37 municipalities of Colombia.

The fourth filter ranked the 37 municipalities identified using filter three regarding sixteen indicators selected and available from the web application TerriData of the National Planning Department of Colombia. The municipalities ranked were divided into the three bands defined in *Table 8*. Municipalities with more hits per indicator in each band were included in a shortlist of ten municipalities²⁶, as shown in *Table 9*.

24 In doing this research, this entity became the Ministry of Science, Technology and Innovation (MinCiencias by its acronym in Spanish).

25 The official websites of the programs can be consulted in the following links:
Ideas para el Cambio: <https://ideasparaelcambio.minciencias.gov.co/>
A Ciencia Cierta: <https://acienciacierta.minciencias.gov.co/>

26 For more detail about bands development, check footnote 23.

Table 9. Shortlist of ten municipalities per band after filter 4

Performance-Band	Department	Municipality	Hits*
High	Bogotá	Bogotá	10
High	Huila	Neiva	10
High	Cundinamarca	Subachoque	10
High	Cundinamarca	Facatativá	9
High	Boyacá	Tibasosa	9
High	Antioquia	Marinilla	8
High	Tolima	Ibagué	8
High	Quindío	Salento	8
High	Quindío	Quimbaya	8
High	Huila	Rivera	8
Medium	Tolima	Cajamarca	11
Medium	Santander	San Vicente de Chucurí	8
Medium	Caldas	Riosucio	7
Medium	Huila	La Plata	7
Medium	Antioquia	Jardín	7
Medium	Antioquia	Cañasgordas	7
Medium	Caldas	Pensilvania	7
Medium	Sucre	El Roble	7
Medium	Nariño	Funes	7
Medium	Boyacá	San Mateo	6
Low	Antioquia	Necoclí	11
Low	Chocó	Bajo Baudó	10
Low	Cauca	Sucre	9
Low	Nariño	Cumbal	9
Low	Chocó	Quibdó	8
Low	Nariño	San Andrés de Tumaco	8
Low	Chocó	El Litoral del San Juan	8
Low	Casanare	Trinidad	8
Low	Bolívar	El Carmen de Bolívar	8
Low	Caldas	Pensilvania	8

Source: Own elaboration based on filter four.

* *Hits* are defined as the number of times one municipality in a defined band appears per indicator.

As mentioned, filter five led me to consider safety, accessibility, and proximity conditions as elements to define the final set of cases. The application of this filter led to discarding, for example, Bogotá as a suitable case for the band with high performance in the sixteen indicators. This exclusion was done considering a possible high demand for logistics, financial and time resources

to access the places and, therefore, the communities involved. In this case, the communities involved were distributed in the Colombian Andean mountains and the Amazonas region, and they were represented in Bogotá by an enterprise that applied to the public call for funding. By going down the list of cases, the second case was the Neiva municipality in the Department of Huila. However, considering the proximity between cases, Subachoque and Facatativá were closer between them than between them and Neiva. Also, safety conditions were slightly better in those municipalities than in Neiva.

On this point, it is worth pointing out that I decided to select two cases per band. This decision was made based on three considerations. First, it was a strategy to cope in advance with unexpected limitations to access those communities that could not be identify from a desk. Second, it was done to understand better the environments and conditions where the cases took place. Finally, the decision to choose two cases per band was made to guarantee data saturation in the analysis of the cases. Regarding the last considerations and the five filters defined in *Table 8*, *Table 10* presents the final set of cases considered to conduct this research.

Table 10. List of Cases selected after applying the five filters

Performance-Band	Department	Municipality	Hits	Program
High	Cundinamarca	Subachoque	10	A Ciencia Cierta (ACC)
High	Cundinamarca	Facatativá	9	Ideas para el Cambio (IPC)
Medium	Tolima	Cajamarca	11	A Ciencia Cierta (ACC)
Medium	Quindío	Salento	6	Ideas para el Cambio (IPC)
Low	Nariño	Cumbal	9	Ideas para el Cambio (IPC)
Low	Nariño	Cumbal	9	A Ciencia Cierta (ACC)

Source: Own elaboration based on filter five.

Interviews were conducted in the six cases defined in *Table 10*. Among these cases, the case from Cumbal linked with the program Ideas para el Cambio was chosen randomly as a pilot case to sharpen the research tools. This will be explained in detail in Section 3.4.2. Besides, it was decided to conduct three in-depth cases based on the remaining five cases from *Table 10*. Those three cases were selected considering criteria of accessibility and proximity, again, taking into account whether a second visit could be required and the possibility of achieving data saturation in the analysis. Thus, the final set of case studies in this research are listed in *Table 11*.

Table 11. Final set of cases studied in this research

Performance-Band	Department	Municipality	Hits	Program
High	Cundinamarca	Subachoque	10	A Ciencia Cierta (ACC)
High	Cundinamarca	Facatativá	9	Ideas para el Cambio (IPC)
Medium	Tolima	Cajamarca	11	A Ciencia Cierta (ACC)
Low*	Nariño	Cumbal	9	A Ciencia Cierta (ACC)

Source: Own elaboration.

* Pilot case.

3.3. General features of the cases to be studied

After explaining and describing the research methods and the processes followed to build the set of cases to study, this section aims to discuss two elements. First, I will briefly introduce the two policy programs that worked as a framework to choose the cases, and second, I will describe the three cases defined in *Table 11*. The latter description will support further the study of the dominant setting where the Institutional Entrepreneurs deployed their strategies and fostered their vision of change and where the Inclusive Innovation Initiatives took place.

3.3.1. Ideas para el Cambio and A Ciencia Cierta as Policy Frames

The policy programs *Ideas para el Cambio* and *A Ciencia Cierta* were designed and have been implemented by COLCIENCIAS since 2012. Those programs were guided by the National Policy of Social Appropriation of Science, Technology and Innovation enacted in 2005 and the National Strategy of Social Appropriation of Science, Technology and Innovation enacted in 2010. Although the policy framework that supported the programs aimed to develop programs and strategies to share knowledge and democratise science, technology, and innovation, the two programs have shown a transformative potential (Ordóñez-Matamoros, Centeno, Andrade-Sastoque, & Pinzón-Camargo, 2021).

The program *Ideas para el Cambio* began with a pilot in 2012 looking to attend the needs of communities. Since that year, this program has had six versions. Those versions can be consulted on the official program website²⁷. *Table 12* presents some general features of the six versions of the *Ideas para el Cambio* program.

The program *Ideas para el Cambio* has covered 26 out of 32 departments in Colombia since its first version in 2012. It has supported around 81 projects in different settings and environments in the country, most of them in rural areas where this program has been the only type of State presence (Daza-Caicedo, Márquez, Rocha, & Orduz, 2020a). According to the official program website, the program has impacted more than 12,280 people from Afro-descendant, indigenous and Campesinos communities after its four first versions (MinCiencias, n.d.). Although it is not a criterion in the public calls, the program focuses on working with people living under marginalised

27 For more detail check: <https://ideasparaelcambio.minciencias.gov.co/>

conditions like displacement and extreme poverty (Daza-Caicedo, Márquez, Rocha, & Orduz, 2020a).

Table 12. Ideas para el Cambio's General Features

Year	Public Call name	Projects Supported	Geographic Coverage	Resources Assigned (COP)*
2012	Water and Poverty (Agua y Pobreza)	10	La Guajira, Putumayo, Risaralda	800,000,000
2013	Pacific Pure Energy (Pacífico Pura Energía)	14	Cauca, Chocó, Nariño, Valle del Cauca	2,407,022,806
2016	Biodiversity (Biodiversidad)	14	Antioquia, Atlántico, Bolívar, Casanare, Cauca, Córdoba, Cundinamarca, Huila, Nariño, Quindío, Santander, Tolima	1,750,000,000
2017	Science and ICT** for peace (Ciencia y TICs para la paz)	10	Antioquia, Cauca, Chocó, Magdalena, Meta, Putumayo, Santander, Sucre, Valle del Cauca, Vichada	1,800,000,000
2019	Get a five (¡Anótate un Cinco!)	13	Antioquia, Bolívar, Caquetá, Cesar, Cundinamarca, Guaviare, Huila, Norte de Santander, Risaralda, Santander	1,650,000,000
2021p	Ideas for Climate Change (Ideas para el Cambio Climático)	20	Not defined	3,400,000,000

* The resources assigned were calculated based on data from the Terms of Reference for each call and the information available in the official webpage of Ideas para el Cambio. The resources do not include the counterpart provided by the communities as part of the projects.

**ICT: Information and Communications Technologies.

p: Preliminary data.

Source: Own elaboration based on COLCIENCIAS (2012; 2015c; 2017c; COLCIENCIAS, 2019b), and MinCiencias (2016a; 2021a; 2021b).

Over time, the program *Ideas para el Cambio* has evolved and changed. The changes between the public calls for proposals (henceforth public calls) versions evolved based on the lessons from each version, like in an experimental process of trial and error. In the first two versions, the programs triggered a match between a bank of needs defined by the communities and a second possible solutions bank to attend the bank's needs. This second bank was built based on proposals by the Academia or STI's experts. The match between those banks constituted the set of projects that, after assessing legal and technical requirements, could be supported by COLCIENCIAS. In contrast, the following public calls encouraged communities, Academia and STI's experts to present joint proposals to attend a set of challenges defined by COLCIENCIAS in advance.

The last versions of the Ideas para el Cambio program have triggered knowledge co-production processes (Balanzó, Nupia, & Centeno, 2020) between the communities, Academia and STI's experts. In this vein, the proposals assessed and approved by COLCIENCIAS have benefited from financial and technical support. In turn, these benefits support the joint proposal implementation by the community and Academia or by the community and the STI's experts. COLCIENCIAS provides their technical support by means of a project implementer hired by them to accompany and supervise the development of the project in the field. The project implementer is responsible for supporting the administrative procedures between the community and COLCIENCIAS and fostering the STI's process of social appropriation by the community.

The program *A Ciencia Cierta* had its first version in 2013 as a “brother” program of Ideas para el Cambio. Since then, it has had five versions that can be reviewed in the official program website²⁸. *Table 13* describes some of *A Ciencia Cierta*'s general features according to each of its public calls.

Table 13. A Ciencia Cierta's General Features

Year	Public Call name	Projects Supported	Geographic Coverage	Resources Assigned (COP)*
2013	Water – Vital Resource	10	Atlántico, Bolívar, Santander, Antioquia, Chocó, Valle del Cauca, Cauca	300,000,000
2015	Agro – Agricultural Production for Food Security	20	Chocó, Caldas, Tolima, Nariño, Putumayo, Bolívar, Antioquia, Santander, Boyacá, Cundinamarca, Quindío, Huila	1,000,000,000
2016	Bio - Sustainable Uses of Native Biodiversity, Timber-type Forest Products and / or in Agrosystems	6	Sucre, Boyacá, Cundinamarca, Chocó	120,000,000
2018	Eco-Community Conservation of Strategic Ecosystems	28	Sucre, Córdoba, Antioquia, Cauca, Nariño, Huila, Putumayo, Guajira, Magdalena, Cesar, Bolívar, Santander, Boyacá, Guainía, Cundinamarca	1,680,000,000
2020	Local Development to Transform Realities	30	Amazonas, Antioquia, Boyacá, Caldas, Cauca, Chocó, Cundinamarca, Córdoba, Guaviare, Huila, Magdalena, Meta, Nariño, Putumayo, Santander, Valle Del Cauca	2,700,000,000

Source: Based on Pinzón-Camargo & Centeno (2021), and MinCiencias (n.d.).

28 For more detail check: <https://acienciacierta.minciencias.gov.co/>

The program *A Ciencia Cierta* has reached 21 out of 32 departments in Colombia, involving 94 communities directly. The first four versions of this program have benefited more than 20,000 people (MinCiencias, 2020a). In similar manner to *Ideas para el Cambio*, the *A Ciencia Cierta*'s focus has been Colombian rural areas and people with unmet basic needs. According to Daza-Caicedo, Márquez, Rocha, & Orduz (2020b), the program has contributed to narrowing social gaps, and it has promoted social inclusion.

“In these contexts, the program has contributed to reducing social gaps by providing communities with infrastructure, technical and administrative knowledge, but above all with negotiation skills and recognition of potential allies. It is another of the aspects in which the program has promoted social inclusion” (Daza-Caicedo, Márquez, Rocha, & Orduz, 2020b, p. 77).

As mentioned, the *A Ciencia Cierta* program emerged as a “brother” program of *Ideas para el Cambio*. The programs have evolved in an interactive process of mutual learning. It means that learning lessons from each public call have nurtured future public calls' design in both programs. Compared to *Ideas para el Cambio*, *A Ciencia Cierta* has been framed as an award as part of a communication strategy to increase the program's scope.

The *A Ciencia Cierta*'s aims to strengthen projects developed by local communities. For this purpose, the communities can nominate their projects in each public call for applications through the program's official website. The program names the projects as “experiences”. Once the nomination stage finishes, the experiences are assessed by an experts committee looking to identify STI's role in the experience. The experiences with the highest scores, which also fulfill legal and administrative criteria, are published on the official program website for national online voting. According to the resources available the number of experiences to be awarded financial and technical support is defined. The experiences with the highest amount of votes and within the limits of resources availability will win the *A Ciencia Cierta* award.

The local community projects or experiences begin their strengthening process with awarding the *A Ciencia Cierta* prize. The awarding process happens in the frame of the *local encounter*. It is a program stage where besides awarding the community, it opens a discussion between the COLCIENCIAS team, the Community, and the technological godparents to co-produce the solutions to the needs defined by the Community. This co-production of solutions is reflected in the strengthening plan that the community will follow to address its needs. This program introduced the technological godparents' figure. Professors acted in the capacity of godparents. However, technical advisors and professionals from public entities in some cases also performed such role. Technological godparents offered their work and knowledge for free, and with the only aiming of supporting and giving advice to the communities. This figure was adopted by the *Ideas para el Cambio*' program as part of the learning lessons to improve the programs. Like in the *Ideas para el Cambio* program, *A Ciencia Cierta* counts with a project implementer supporting the administrative procedures associated with the experience strengthening process. Also, the implementer has the responsibility of promoting the process of social appropriation of STI.

This section aimed to illustrate some of the policy features of the programs Ideas para el Cambio and A Ciencia Cierta. Those programs constituted the policy frame where the case studies were selected for this research to understand the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities like COLCIENCIAS. In the following section, I will describe the general elements that characterised the case studies' settings. This description will help create an understanding of the dominant setting in the Path-transformative process pointed out as part of the heuristic assembled in Chapter Two.

3.3.2. Case 1: Harvesting water and grey systems at Mancilla village –Ideas para el Cambio Program 2016

The first case in this research takes place in a village²⁹ from the municipality of *Facatativá*. This municipality belongs to the Department of Cundinamarca, in the Andean region of the country. The word *Facatativá* means in the native Chibcha language “Strong fence at the end of the Plain” (Jaramillo Gómez, 2003, p. 28). **Map 1(a)** illustrates the geographic location of Facatativá in Colombia. This municipality is 43,6 kilometres away from Bogotá, the capital city of Colombia, and it has an extension of 159.601 km², of which 96,8 % is a rural area and 3,2 % is urban (Municipio de Facatativá, 2016, p. 18).

(a) Facatativá's Geographic Location



(b) Facatativá's Political Division



Map 1. Case one's geographical location

* It pointed out the village where the case took place.

Source: (a) Milenioscuro (2012a); (b) Adapted from Alcaldía de Facatativá (2017).

29 In Spanish, the location is named *vereda*. The DANE defines it as follows: “It is a territorial division with an administrative character in the municipalities' rural areas defined by municipal agreements. It is understood as a communitarian grouping based on territory. That territory is considered the main space for sociability. They are characterised by the proximity of its members' residence in the sense of belonging and shared identity and the predominance of neighbourhood relationships. It is shaped mainly by the grouping of properties delimited by geographic features and main roads.” (DANE, 2018, p. 13), free translation.

Facatativá is a municipality that relies mainly on its primary sector, agricultural activities. These activities represent 97,28 % of Facatativá's economy (Alcaldía Municipal de Facatativá, 2018). The main crops are flowers, potatoes, peas, corn, vegetables, and strawberries (Alcaldía Municipal de Facatativá, 2020, p. 55). A relevant source of employment in Facatativá is growing flowers for exporting. However, this kind of activity is damaging the environment because of the high demand for water (Municipio de Facatativá, 2016; C6-IT1, 2020). The secondary sector is shaped by enterprises in charge of food processing, cosmetics, jewellery, and soap (Alcaldía Municipal de Facatativá, 2018). This municipality also has an industrial complex constituted by 12 enterprises focused on "the storage and transportation of liquid fuels and liquefied petroleum gas, and where one of them also transforms palm oil into biodiesel" (Alcaldía Municipal de Facatativá, 2018). Facatativá does not have a defined industrial area which means that the factories are dispersed across the urban and rural areas like Prado, Mancilla, and Tribuna villages (Alcaldía Municipal de Facatativá, 2018). Finally, the tertiary sector is represented for circa 4247 commercial establishments in different areas.

In terms of population, Facatativá had 132.106 inhabitants in 2015 (Municipio de Facatativá, 2016) when the Ideas para el Cambio's project was implemented. According to the data available for that period, in 2014, 19.1% of Facatativá's population was living in poverty and 4,5 of them were living in extreme poverty (Gobernación de Cundinamarca, 2016). The 65,8% of people living in Facatativá's rural area did not have a sewage service, and 43,14% did not have water service (Municipio de Facatativá, 2016). Facatativá's rural area has 14 villages: Corito, Cuatro esquinas, El Corzo, La Selva, La Tribuna, Los Manzanos, Mancilla, Moyano, Paso Ancho, Prado, Pueblo Viejo, San Rafael, Tierra Grata and Tierra Morada (Municipio de Facatativá, 2016). **Map 1(b)** points out the geographic location of those villages.

Mancilla village is located 2.600 meters above sea level. It is the biggest of Facatativá's villages, with 1.4 million hectares (APENIMPA, 2016). **Map 1(b)** identifies Mancilla using the symbol "*". That village has a subsistence productivity system focused on peas and potatoes and industrial systems focused on strawberry crops and livestock (Forero, Pedraza, González, & Jaimes, 2018; Municipio de Facatativá, 2016). According to the Community Action Committee, Mancilla village has 68 families, which means circa 156 people living in areas between one and four hectares (APENIMPA, 2016). People in these families are workers or have jobs in the growing flower companies of the municipality (C6-IT1, 2020). In some cases, the households had space for cropping. However, it was not possible to use it due to the water shortage (Forero, Pedraza, González, & Jaimes, 2018).

In this setting, the case is about a process fostered by an Institutional Entrepreneur (IE) in Mancilla village since 2006. The IE was looking to take care of and recover the local environment by promoting a fusion between the Campesino and academic knowledge. She tried to foster better water management for production processes and human consumption in this frame. Internal conditions in her community and external factors affected the path-transformative process that she was fostering in her community. For example, the community was characterised by apathy and mistrust to work together and with external actors. In 2015, a joint proposal between a research group from the National Service of Learning (SENA by its acronym in Spanish) and the Institutional Entrepreneur benefited from the Ideas para el Cambio program. The implementation of this proposal had the intention of developing a set of harvesting water and grey systems in the

village. However, the choices made by the actors who intervened only allowed the implementation to cover 13 out of 68 families. The results achieved in the frame of the Ideas para el Cambio's public call were mixed. They affected both positively and negatively the Institutional Entrepreneur's work in Mancilla.

3.3.3. Case 2: Agroecological crops at La Pradera village –A Ciencia Cierta Program 2015

The second case selected for this research is the agroecological crops at La Pradera village, led by the Peasant Agroecological Network Association (ARAC by its acronym in Spanish). This village is settled in the Subachoque municipality in the department of Cundinamarca.

Map 2(a) depicts its geographic location in Cundinamarca and the country. This municipality is near to the capital city of Colombia, Bogotá D. C. The distance between them is around 45 kilometres (Acevedo-Osorio & Angarita Leiton, 2013). Subachoque is a dry and mountainous forest area, with an altitude between 2,640 and 2,958 m.a.s.l. (Acevedo-Osorio & Angarita Leiton, 2013) and an extension of 207 km² (DNP). This municipality was recognised as the “green municipality” (Acevedo-Osorio & Angarita Leiton, 2013, p. 55).

(a) Subachoque's Geographic Location



(b) Subachoque's Political Division



Map 2. Case two's geographical location

* It pointed out the La Prader village.

Source: (a) Milenioscuro (2017); (b) Adapted from ProSubachoque (2020).

Regarding the economic activities of this municipality, the primary source of income relies on the services sector, which provides circa 66% of the local income. The primary sector follows it with circa 22% and the secondary sector with circa 10% (Martínez Cruz, 2020). However, its agricultural profile is widely acknowledged (Vergara Gutiérrez, 2018; Martínez Cruz, 2020). The urban area in this municipality only represented circa 0.53% of the territory, and the rest was divided between farming activities (70.5%), woods (17.09%), sources of water (0.25%) and grasslands (11.88%) (CIDETER SAS, 2013, pp. 114-118). According to Acevedo-Osocio & Angarita Leiton (2013), Subachoque has three types of farming. The first two are corporate farming and peasant corporate farming. These two types of farming are sharing practices that rely mainly on using “chemical pesticides, monocultures, machinery, modified seeds” (C4-IT5, 2019, p. 19). Those types of practices

are identified as being part of the so-called *Green Revolution's movement*, which, despite aiming to foster high-yielding crops, produced adverse social and economic effects (FAO, 1996; Wu & Butz, 2004). It was the case of Subachoque, where those practices damaged the local fauna and flora (C4-IT5, 2019). The third type of farming is depicted by agroecological initiatives, which differs from the first two in their farming practices.

Subachoque had circa 16,435 inhabitants in 2016 (Gobernación de Cundinamarca, 2016, p. 148). 62.4% of them were living in the rural area and 37.6% in the urban area (Gobernación de Cundinamarca, 2016, p. 197). Its population was heterogeneous, with absence of social minorities, and an increasing amount of people from the city arriving to use the space for recreation activities (Acevedo-Osorio & Angarita Leiton, 2013; C4-IT8, 2019). In 2014, 17.5% of Subachoque's population was living in monetary poverty and 3.4% in extreme monetary poverty (Gobernación de Cundinamarca, 2016, p. 404). This municipality is divided into an urban area, *inspección la Pradera*, and the following seventeen villages: Altanía, Canica Alta, Canica Baja, Cascajal, El Guamal, El Páramo, El Tobal, El Valle, Galdámez, La Unión, la Yegüera, Llanitos, Pantano de Arce, Rincón Santo, Santa Rosa, Santuario la Cuesta, and Tibagota. **Map 2(b)** illustrates the geographic location of those villages.

The case to study in this research took place in different farms distributed across Subachoque's villages. However, the ARAC's meetings point was in La Pradera. It is a place defined by the DANE as an "Inspección de Policía" or *police station*³⁰.

Map 2(b) identifies La Pradera with the symbol "*". This case is about a path-transformative process fostered by an Institutional Entrepreneur comprising by a peasant and two neo-peasants³¹. This Institutional Entrepreneur fostered the development of ARAC by the adoption of agroecological practices since 2009. The interaction with local actors, public entities, and Academia allowed them to build alliances with those actors to support the ARAC's project and overcome different challenges they faced in their development. In 2015, ARAC won the A Ciencia Cierta Award, bringing technical and financial resources to strengthen its vision of change. The Institutional Entrepreneurs used the A Ciencia Cierta Award to address APACRA's needs linked with marketing, water management and production. In attending the APACRA's needs, the intervention of actors like the godparents, the community, COLCIENCIAS, and the COLCIENCIAS' implementors team was critical.

3.3.4. Case 3: Alternative food for young and older people in the Cajamarca municipality –A Ciencia Cierta Program 2015

The last case to be studied in this research is about the Agroecological Association of Anaime's River basin Producers (APACRA, 2015c). This community is placed in the municipality of Cajamarca in the department of Tolima. This department is, in turn, located between the Central

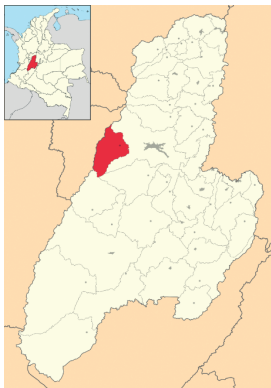
30 According to the National Statistic Department of Colombia (DANE by its acronym in Spanish). A *police station* is defined "as a conglomerate of dwellings located in the rest of the municipal area whose main authority is the police inspector" (DANE, 2018, p. 12). However, to the end of this research, La Pradera will be considered a village.

31 The term *neo-peasants* defines people who leave the cities to live in the countryside to become farmers or peasants.

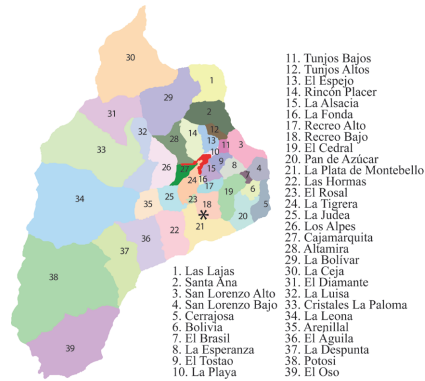
and West mountain ranges of the Colombian Andean Mountains system. **Map 3(a)** shows the geographical location both of the Tolima department and the country. The municipality is 21 km away from the capital city of the Tolima department, Ibagué, and on the border with one of the departments of the coffee region, Quindío. Cajamarca is, on average, 1,814 m.a.s.l. and has an extension of circa 516 km². 99.9% of its area is rural and 0.11% is urban (Alcaldía municipal de Cajamarca, 2018, p. 11). The word Cajamarca means in Quechua language “Cold land” (Gobernación del Tolima, 2020).

In 2015, Cajamarca had circa 19,656 inhabitants, of which 51 % were living in the urban area and the 49 % remaining in the rural area (Alcaldía de Cajamarca, 2016, p. 4). It was not possible to find data about poverty and inequality in Cajamarca in 2015. As a result, data from the department of Tolima was considered as an illustrative base line of Cajamarca’s conditions. In 2015, Tolima had 40,5% of its population living in monetary poverty and 10% in extreme monetary poverty (DANE, 2021c). Cajamarca is divided into the urban area (Cabecera municipal), the Anaime township³², and 39 villages (Alcaldía municipal de Cajamarca, 2018, p. 3). **Map 3(b)** depicts Cajamarca’s political division. The symbol “*” points out the Anaime township on the map.

(a) Cajamarca’s Geographic Location



(b) Cajamarca’s Political Division



Map 3. Case three’s geographical location

* It pointed out the Anaime township.

Source: (a) Milenioscuro (2012b); (b) Adaptated from Arango Mendoza (2014), Sánchez García (2013), and Cárdenas Tavera (Cárdenas Tavera, 2019).

This case studies the APACRA’s history and the work that the Institutional Entrepreneur, compounded by the partnership of two women, permitted the fostering of their path-transformative process. In 1998, a training school for leaders from the Anaime’s basin river was offered by the NGO Semillas de Agua. This school was the frame for shaping APACRA as an agroecological association looking to change the farming practices in their municipality and protect their

32 According to the DANE, a *township* is defined as a “type of populated centre, located in the rural area of a municipality, which includes a population nucleus and is considered in the Territorial Organisation Plans.” (DANE, 2018, p. 11).

environment. APACRA’s associates were distributed in the Anaime river’s basin across eight villages (C5-IT1-P1, 2019). These farms are located at an altitude between 1,800 and 2,600 m.a.s.l. (Corporación Consorcio, 2017). Some of the farms are placed in mountains with strong slopes above 50% (Corporación Consorcio, 2017).

Over the years and based on the work fostered by the Institutional Entrepreneur, APACRA has evolved from primary production to product processing and marketing. The process has not been smooth, and they have had to overcome different kinds of challenges and pressures along their path-transformative process. Like ARAC, in 2015 APACRA won the A Ciencia Cierta Award. The Institutional Entrepreneur used the technical and financial support given by COLCIENCIAS through the Award to address the APACRA’s needs. Those needs were around the strength of raw material production, achieving regulatory compliance and improving marketing activities.

3.4. Data description and their processing methods

This final section aims to describe the data and the processing methods followed in their analysis. First, I will focus on describing the different data consulted and produced from the study of the three cases described above. Multiple sources of data were considered in line with the fact that “A case study (...) relies on multiple sources of evidence, with data needing to converge in a triangulation fashion” (Yin, 2018, p. 15). Second, I will explain the process followed to study these data.

3.4.1. Data sources

This research relies on two general types of data. On the one hand, it is the data produced by interviews and fieldwork observations and considered primary data. This data was built based on the direct visits to the villages and where the three cases took place. The interviews were conducted, observing the ethical and data protection requirements defined by the University of Twente. On the other hand, I collected data from archives, websites, public videos, academic documents, and other sources. This data is considered secondary data. *Table 14* describes all the data sources studied and processed in this research.

Table 14. Data Description

Source	Description
Interviews	Semi-structured interviews were conducted in this research. Interviews lasted between 60-90 minutes, and they were transcribed into Spanish. Each participant was informed about the aim of this research and the purpose of the interview beforehand. The interview was conducted after the interviewee signing a voluntary consent form. I followed a snowball methodology to find more participants. When doing the interviews, I interviewed at least one representative from the different parts involved in each case. The parts involved in the cases were the communities, Academia, the COLCIENCIAS team, and COLCIENCIAS implementors.

Table 14. Continued

Source	Description
Fieldwork observations	Fieldwork observations were done after visiting a specific place in the process of doing an interview, for example, after visiting a farm or a village. These observations could be considered ex-post reflections recorded or written in the researcher notebook.
Official archives from COLCIENCIAS	Two types of files constituted the Official archives from COLCIENCIAS. The first set of them came from the official websites of Ideas para el Cambio, A Ciencia Cierta and COLCIENCIAS. It was possible to collect official files with information about the programs, the public calls, and the cases. The second type of files emerged from the direct consultation of the folders that kept data related to each case. These archives were accessed with COLCIENCIAS' authorisation. They were folders with meetings proceedings, reports by the organisations and COLCIENCIAS' officials, and from COLCIENCIAS implementors. It also included legal documents like legal agreements between the actors involved and financial data.
Academic documents	This source includes books, master's thesis, and PhD dissertations, as well articles from journals. Those documents studied the settings or the organisations from the three cases to be studied in this research. These documents were identified based on an online search conducted to find complementary information about each case. This search led me to online repositories from Universities in Colombia, personal websites from the authors, and journals websites.
Newspapers	Based on an online search for complementary information for each case, local newspapers and alternative newspapers were consulted to find out information about the setting of the cases or the cases themselves. By alternative newspapers, I am referring to websites from emerging sources of news from NGOs or collectives.
Videos	The videos studied in this research were identified in the Official websites of the programs Ideas para el Cambio and A Ciencia Cierta. In some cases, digital archives had copies of the videos prepared by the communities as part of the projects or experiences carried out with COLCIENCIAS. In other cases, some interviewees provided me with the links to videos associated with their cases. Besides, the Official YouTube Channel from COLCIENCIAS was a valuable bank of videos about the programs, the public calls, and the cases. However, not all the cases had official videos on the COLCIENCIAS channel. As a complementary exercise, I searched videos using Google and the search tool on the YouTube website.
Websites	In doing the online search to find complementary information about the three cases selected in this research, websites linked to the settings and the organisations from the cases were identified. Those websites include the Official websites of Ideas para el Cambio, A Ciencia Cierta, the COLCIENCIAS' website, and websites from NGOs, in some cases the organisation's websites, or other public or private entities with relevant information for this research.
Official documents from other Entities	The online search exercise gave me access to public files produced by interactions between the organisations and other entities like Regional Autonomous Corporations (CAR by its acronym in Spanish) or NGOs. The files collected discussed the work with the communities and the settings where they were embedded.

Table 14. Continued

Source	Description
Social Networks	Social networks like Facebook were searched, looking for information about the cases. I identified public profiles of some of the organisations involved in the cases with information about their activities, daily life, and positions about local and national topics. By doing screenshots, the information was collected and afterwards, it was turned into PDF format for its analysis.
Policy documents	Information from the City Hall in the municipalities was collected to understand the setting in each case better. In some cases, the information was downloaded from the official municipality website. Examples of this data are the local development plans led by the majors in the study periods or reports about the municipality or organisations involved in the cases.
Organisation's archives	This data source accounts for files from the organisations like the articles of the association, studies conducted by them in some cases. This information was collected from the organisation's websites or the COLCIENCIAS' archives.

Source: Own elaboration.

Following the data described in *Table 14*, *Table 15* summarises the data set studied in this research by case and total.

Table 15. Data Set Summary

Source	Case 1	Case 2	Case 3	Total
Interviews	6	13	7	26
Fieldwork observations	1	1	1	3
Official archives from COLCIENCIAS	20	24	21	65
Academic documents	3	6	6	15
Newspapers	2	2	7	11
Videos	1	7	5	13
Websites	2	8	5	15
Official documents from other Entities	0	4	7	11
Social Networks	1	3	2	6
Policy documents	1	1	2	4
Organisation's archives	1	2	1	4

Source: Own elaboration.

3.4.2. Data collection

The data collection process in this research was divided into three stages. The first one aimed to gain access to the official archives from COLCIENCIAS and contact details from the participants in each of the cases. For this purpose, it was necessary to send formal request letters to the COLCIENCIAS team introducing myself, my research, its purpose, and the data management to the data archives. This process began in December 2018, and due to difficulties associated with the high rotation of public servants in Colombia, it was necessary to repeat the process. I was given

access to the material in the second semester of 2019. The official archives' content is described in *Table 14*. The support from the COLCIENCIAS team was invaluable. They supported some of the interviewees' access, provided me with contact details, introduced me to the community projects leaders, and announced my visit to their fields.

To collect the information from the archives it was necessary to take photos of each file and prepare PDF files for its analysis. I was not allowed to take the archives out of COLCIENCIAS, and this entity did not have a space to copy or scan the information in the folders. The data in the archives was not homogenous. It means that some folders had more data than others. In some cases, the folders included digital information in Compact Disc that was copied for studying afterwards.

The second step in the collection process looked for testing and tuning the research tools designed to produce the primary data and assess the path-transformative heuristic's capability for navigating the cases' complexity. For this objective, an illustrative case was conducted in the municipality of Cumbal in the Nariño's Department, on the border with Ecuador. The results of this illustrative case were published in Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann (2020). In this article, the authors pointed out:

“We are not looking for extrapolating claims from the case analysis but discuss the heuristic strengths and drawbacks as a starting point to unfold path-transformative phenomena. Therefore, more than present empirical results of a fieldwork analysis, we want to assess to which extent our heuristic helps to explain interplays, processes and strategies led by IEs in an Inclusive Innovation case. The exploratory case was chosen randomly from a set of six cases selected from a PhD research project” (Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann, 2020, p. 10).

The third and final step in the collection process entailed an online search for complementary information about the cases and the settings where they happened. This step comprised, in turn, two phases. The first phase was prior to visiting the municipalities and villages where the cases took place. This data collection was done in advance to understand the case before conducting the interviews. The second stage of collecting secondary data took place after conducting the interviews to complement and contrast the data from the interviews. The third steps described in the paragraphs above contributed to identifying and collecting multiple data sources to have in-depth cases' understanding and triangulate findings from their study.

3.4.3. Data processing

The interviews were fully transcribed into Spanish and other data was converted to PDF format after the data collection process. In some cases, videos were transcribed into Spanish (when necessary). The data collected was imported to Atlas.ti software for a systematic analysis. The systematic analysis of the data collected was supported by a set of conceptual categories discussed in Chapter Two and organised into two heuristics as research strategies. Those heuristics are the Path-transformative heuristic described at the end of Chapter Two and the Inclusive Innovation Radar (InIn-Radar), which will be introduced at the beginning of Chapter Five.

The conceptual categories considered in each heuristic were used as codes to analyse the data. Following the abductive approach described in Section 3.1, those categories worked as a

starting point for the codifying process. It meant that coding was open to identifying new codes or conceptual elements that could enrich the heuristics, and therefore, explain the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities.

In this regard, the two heuristics mentioned allowed me to combine the concepts discussed in Chapter Two to guide the navigation in the three cases selected. The Path-transformative heuristic was designed as the first version of the sextant to navigate the cases. However, in the process of going back and forth between theory and data, I considered it necessary to sharpen the research strategy to bring a holistic understanding of the cases. In accordance with this, I decided to build the second heuristic as a complementary strategy, or in other words, to improve the sextant capacity to guide the navigation across the social complexity.

In this context, the use of these two heuristics shows their complementarity to answer the research question of this study. This complementarity can be understood as a process divided into two steps. The first step relies on the application of the path-transformative heuristic. This step allows the understanding of the path-transformative process and the vision of change that it entails and identifying the features, qualities, strategies, and context where the Institutional Entrepreneur and other actors are placed. The second step happens once the researcher has been informed extensively about the context depicted by the path-transformative heuristic. Based on this contextual analysis, the second step is focused on applying the InIn-Radar. This second heuristic unveils the processes, interplays, and tensions that happened at a specific moment of the path-transformative process.

For example, based on the path-transformative heuristic, it is possible to identify the Institutional Entrepreneurs, including their qualities, strategies, roles, and visions of change. These elements are the starting point for discussing and reflecting on the interactions between Institutional Entrepreneurs and the constellation of actors who intervene in an inclusive innovation initiative, or the alignment between the objectives of the inclusive innovation initiative and the path-transformative's vision of change.

Before finishing this section, I will summarise the starting conceptual categories that will guide the navigation of the three case studies. These categories are described in *Table 16* and *Table 17*, showing how they were "translated" for the analysis in the cases following the Path-Transformative heuristic and the concept of Inclusive Innovation, respectively. I am referring to those categories as starting because the back and forth movement between theory and data suggested by the abductive approach leads to enriching or reconsidering the categories based on the case analysis. Therefore, while these starting conceptual categories were drawing on the conceptual Chapter of this research (Chapter Two), the data analysis conducted in Chapters Four and Five will show their enrichment or reconsideration in Sections 4.2 and 5.1. respectively.

This chapter aimed to discuss and describe the methodology followed in this research to navigate the social complexity that the three cases selected entailed. In this vein, I explained the abductive approach behind the assemble of each chapter in this research and the cases selection process followed. Besides, I described the general setting where these cases took place and for each of them. Finally, I explained the data sources, their collection and processing methods. The mentioned elements offer sound bases for sailing the social complexity by studying the three cases selected in-depth. Sailing the cases will be the purpose of the following chapters in this research.

Table 16. Summary of Starting Conceptual Categories studied in the Path-Transformative phases

Phase	General Category	Specific Category	Description
Preformation	Dominant Setting	Personal Factors	This category describes the set of historical elements which could contribute to understanding the circumstances and dominant institutions in the preformation phase, and where Institutional Entrepreneurs were embedded.
		IEs	Internal motivations are those factors which intrinsically explain the Institutional Entrepreneurs' behaviour or action.
	Critical Juncture	External Factors	External motivations are those situations which produce Institutional Entrepreneurs' concerns. These motivations could be represented by the needs that the Institutional Entrepreneurs try to solve in their communities.
		Endogenous	According to the literature, a critical juncture could be explained as exogenous or endogenous phenomena which trigger and frame a situation where different path-alternatives are on the table, and among them one is chosen by the Institutional Entrepreneur as a promissory alternative
Formation	IEs' Social Position	Exogenous	Endogenous phenomena are linked with actions taken by the Institutional Entrepreneurs to build the conditions which make it possible to foster the process of alternatives selection, according to the definition of Critical Juncture.
			These phenomena belong or are produced by situations out beyond the reach of the agency's capability of Institutional Entrepreneurs. Institutional Entrepreneurs use these situations as windows of opportunity to frame the conditions to foster the process of alternatives selection.
	Arenas Characteristics		It describes the importance of the place occupied by IEs. This place defines the access level of IEs to resources (tangible or intangible) and their field perception (Leca, Battilana, & Boxenbaum, 2008).
		Jolts	It depicts situations which facilitate the institutional entrepreneurship.
		Problems then Crises	The first situation is when precipitating jolts or crises emerge.
	Vision of Change	Organisational field	The second one is the presence of acute field-level problems that might precipitate crises.
			This category studies the organisational field characteristics. Fligstein (1997) suggests that fields with a lack of order or structuring provide a fertile place of action for the institutional entrepreneur.
			It is the set of reasons and practices which explain or support the need for change. In this activity, IEs seek to frame the relevance, advantages of their vision, and the disadvantages of the current situation (Battilana, Leca, & Boxenbaum, 2009).
	IE's Strategies		They are considered "a detailed plan for achieving success in situations such as war, politics, business, industry, or sport, or the skill of planning for such situations" (Cambridge University Press, 2021). In this research, strategies are a set of actions and behaviours of Institutional Entrepreneurs to support their vision of change.
	Self-reinforcement Mechanisms		Preliminary strategies identified were included in <i>Annex 1</i> .
			Those mechanisms illustrate a set of repetitive actions which have positive feedback (Salerno, 2007) and make them more appealing in their use (Sydow, Schreyögg, & Koch, 2009).

Table 16. Continued

Phase	General Category	Specific Category	Description
Creation	Divergent Change		It has been defined as “changes that break with existing institutions” (Bartilana, Leca, & Boxenbaum, 2009, p. 68). The divergent change is featured by differing from the current path’s practices.
	Practices	New Practices	Drawing on Alvia Palavicino, practices are considered “a set of elements, which includes materials, meanings, competencies, etc. that are brought together by the act of doing” (2016, p. 31). These are the sets of activities or routines performed by the communities, or the IEs’ allies, and which emerged inspired by the Vision of Change championed by the IEs. These activities are considered new regarding the Dominant Setting’s practices.
Development	New Opportunities	Practices Adaptation	These are the sets of activities or routines performed by the communities, or the IEs’ allies, and which are adapted or aligned with the Vision of Change championed by the IEs.
	Strategies to Sustain the Change		These are understood as the alternatives that emerge or are built to cement a more “sustainable, social, and economic development” (Pinzón-Camargo, Ordoñez-Matamoros, & Kuhlmann, 2020, p. 9). In this phase, the notion of Strategies is the same as in the <i>Formation Phase</i> . In this case, those Strategies account for processes of resources mobilisation by the IEs to cement the divergent change introduced based on their vision in the last phase (Path-creation).

Source: Own elaboration.

Table 17. Conceptual Categories Summary looking at the Inclusive Innovation

Dimension	Description
People	This dimension seeks to identify the features of those who are in the process of marginalisation (Heeks, Amalia, Kinty, & Shah, 2013; Fressoli, et al., 2014) or are living in exclusion (Swaans, et al., 2014).
Inputs	This category looks for identifying the concerns and interests of marginalised communities (Foster & Heeks, 2013; Swaans, et al., 2014).
Activities/Processes	People or communities involved in inclusive innovation initiatives should play a central role in all the processes required to address their needs or challenges (Papaioannou, 2014; Arocena & Sutz, 2017).
Outcomes	According to the literature, one set of inclusive innovation initiatives' results is the production of opportunities for participants (Sonne, 2011; George, McGahan, & Prabhu, 2012). These opportunities should be available equitably.
Governance	This dimension looks at the participation of all the possible actors who can ameliorate or address the needs, concerns or interests of the people or communities (Sengupta, 2016; Onsongo & Knorrinda, 2020). Besides, this dimension accounts for showing decisional processes that make it possible to consider schemas of tentative (Kuhlmann, Stegmaier, & Konrad, 2019) and inclusive governance (Kuhlmann & Ordóñez-Matamoros, 2017). These schemas support the redefinition of the institutional arrangements in the communities.
Places	The Places dimension can be constituted by several subdimensions (<i>Rip & Joly, 2012</i>). In InIn, this dimension allows for the understanding of where marginalised communities are placed (Papaioannou, 2014).

Source: Own elaboration.

CHAPTER 4

Navigating the Path- Transformative endeavours in three cases in the Colombian mountains

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In navigating the Path-transformative process fostered by Institutional Entrepreneurs (IEs hereinafter) and their role in Inclusive Innovation Initiatives supported by National Entities, I established two critical elements. The first element was describing the constellation of concepts in chapter two, which guided my sailing path across the social world. Those concepts worked like celestial bodies guiding my navigation. The second one was the description in Chapter Three of



Photo by Mario A. Pinzón-Camargo (2019).

the three cases that shaped the horizon that I wanted to understand. Thus, the combination of concepts and cases supported the understanding to develop the endeavours followed by IEs and their allies in building path-transformative processes and the role of IEs in Inclusive Innovation Initiatives supported by National Entities in Local Communities.

This chapter is part of a complementary exercise composed of two parts for presenting the results from the fieldwork process carried out in Colombia between June 2019 and February 2020. The first part of this exercise entails describing the results from the three cases studied, applying the *Path-transformative heuristic*, which will be the purpose of this chapter. The second part of the complementary exercise will be presented in Chapter five. That chapter will be focused on presenting the results of the analysis of Inclusive Innovation Initiatives supported by National Entities in Local Communities. Those results will be guided by the six dimensions of Inclusive Innovation discussed in Chapter two. Although those results will study mainly the role of Institutional Entrepreneurs, they will also consider the importance of other actors and their roles, not only in the Path-transformative process but in Inclusive Innovation Initiatives. In this sense, these two chapters will show how the agency is relational and distributed (Garud & Karnøe, 2001b; 2003; Cabero Tapia, 2019).

The current chapter is divided into two sections. The first, will draw attention to the main elements of each case regarding the path-transformative process that the IEs have been fostering. The second, will point out how the *Path-transformative Heuristic* was enriched because of the empirical process. This enrichment led to the inclusion of new categories in the Path-Transformative heuristic and consider the modularity of its phases. The limitations of the *Path-transformative heuristic* also led to the design of a second heuristic for a better understanding, or sailing, of social world complexity. This second heuristic was named *The Inclusive Innovation Radar*. It aims to explore Inclusive Innovation as an *institutional logic* for the path-transformative process, and it was applied to describe results in chapter five. In this vein, this way of presenting the results entails more than just a style of describing the phenomena of study.

In this chapter, I will follow the same cases in the order introduced in chapter three. It means that first I will present the results of each phase in the case of *Harvesting water and grey systems at Mancilla village*. Second, the case of *agroecological crops at La Pradera village* by the Peasant Agroecological Network Association (ARAC by its acronym in Spanish). Finally, the case *Alternative food for young and older people in the Cajamarca municipality*, by the Agroecological Association of Anaimé's river basin producers (APACRA by its acronym in Spanish).

4.1. The Path-Transformative endeavours: A description of each of their phases from the Institutional Entrepreneurs perspective

The three cases that will explain under the lenses of the Path-transformative heuristic will increase the heuristic explanatory capability from a conceptual perspective. Although it will be shown in section 4.2, two aspects from the process of data analysis should be mentioned. The first one is that new categories emerged from the field. Others changed in the process of contrasting theory and practice in a parsimonious back and forth movement described by the abductive approach. Thus, the categories defined in chapter two (figure 5) from a normative level provide a valuable starting point for navigating the path-transformative endeavours. Furthermore, the analysis of these three cases will give fine-grained and zoom-in to each category providing more details about its configuration.

4.1.1. Case 1: Harvesting water and grey systems at Mancilla village – Program Ideas para el Cambio 2016

As was pointed out in Chapter Three (section 3.3.2), the path-transformative process, in this case, began in 2006 when the person who acted in the capacity of IE decided to settle down in Mancilla village in the Municipality of Facatativá. The analysis of the different data sources consulted for this case unveiled a path-transformative process shaped by three of the four path-transformative phases, as shown in *Figure 7*. Those phases are the preformation-phase, the formation-phase, and the creation-phase. The main elements of each one of these phases will be described below.



Photo by Mario A. Pinzón-Camargo (2019).

In this case, I underline three elements as the main results. The first one is the identification of *Organisational receptiveness* as a crucial enabling condition for the Institutional Entrepreneur's Path-transformative process. The second is related also to the enabling conditions. It draws attention to the importance of the Institutional Entrepreneur's social position. The third element unveiled the role of *pressures against* the divergent change fostered by the Institutional Entrepreneur, both internal as well as external.

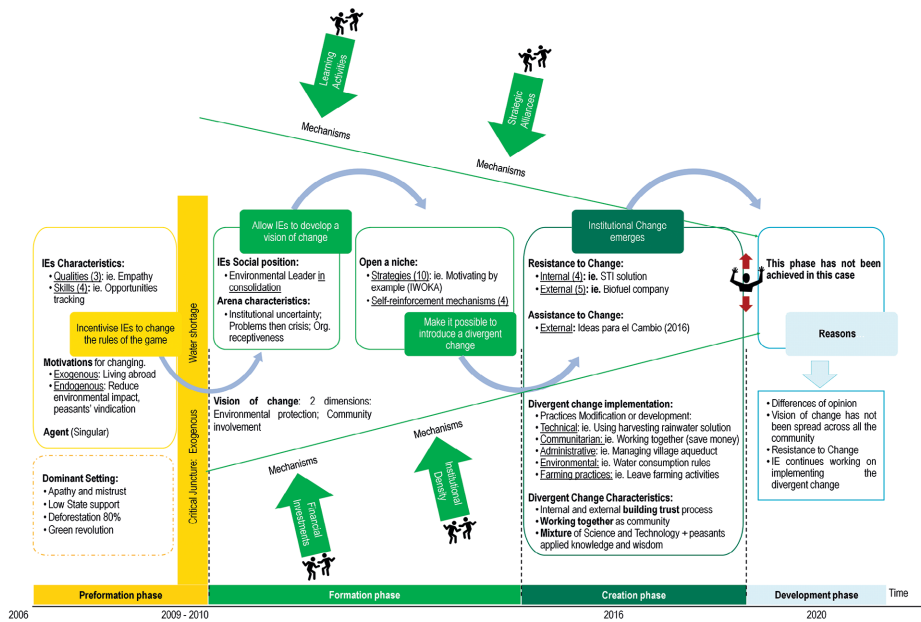


Figure 7. Case 1 - Path-Transformative Heuristic Applied.

Source: Own elaboration.

4.1.1.1. The Preformation Phase

In this case, the *Preformation Phase* showed four elements that, besides the *dominant setting* described in Chapter 3, section 3.3.2, set the IE's context, the IE's features and how their path-transformative process was triggered. The role of IE was performed by a woman who decided to live in the countryside of Colombia after living abroad. The IE was characterised by four *skills* and *qualities* that contributed to fostering her Path-transformative process along with endogenous and exogenous *motivations*. In this phase, a water shortage due to a climatic phenomenon “el niño” worked as a *critical juncture* to trigger the Path-transformative process.

i. The Institutional Entrepreneur

The first element was the identification of a person who performed the role of *Institutional Entrepreneur*. She was an agent who had an environmental engineering background which made her sensitive to environmental issues. She introduced herself as someone focused on “real support and real practice” (C6-IT2-P1, 2020, p. 1). She did not belong to the community of Mancilla, but she was born in Facatativá (C6-IT2-P1, 2020, p. 1). She decided to live in the countryside in 2006 after returning from living abroad (UNIAGRARIA, 2017) and went to live in Mancilla village (C6-IT2-P1, 2020). This situation confirms the affirmation made by one interviewee that the IE faced more challenges to lead the community because her relationship was undergoing a consolidation process (ColciCase-IT3, 2019).

ii. The Institutional Entrepreneurs' qualities and skills

The second element identified in this Preformation Phase was a set of *IEs' qualities and skills*. It is worth mentioning that skills and qualities are relevant features in IEs, as was discussed in Chapter 2. Thus, the IE's profile was featured by qualities and skills that contributed to fostering the path-transformative process. **Table 18** shows those qualities and skills identified, along with some related illustrative examples.

Table 18. Case 1: IE's Qualities and Skill Examples

(Q) Quality or (S) Skill	Some examples
(Q) Empathy	✓ The IE began to identify with the community's concerns because she was experiencing their needs in the village (C6-IT2-P1, 2020, p. 5): "And how else could I convince them? Since I also began to experience the same needs that they had" <i>[translation]</i> (C6-IT2-P1, 2020, p. 4).
(Q) Persistence	✓ The IE has been working on repairing the area where she has lived for eleven years (C6-IT2-P1, 2020) after her arrival in Mancilla. She got the first result with the first full organic production after five years of working on her farm (C6-IT2-P1, 2020).
(Q) Resilience	✓ Sometimes, the IE had drawbacks in her projects. For example, her efforts in minor farming species were frustrated, twice, because of hungry dogs from neighbours (UNIAGRARIA, 2017). The bad weather conditions in 2016 affected her trout production (UNIAGRARIA, 2017). However, the IE continued with her vision of taking care of the environment (UNIAGRARIA, 2017).
(S) Flexibility	✓ The IE's capability to switch from improving the aqueduct organisationally speaking (C6-IT2-P1, 2020), to find solutions to have public transport access to the community (C6-IT2-P1, 2020), or find support to her vision from Universities or public entities (C6-IT2-P1, 2020).
(S) Opportunities tracking	✓ The IE was looking for new options to foster her vision and show the community and third parties that it was worth it. Thus, when people representing academia began to arrive at village Mancilla, she looked for giving them space to complete their studies but in exchange for guaranteeing a benefit for the community (C6-IT2-P1, 2020).
(S) Recursive talent	✓ The IE funded the "environment museum" on her farm to show the community how sustainable technologies work (C6-IT2-P1, 2020). Besides, she taught her neighbours how to treat wastewater using plastic bins and not with tanks (C6-IT2-P1, 2020), or how to benefit from other alternative uses of a farm (C6-IT2-P1, 2020).
(S) Strategic analysis	✓ The IE identified in the academic research process at village Mancilla an opportunity to establish a win-win situation where both academia and the community would benefit (C6-IT2-P1, 2020). Thus, while academia found a place to do their research activities in Mancilla, the community benefited from those activities.
(S) Transformative learning	✓ The IE gained experience in applying to national public calls in The Ideas para el Cambio Project. Also, she learnt how to deal with technical, administrative processes related to public calls as well as with new actors such as people from COLCIENCIAS, Corporación Enlace and research teams (C6-IT2-P1, 2020).

Source: Own elaboration.

iii. *The Institutional Entrepreneur's motivations*

Personal and external factors that trigger the IE's action are the third element in this phase. These factors are described as *endogenous and exogenous behaviour motivations*. In this case, *exogenous motivations* emerged from her experience of living abroad. Based on her experience, she realised how other countries with less environmental resources were making better use of them. Thus, upon her return to Colombia in 2006 (UNIAGRARIA, 2017), she decided to move to the countryside to live and enjoy the environmental richness of the country (C6-IT2-P1, 2020; UNIAGRARIA, 2017). The IE's *endogenous motivations* were underpinned by two factors. First, she wanted to prove that it was possible to change the environmental practices to reduce the negative impact on the environment (C6-IT1, 2020). Second, she had a feeling of looking for justice for peasants' conditions. This feeling moved her to work with the community to find solutions for their needs (C6-IT2-P1, 2020).

iv. *The Critical Juncture*

The final element pointed out in the preformation phase is *the critical juncture*. In this case, a water shortage triggered it. The water shortage was one of the most relevant problems in Mancilla village (C6-IT4, 2020; ColciCase-IT3, 2019), but also in all the Municipality (Municipio de Facatativá, 2016). In some cases, this situation led to strikes on the part of the community (El Tiempo, 2015b). This situation was an exogenous source to open a window of opportunity for the IE to get together with the community and find solutions for them (C6-IT2-P1, 2020) and introduce her vision of change.

"I feel that the fundamental interest was the water service, right, because it generated a sort of plant and an aqueduct. Well, because of the disorganised [situation] that there was, it was not even correctly managed. Not all (100% of) the families could count on the benefit of at least bringing water to their house[s] and with a certain [amount] of quality. So, with that need, which was perhaps the most sensitive [issue], based on that, I said, 'come on, let us [get ourselves] organised', and a board was generated, boards were generated for the three aqueducts. Three aqueducts, moderately organised with a plumber, water treatment, in a plant that is there. Well, the infrastructure is still weak, but it has been managed there. Then, from the pain, from the need for a basic water service, we have come together, and then I think that has been the main thing" (C6-IT2-P1, 2020, p. 6).

4.1.1.2. *The Formation Phase*

The second phase identified in this case is the *formation phase*. Three elements were identified in this phase. The first element identified was the *vision of change* championed by the IE. It was featured mainly by her intention to take on the natural environment and involve her community in that intention. The second element was focused on the enabling conditions that supported the IE's work. Two elements were salient. In the first place, the IE's social position was in the consolidation process, and it had a negative effect in the Creation Phase (see section 4.1.1.3). In the second place, as part of the *field-level conditions*, *organisational receptiveness* was critical in the IE's Path-transformative process.

The third element was the *strategies*, and the fourth one, the *self-reinforcement mechanisms* used by IEs to open a niche and boost a path-transformative process. Regarding the strategies, there were overlaps between them in their implementation and intentionality by the IE in using them to build trust. Finally, regarding the four self-reinforcement mechanisms implemented by the IE, they were implemented to increase the community's commitment and involvement.

i. The vision of change

The *vision of change*, in this case, involved two aspects. The first one was implementing practices to take care of and recover the natural environment (UNIAGRARIA, 2017). The second aspect of the IE's *vision of change* was to involve the community in her path-transformative process (C6-IT2-P1, 2020). By considering these two aspects, she wanted to "make a fusion from the science and technology academic side with the peasants' wisdom and practical knowledge" (C6-IT2-P1, 2020, p. 1). The *vision of change* promoted by the IE can be identified in the motto of the eco-park founded by her: "Change your footprint and help the planet" (UNIAGRARIA, 2017, Min 1.31).

ii. The enabling conditions

This case showed *two critical enabling conditions* for allowing the IE's work. The first enabling condition was the *IE's social position*. In this case, the IE's social position as leader was in the process of consolidation. On the one hand, she was acknowledged as a community leader (COLCIENCIAS, 2017g; APENIMPA, 2016; C6-IT1, 2020; C6-IT4, 2020) in charge of all the environmental issues in the village (C6-IT1, 2020; C6-IT2-P1, 2020), and she performed the gatekeeping role for external proposals to the community about environmental issues (C6-IT2-P1, 2020). Her position as a leader meant that people in the community listened (C6-IT1, 2020), followed (C6-IT1, 2020), and believed her (C6-IT1, 2020). Also, she was able to move the community (C6-IT1, 2020), persuaded them and explained what was happening (C6-IT1, 2020). In general, people from the community respected the IE (C6-IT1, 2020).

On the other hand, some interviewees suggested that she did not have the leadership skills to lead the community (ColciCase-IT3, 2019; ColciCase-IT8, 2019). According to another interviewee, such a situation was due to her lack of sense of belonging to the community (ColciCase-IT3, 2019). This tension to do with the IE's acknowledgement in her community was also to do with how the IE recognised herself. It was possible to realise the IE did not feel 100% part of the community. Thus, although the IE showed great admiration for peasants, there was still a mismatch between the IE and the community.

"my change was not to become the peasant, that is why also, uh, with pride they called me from the agrarian union for the day of rural women, uh, and I went to represent the peasants, but I said that I took off the hat. Because nothing, that the fact that I am a woman and that I am in the countryside, I am not a rural woman, nor a peasant. But that I admire them and that I represented them with pride saying how warriors they are[sic]" (C6-IT2-P1, 2020, p. 4).

The second enabling condition, in this case, was the *field-level conditions*. This case was featured by *institutional uncertainty* and *problems which evolved in a crisis*. The literature has studied these types of *field-level conditions* as enablers for the Institutional Entrepreneur's actions (Battilana, Leca, & Boxenbaum, 2009). Besides these two *field-level conditions*, *organisational receptiveness* was identified. It was a third *field-level condition* that could contribute to or block the IE's performance in boosting a path-transformative process.

Institutional uncertainty emerged from two situations. The first one was the lack of interest from the State, in this case, represented by the Municipality, to support the work that peasants must do to take care of the water resource (C6-IT2-P1, 2020). The second situation was a fuzzy set of rules to manage the village aqueduct. It explains why it was not covering all the community with the service (C6-IT2-P1, 2020). These situations triggered the IE's empathy and interest in providing more fair conditions for her community and pushing and improving the aqueduct management organisation, and the technical aspects.

Regarding those *problems that could evolve in a crisis* and affect institutional stability, different situations were identified: i. difficulties at the Municipality to keep the quality and access to water since 2013 (Municipio de Facatativá, 2016); ii. problems linked with deforestation; and iii. the use of agrochemical products (Jaramillo Gómez, 2003). These situations have affected the access to safe water in village Mancilla, which turned into a crisis after the "el niño" phenomenon (C6-IT3, 2020).

Organisational receptiveness describes the willingness of the community or organisation to cooperate and work with third-party actors. Thus, the higher the level of receptiveness, the easier the Institutional Entrepreneur's work and the other way around. In this case, as it was depicted in Chapter 3, section 3.3.2 (dominant setting), the lack of trust in this community affected their receptiveness to new projects or efforts to improve their living conditions. It explains, for instance, why it had taken several years for the IE to gain their trust and why it was challenging to for them to become involved in the Ideas para el Cambio project. To sum up, in this case, the lack of community receptiveness toward the organisation worked as a barrier for the IE.

iii. IE's Strategies Implemented

The analysis of this case allowed me to identify ten strategies implemented by IE (see *Annex 4*). The IE used those to boost her vision of change, and they show two features. First, the use of these strategies by the IE shows overlaps between them. It means that the IE combined strategies to achieve her goals. For example, in the case of the *Networking Strategy*. The IE in Mancilla wanted to develop ties with her community and open spaces for interchanges with new allies, academia, and public entities. Because of that, she transformed her farm into an experimental farm (C6-IT2-P1, 2020), drawing attention from those new allies (making materials and showing results). She turned Mancilla village into a suitable place to implement and support working practices (C6-IT2-P1, 2020). Thus, it was possible to make strategic alliances with those new allies (C6-IT2-P1, 2020). These networks with academia brought results to the IE. For example, she was called by universities to participate in their activities (C6-IT2-P1, 2020). Also, it was the channel to be found by the SENA's research team in the Ideas para el Cambio program (C6-IT3, 2020). Second, these strategies show how the IE looked to build trust with and within the community. It is the case of the strategy

community acknowledgement or motivating by example. This second feature will be important to develop the IE's divergent change (discussed in section i).

iv. Self-reinforcement mechanisms

The case analysis shows four different self-reinforcement mechanisms which were used to foster the path-transformative process led by the IE. The first mechanism was the *financial investments*, such as the resources received from the program Ideas para el Cambio. The second mechanism was the *Institutional density*. An example of this mechanism was the fulfilment of the legal requirements to formalise the local aqueduct. The third mechanism, related to *Learning activities* like workshops guided by the IE or those organised under the Ideas para el Cambio program frame. Finally, *strategic alliances* made with universities, research centres and public entities were identified.

Those mechanisms were implemented along the formation phase to increase the commitment and involvement of the community in the IE's vision of change. They are described in *Annex 4*.

4.1.1.3. The Creation Phase

In this case, the data analysis allows for identifying the configuration of a *creation phase*. That phase was far from smooth and peaceful. This situation unveils the emergence of external and internal pressures against the IE's path-transformative process. These pressures become a new category to consider in the *Path-transformative process*. Besides the new category announced, this section will describe results aligned with three elements: (i) the *divergent change* introduced by the IE, and which was aligned with the *vision of change*. (ii) the new category, in this case, allowed for the identification of four *external* and four *internal pressures* which emerged as resistance to the change process. Finally, (iii) five clusters of *practices* are described. Those clusters include those practices adapted to the divergent change and those which emerged because of the IE work.

i. Divergent Change Attributes

The divergent change was featured by the intention of the IE to build trust between the community to work jointly to improve their quality of life and adopt practices to take care of the environment. The features of this divergent change contrast with the dominant setting described in Chapter three, showing the divergence between them. The divergent change was characterised by two attributes aligned to take care of the environment and improve their quality of life.

The first attribute that constituted the divergent change was trust. The IE fostered a process of building trust among the community and with external parties. Whereas she addressed the process of building trust among the community by fostering the community to work together, the process of building trust with external parties was done by working with academia or with Ideas para el Cambio's project (C6-IT1, 2020; C6-IT3, 2020; C6-IT4, 2020). The second attribute was the joint work among the community members. She sought to underline the relevance of working together as a community (C6-IT2-P1, 2020) to improve their quality of life. These two attributes were aligned with her vision of change. That vision was the merging of academic, scientific and technological knowledge with the wisdom and applied knowledge from peasants (C6-IT2-P1, 2020) (see section 4.1.1.2).

ii. Resistance to the Change

As was mentioned, the data analysis showed that the implementation process of the divergent change was far from smooth and peaceful. The IE had to face *external and internal pressures against the process of change* that she was fostering. The difference between those pressures lies in their origin. Thus, while *External pressures* come from outside the IE's organisation, the *Internal* ones emerge from inside the organisation. Those pressures are events, actions, or activities that negatively affected the IE's change process. This negative affectation was understood in the sense of blocking the IE's Path-transformative process and fostering the status quo.

In this case, five situations were identified as *external pressures against the change*. They are presented in **Table 19**. These five situations affected the idea of showing the Mancilla village's aqueduct as good practice for all the rural areas of Facatativá. From the list, it was pointed out that the last two presented in **Table 19** were the most problematic. All the five *External pressures against the change* affected the trust-building process fostered by the IE and the implementation of the divergent change.

Table 19. External Pressures against the IE's Path-transformative process

Pressure	Situation in the case
Damage to the natural environment	It was the damage to “the ecological balance of the typical biodiversity of semi-paramo and its natural function in the conservation and storage of water resources” (MinCiencias, 2020b).
Bad farming practices	Bad farming practices emerged from external people to the community who used to rent farms for extensive strawberries crops. Besides demanding high levels of water (APENIMPA, 2016; C6-IT1, 2020), these crops were producing chemical contamination to the water sources because of the use of agrochemicals.
Climatic phenomenon “el niño”	This phenomenon hardly affected Mancilla village in 2015 (APENIMPA, 2016; C6-IT1, 2020). The creek which supplies the local aqueduct was in a shortage situation (C6-IT1, 2020), and they had it as the only water supply source (C6-IT3, 2020).
Biofuel company settled in the village	A biofuel company began to settle down in village Mancilla , and according to the IE, it did not fulfil the environmental requirements at the beginning. It solved them “as if by magic” (C6-IT2-P1, 2020, p. 8). The daily working process of this company demanded a high amount of water. So, the company began to use water “directly, well, here from the water bodies and [this is where they are]. Their use after four or five years, the surface sources have tended to disappear (...) afterwards, even, the company was authorised [to have] deep wells to use underground water” (C6-IT2-P1, 2020, pp. 7-8).
National regulation	The national regulation came up with more requirements for local organisations trying to manage their local aqueducts. On the one hand, the local aqueducts were considered public enterprises. Therefore, it meant acquiring new responsibilities with the national tax authority. On the other hand, requirements to manage the treatment plant regarding legal labour payments and quality requirements made it expensive for the community to continue with the process (C6-IT2-P1, 2020).

Source: Own elaboration.

Regarding *Internal pressures against the change*, three situations were identified in this case. Most of these internal pressures emerged from the weak enabling conditions which the IE had to deal with. On the one hand, the low level of organisational receptiveness was caused by the community's mistrust, and on the other hand, her social position was still being consolidated. A third internal pressure emerged from the Ideas para el Cambio's project implemented in 2015 with the support of COLCIENCIAS. Finally, the instability of actors in charge of ruling the community affected the IE's Path-transformative process. The four *Internal pressures against the change* are described in **Table 20**.

Table 20. Internal Pressures against the IE's Path-transformative process

Pressure	Situation in the case
Apathy and mistrust	Apathy and mistrust were produced by the exploitation from politicians and academia of the community (C6-IT3, 2020; C6-IT4, 2020) and were a barrier to achieving the change pursued by the IE (C6-IT2-P1, 2020). An example of the negative effect of these internal pressures was illustrated by the lack of community involvement in the Ideas para el Cambio's project (COLCIENCIAS, 2017h; COLCIENCIAS, 2017i; C6-IT1, 2020). It affected the process of practices development and modification (COLCIENCIAS, 2017i; COLCIENCIAS, 2017h).
IE's weak social position	It affected IE's leadership in the community to gather them (ColciCase-IT8, 2019). For instance, it was the case of the Ideas para el Cambio's project implementation where the IE acknowledged difficulties to keep together the community (C6-IT2-P1, 2020), and also to make the project surveillance once it finished (C6-IT2-P1, 2020). Besides, these limitations in the IE role affected the governance of the project.
Ideas para el Cambio's Project	The techno-scientific solution for harvesting rainwater was affected by three factors that discouraged the results of this project. First, the water shortage was overcome because of changes in the weather conditions. It produced a low number of beneficiaries using the techno-scientific solution; some used the solution only when required (C6-IT1, 2020). Second, the solution produced externalities in terms of increasing the electric bills because of its use (C6-IT2-P1, 2020). Third, it had a restricted scope of beneficiaries in the community. Only ten families of 68 had access to the solution because of the cost of the techno-scientific solution (C6-IT2-P1, 2020; C6-IT2-P2, 2020). Finally, the people got tired of using the greywater treatment systems and without the expected frequency (C6-IT2-P1, 2020).
Actors instability	The instability of the actors in the Community Action Committee made it challenging to keep a channel for the project's actors with the community (ColciCase-IT3, 2019) and affected the governance of the Ideas para el Cambio's project.

Source: Own elaboration.

iii. Practices Evolution

In a path-transformative process new or modified practices due to the IE's initiatives can be identified. These practices were grouped under general categories, which made it possible to see how a new set of activities, routines, behaviours appear, and how, in other cases, current practices changed according to the divergent change and the vision of change championed by the IE. Those new and modified practices are described in **Table 21**.

Table 21. Practices identified in the case

Practice Category	(Type of practice) / Description
Technical practices	<ul style="list-style-type: none"> · (Development): Based on the Ideas para el Cambio's Project were claimed new community practices for understanding, building, maintaining, and putting to work the harvesting rainwater techno-scientific solution (Forero, Pedraza, González, & Jaimes, 2018). In this vein, an interviewee suggested that, for example, the beneficiaries' language changed: "We saw people who had no idea about treatment, and at the end of the project, they were beginning to talk about filters, filtering beds, pumps, maintenance" (C6-IT4, 2020, p. 2). Besides, considering the archive's data the understanding and use of this technology based on reported cases could be deduced. Those reports pointed how community members made adaptations to boost system performance (COLCIENCIAS, 2017h; COLCIENCIAS, 2017i).
Communitarian practices	<ul style="list-style-type: none"> · (Development): Considering the divergent change's features, Ideas para el Cambio's project contributed to developing practices in the community to work together. For example, the project beneficiaries tried to organise a mechanism to save money and maintain the system (C6-IT1, 2020). · (Modification): People began to be less sceptical and to trust a bit more in third parties because they realised that this kind of projects was possible without corruption practices (C6-IT4, 2020). At the end of the project, they became more involved and were grateful to the SENA's research team (C6-IT3, 2020).
Administrative practices	<ul style="list-style-type: none"> · (Development): The project taught the community how to manage a project with public entities. They were more empowered to discuss with people who arrived in the community with project proposals (C6-IT2-P1, 2020) and triggered their curiosity to apply for new projects (C6-IT4, 2020). · (Modification): The IE's work in the Community Action Committee on the aqueduct allowed the introduction of new practices to manage and improve the village aqueduct (C6-IT2-P1, 2020). It also meant learning how to fulfil legal requirements for that service (C6-IT2-P1, 2020).
Environmental practices	<ul style="list-style-type: none"> · (Modification): The shortage of water obliged the community to define rules for water consumption. Thus, "Each household has micro-meters, of which water consumption is estimated at 20 m³/house, and it was agreed not to exceed the average consumption in each household by using it for crops irrigation" (APENIMPA, 2016, p. 5). · (Modification): Because of the Ideas para el Cambio's project, the community realised the importance of having access to safe water (ColciCase-IT8, 2019), and they gave more importance to the water resource (C6-IT3, 2020).
Farming practices	<ul style="list-style-type: none"> · (Modification): Due to the water shortage, the community did not have enough water to irrigate their crops (COLCIENCIAS, 2016i). They had to leave their farming activities to find jobs as workers in the city (APENIMPA, 2016). · (Modification): The IE involved peasants from the community in new practices to allow them to continue with their activities but with less work and to take care of the territory (C6-IT2-P1, 2020). This involvement process was done by training processes linked with their farming activities (C6-IT2-P1, 2020).

Source: Own elaboration.

4.1.1.4. *The Development Phase*

The analysis of this case shows uncertainty about this phase. It means that whereas some actors considered that, for example, changes triggered by the Ideas para el Cambio's solution would continue working (C6-IT1, 2020), others believed that the sustainability of that project was fragile (ColciCase-IT3, 2019; ColciCase-IT8, 2019). In the same line, opinions around actions that should have been taken to guarantee the project are contradictory. Thus, members of the SENA's research team considered that the community had the will of maintaining the system by, for example, saving a monthly amount of money (C6-IT1, 2020). However, the IE affirmed that such activity was up in the air (C6-IT2-P1, 2020).

In 2019, the IE continued implementing strategies and self-reinforcement mechanisms to strengthen her vision of change for the community. For example, she continued making strategic alliances and renegotiating the current ones (C6-IT2-P1, 2020). Also, she was planning to finish some adjustments to reopen the environmental museum in the second semester of 2020. However, the COVID-19 global pandemic could have affected her plants.

The mentioned elements do not allow me to consider the achievement of the *development phase*. The IE has not spread her vision of change to all her community. It means that she could continue creating her path rather than cementing it. In this process, her acknowledgement and acceptance from the community will be crucial.

4.1.2. **Case 2: Agroecological crops at La Pradera village – Program A Ciencia Cierta 2015**

In this case, the Path-transformative process was triggered between 2009 and 2010 by a *Critical Juncture* that emerged from a personal episode of one of the three actors who ensembled the Institutional Entrepreneur. The data analysis provided evidence for illustrating the four phases in the path-transformative process. These four phases are illustrated in *Figure 8*. The most relevant elements to underline in this case are identifying an Institutional Entrepreneur, a richer set of strategies considering the previous case, and the existence of external sources to support the IE's path-transformative process. The latter element complements the *external and internal pressures against the change* identified in the previous case and in this one.



Photo by Mario A. Pinzón-Camargo (2019).

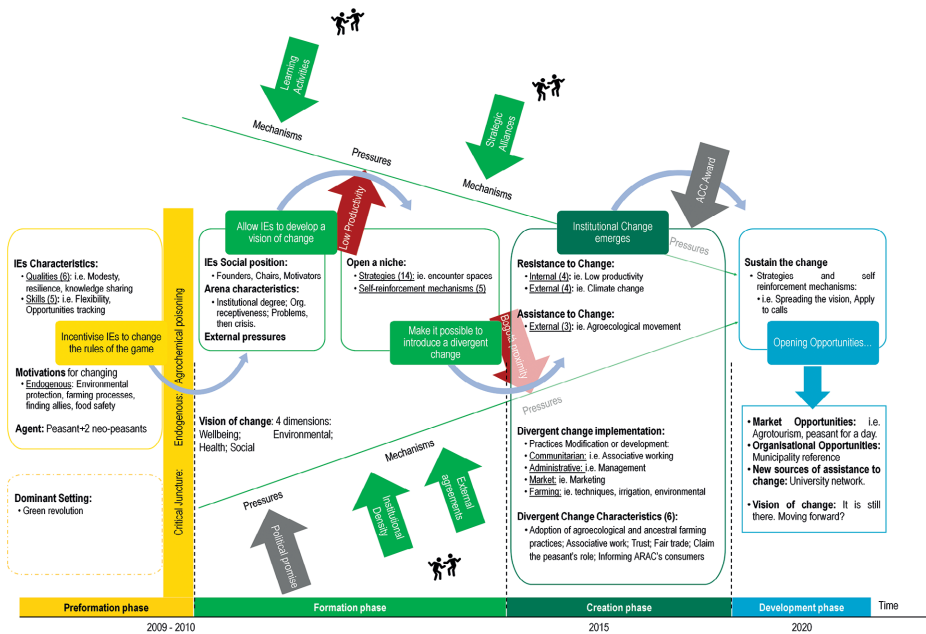


Figure 8. Case 2 - Path-Transformative Heuristic Applied.
Source: Own elaboration.

4.1.2.1. The Preformation Phase

This section will present the four critical elements to be considered in this phase, similarly to the first case. The first element is identifying an IE constituted an ensemble of the mix of three people (IE Trinity) with different profiles and origins. One of them was a peasant, and the other two were neo-peasants. The second and third element in this phase identifies this IE Trinity’s main features regarding its skills, qualities, and motivations to foster the path-transformative process. Among the skills and qualities, *flexibility* and *modesty* were salient in the IE Trinity.

Regarding motivations, they were essential for two reasons. First, they contribute to assembling the IE Trinity because it provided a common ground for understanding the three people. Second, these motivations fuelled the Path-transformative process. Finally, this section will draw attention to the Critical Juncture for triggering the Path-Transformative process. In this case, a personal episode from one of the people who constituted the IE Trinity produced the conditions to foster the Path-transformative process.

i. The Institutional Entrepreneur

The analysis of primary and secondary data led to considering a plural Institutional Entrepreneur (IE). It means that instead of a single agent represented by a person, in this case, the IE is the fusion of three different but complementary profiles of people in an *IE trinity*, as **Table 22** is showing. This IE interpretation is aligned with the reading that different interviewees have about the leadership

of ARAC. For them, the leadership is distributed between the ARAC’s members (C4-IT5, 2019; C4-IT8, 2019; C4-IT10, 2020; C4-IT11, 2020).

Table 22. Institutional Entrepreneur’s constituents

Person	General features
IE ₁	He is a peasant from Subachoque (Vergara Gutiérrez, 2018; C4-IT10, 2020; ColciCase-IT13, 2019). He was recognised as being the source of the idea of implementing the agroecological practices (Vergara Gutiérrez, 2018; Rojas Carrillo, 2017; C4-IT3, 2019; C4-IT5, 2019; C4-IT9, 2020). Furthermore, he was a source of inspiration for the association (C4-IT6, 2019; C4-IT7, 2019; C4-IT9, 2020; C4-IT10, 2020; C4-IT3, 2019) and the main sharer of farming knowledge for the association (C4-IT6, 2019; C4-IT10, 2020; C4-IT5, 2019; C4-IT7, 2019).
IE ₂	He is a person who with his family can be classified as neo-peasants (C4-IT8, 2019). He moved with his family from the city to Subachoque (C4-IT6, 2019) after working on environmental and pedagogic outings, which meant spending much time away from Bogotá D.C. He introduced himself as a coach, and because of that, he liked talking to people (C4-IT6, 2019). IE ₂ was empathetic and shared his interest in building better relationships between the people (C4-IT6, 2019). He was the main individual to form the association (C4-IT6, 2019; C4-IT10, 2020). Also, he was responsible for managing the relationships between the association and external actors (C4-IT9, 2020).
IE ₃	He is also classified as a neo-peasant (C4-IT8, 2019). He is a biologist (C4-IT8, 2019). He was living in the countryside before arriving in Subachoque (C4-IT10, 2020). He was involved in the social process of organic farming (C4-IT10, 2020). Besides having shared interests with the other two IEs (See the next section), he was keen on finding commercial alternatives to the products produced by the association (C4-IT6, 2019; C4-IT10, 2020), and on boosting the association in general (C4-IT9, 2020). He also performed the role of gatekeeper of the agroecological principles in the association (C4-IT10, 2020).

Source: Own elaboration.

The identification of this IE Trinity relied on the role played by them in introducing and fostering *the vision of change* (See section 4.1.2.2.i). Thus, the first person (IE₁) was the inspiration and shared their farming knowledge as part of the initiative. The second one (IE₂) supported the process of social bonding. Finally, the last one (IE₃) contributed to finding commercial alternatives to sell the products. Considering the roles mentioned enables the differentiation of the actors who shaped the IE trinity and other leadership figures who emerged from ARAC or joined the association.

ii. The Institutional Entrepreneur’s qualities and skills

The qualities and skills identification, in this case, was done considering each of the three individual profiles. Those qualities and skills are described in *Annex 2* in detail. Here, **Table 23 summarised the three people’s contributions** (IE₁, IE₂, IE₃) to IE trinity. From the analysis of this **Table** the following three remarks can be made. First, from the fieldwork observations IE₂ and IE₃ can be considered as being characterised by the *flexibility* skill. This was identified because of the different roles and activities performed by them through the ARAC’s development. For example, IE₂’s coaching activities and IE₃’s interest in finding commercial allies and market alternatives require talking to and keeping in touch with people from different realms.

The second remark considered in *Table 23*, and based on the data analysis and fieldwork observations, is that *empathy* was crucial to ensemble the IE trinity. The empathy between them was triggered by shared motivations (see the next section), mutual respect and their acknowledgement of the value of each one (C4-IT6, 2019; ColciCase-IT13, 2019) (C4-IT8, 2019). Moreover, this empathy between them permitted the initiation of a transformative learning process, where “each one found in that space a way to [realise] a dream” (C4-IT6, 2019, p. 3).

Finally, in this IE trinity, the qualities and skills redundancy produced a fostering effect on the people. It was based on a mutual learning process. For example, IE₁'s persistence motivated IE₃ to continue persisting in his process, and the other way around, or the IE₂ tracking of public calls could open a new field to be considered by IE₁ and IE₃. This fostering effect strengthened these qualities and skills in each individual, and therefore in the IE trinity.

Table 23. Summary of the IEs' Qualities and Skills contribution to the IE trinity

Quality/Skill	Type	IE ₁	IE ₂	IE ₃
Quality	Curiosity	X		X
	Empathy	X	X	X
	Knowledge Sharing	X		X
	Modesty	X	X	
	Persistence	X		X
	Resilience	X		
Skill	Flexibility	X		
	Opportunities tracking	X	X	X
	Recursive Talent	X	X	X
	Strategic Analysis	X	X	X
	Transformative learning	X	X	X

Source: Own elaboration.

iii. The Institutional Entrepreneur's motivations

Motivations were crucial to ensemble the IE trinity. These motivations allowed intersections between their interests and concerns, fuelling the bonding process between them to define the vision of change and fostering the path-transformative process. Intersections between the three people (IE₁, IE₂, IE₃) who integrate the IE were around: i. Taking care of the environment, ii. Farming processes, iii. Finding allies, and iv. Food safety. These motivations are described for each of the three people in the following paragraphs.

Motivations from the IE₁ emerged from the personal episode, which shaped the critical juncture in this path-transformative process (See next **section**). That personal episode leads IE₁ to find alternatives to change his typical sources of food for some free chemical inputs (C4-IT5, 2019) and to taking care of his family (C4-IT5, 2019; C4-IT6, 2019). This necessity pushed him toward memory lane and to recover his parents' farming practices (Posada S., 2017; C4-IT9, 2020) to produce agricultural products differently (C4-IT5, 2019).

“Then, the moment came when the time I spent recovering from my problem, I went back to the past. I was a person again. I was born again. I was a child again: How did they cultivate [in the past]? How? When there were no chemicals, there was nothing. So, then I realised that what we used at that time was the ashes from the stoves, manure, the same plants. This was no longer used. And, love for the land, love for not damaging the soil” (General-Presentation, 2019, p. 2).

An interviewee suggested that the personal episode of the first person pushed him to produce healthy foods, take care of his health and find allies. Following this interviewee, these three elements will become the pillars for the future ARAC (C4-IT8, 2019).

The analysis of **IE**₂ showed that he was looking with his family for a change in their lives (C4-IT6, 2019). This situation made them reflect on the desire to continue living in Bogotá or the possibility to move to a place like Subachoque (C4-IT6, 2019). This person described the encounter with the other two IEs in the following terms.

“I think it was like a meeting based on the moments of each one’s life. We came here because of our intention, although if at some point it was to cultivate and all that, it was more to seek a different way of life. **E**₃ was [doing] an interesting search because he betted on this from the beginning. He was always [involved] in social movements, in commerce, those kinds of things. And **IE**₁, despite his situation, he returned -in my opinion- to look at what he was doing before when there were not all these technological packages and all that stuff. So, it was a historical moment that allowed us to meet and say: ‘Hear we have it, can work out greatly for each one of us, regardless of the individual interests’. So, I think it was something more of a life situation at that time for each of us.” (C4-IT6, 2019, p. 2)

Finally, **IE**₃ was a person who developed a personal interest in organic agriculture and associativity (C4-IT10, 2020). He considered himself very sensitive about organic issues, mainly because he was concerned about the people effects of using chemical and pesticides in the farming process (C4-IT10, 2020). This sensitivity about the organic issues moved him to be involved in the solidarity process of organic agriculture in Bogotá (C4-IT10, 2020) and to look for a group of people with similar interests (C4-IT10, 2020; C4-IT6, 2019). **IE**₃ narrates the process of getting in touch with the other two IEs in the following way:

“Suddenly, I realised that there was an initiative [led] by some people who were planting organic [crops] in La Pradera and that there was a production and marketing initiative, which seemed to be starting, but it was there like...So I was - this is like my version of what I saw... then I started to contact these people. Indeed, one day I called **IE**₂ [...] he was there like [getting stuck in], he had some blackberries; to **IE**₁, who is the one from there, ‘hey, I want to buy from you ... I work in a market, and I want to buy from you.’” (C4-IT10, 2020, p. 4).

IE₃ showed two main concerns about countryside life. First, he was claiming the peasants’ role and their importance in society. Second, he was looking for a change regarding access to healthy food and taking care of the people’s health and the earth (C4-IT10, 2020). Nevertheless, he also

was aware of finding economic sustainability and looking for commercial allies (C4-IT10, 2020; C4-IT9, 2020).

iv. The Critical Juncture

The critical juncture came from an endogenous source of change. The IE₁' personal episode produced the critical juncture for this path-transformative process (Rojas Carrillo, 2017; General-Presentation, 2019; C4-IT5, 2019; C4-IT8, 2019; C4-IT9, 2020). This episode was chemical poisoning suffered by the IE₁. He narrates this episode in the following way:

“In 2009, at the end of year, working on farms, working for a wage, knowing that all kinds of chemicals were already being handled, which arrived in the country from Monsanto and Bayer. Then I was poisoned with a chemical. I was poisoned through the pores. That poison gave me a heart attack after eight days. As they say, ‘15 days in intensive care, the life of that peasant is over’” (General-Presentation, 2019, p. 2).

As a consequence of this personal episode, the traditional farming business rejected IE₁ because of his health condition (C4-IT5, 2019). He also was medically banned from using or eating products with agrochemicals (C4-IT6, 2019; C4-IT9, 2020). This personal situation pushed him to find an alternative way to make a living and continue taking care of his family.

4.1.2.2. The Formation Phase

This phase entails four elements to consider in the Path-transformative process. The first one is the *vision of change*. In this case, that vision was integrated by four dimensions: (i) well-being, (ii) environmental, (iii) health, and (iv) social. The second element in this phase is *the enabling conditions*. The IE Trinity showed a sound position considering the participation of each of its constituents within the strategic organisational position. It is worth underlining the emergence of *external pressure* as an enabling condition that supported the IE's vision of change and therefore contributed to fostering the Path-transformative process. The *strategies* are the third element, and in this case, they showed a broad set of fourteen strategies implemented by the IE Trinity. Finally, the fourth element in this phase is the *self-reinforcement mechanisms*. They showed complementarities and links between them.

i. The Vision of Change

In this case, the *Vision of Change* is shaped by four dimensions. The first one was a **well-being dimension**. They defined the intention of improving the quality of life of their families and the ARAC's associates (ARAC, 2015; C4-IT3, 2019; Acevedo-Osorio, Angarita Leiton, León Durán, & Franco Quiroga, 2017). The second dimension was **environmental**. They acknowledged the importance of taking care of the environment (ARAC, 2015; C4-IT11, 2020; C4-IT3, 2019; Acevedo-Osorio, Angarita Leiton, León Durán, & Franco Quiroga, 2017; Rojas Carrillo, 2017). The third one was a **health dimension**. They were concerned about producing healthy food (ARAC, 2015; C4-IT8, 2019; General-Presentation, 2019; Rojas Carrillo, 2017). Besides taking care of their health (C4-IT8, 2019; Rojas Carrillo, 2017) and their consumers' health (Vergara

Gutiérrez, 2018). Finally, they defined a **social dimension**. They realised the importance of working together with the community (C4-IT8, 2019; Acevedo-Osorio & Angarita Leiton, 2013; Rojas Carrillo, 2017) to achieve the first three dimensions.

In shaping the *vision of change*, the economic variable was important (C4-IT11, 2020). However, it was not as central as the four dimensions mentioned. The four dimensions moved the association beyond the interest in increasing their economic income (Vergara Gutiérrez, 2018; C4-IT7, 2019):

“Let us say that at first for me it was not about the economic [gain]. It was not [like] let us get together to sell more, let us get together to produce more. Let us get together to share lifestyles, ways of life totally [that were] different from what the environment was proposing” (C4-IT8, 2019, p. 2).

ii. The Enabling Conditions

Three enabling conditions played a central role for the IE Trinity. The first one was the *IE’s Social Position*. Then, based on an independent analysis of each of the three people who constituted the IE Trinity, core conditions that supported the IE Trinity endeavours were identified. Those core conditions are depicted in **Table 24**. In this analysis also common features between pairs and the particular conditions of each person were detected. These features are described in detail in **Annex 3**.

Table 24. The core of social positions conditions shared by the three people in the IE Trinity

Social Position conditions	IE ₁	IE ₂	IE ₃
Founder	One of the ARAC’s founders (Rojas Carrillo, 2017; Vergara Gutiérrez, 2018; C4-IT5, 2019; C4-IT9, 2020).	One of the ARAC’s founders (C4-IT9, 2020).	One of the ARAC’s founders (C4-IT9, 2020).
ARAC’s chair	One of the ARAC’s chair (Rojas Carrillo, 2017; Vergara Gutiérrez, 2018; MinCiencias, 2016b; Puentes E., 2017; C4-IT7, 2019; C4-IT11, 2020).	One of the ARAC’s chair (C4-IT7, 2019; ColciCase-IT13, 2019).	He was the first ARAC’s chair (C4-IT10, 2020; C4-IT6, 2019).
Motivating	A motivation source for the association (C4-IT2, 2019; C4-IT3, 2019; C4-IT6, 2019; C4-IT7, 2019; C4-IT9, 2020; C4-IT11, 2020).	A motivation source for the association (C4-IT2, 2019; C4-IT9, 2020; C4-IT11, 2020).	A motivation source for the association (C4-IT2, 2019; C4-IT9, 2020; C4-IT10, 2020).

Source: Own elaboration.

According to **Table 24**, all three people had strategic positions in the association. Firstly, they were acknowledged as founders of the association. Secondly, they held the chairing role of the organisation. Chronologically, IE₃ was the first chair of the association. Afterwards, IE₂ held the position and in 2015 IE₁ took over the role. Finally, in the association, they were actors in charge of motivating the associative process. In general, the analysis of the IE trinity showed an entity that

occupied a strategic position in the organisation, but also because of the people who comprised it, it was possible to reach other areas in the organisation, like the management or the gatekeeping of the agroecological principles. Thus, together, the IE Trinity held a privileged position to foster the *vision of change* and assign their three constituents to critical positions to reinforce such a *vision*.

The second enabling condition is linked with the *field-level conditions*. These *field-level conditions*, in turn, were integrated by three factors. The first one was the *Institutional degree*. These conditions showed that although the IE Trinity was embedded in an environment characterised by “green revolution” practices (See dominant setting in Chapter 3), they were not organisationally tied to those practices. Therefore, they had the freedom to build from scratch their organisation and their rules. It means that they faced a weak institutional field (Battilana, Leca, & Boxenbaum, 2009), allowing them to develop both their informal and formal institutions since its constitution as a producer organisation³³. The second factor was *organisational receptiveness*. This factor emerged from Subachoque’s community, and it has been nurtured along the time line in the transformative process path. In this case, nobody from the community was against the IE Trinity vision of change. In contrast, little by little, more people have joined the association, and they have done that because of sharing common interests around the idea promoted by IE₁ (Rojas Carrillo, 2017; C4-IT11, 2020). Thus, the association members increased, and they worked towards improving the quality of life both of the associates and their families, and took care of the planet (ARAC, 2015). The organisational receptiveness in the process fostered by the IE trinity has been nurtured by giving a fair treatment to peasants and neo-peasants (C4-IT3, 2019). This fair treatment has been built based on the mutual respect between all the ARAC’s associates (C4-IT9, 2020; C4-IT10, 2020; C4-IT11, 2020), their common interest in learning from each other and share their knowledge (C4-IT5, 2019; C4-IT6, 2019; C4-IT10, 2020), and their will to contribute to fostering the organisational process (C4-IT4, 2019).

The third factor under the *field-level conditions* was *problems then crisis*. The process fostered by the IE trinity relied on organic farming, where the main idea was to farm without chemical products (Rojas Carrillo, 2017). However, the nascent organisation identified several problems that were affecting its process. Some of those problems were: water availability, not enough implementation of soil conservation practices, and low levels of profitability, among others³⁴. This situation led the IE trinity to find allies to address them (C4-IT5, 2019) and introduce agroecological practices as a foundation of their process (Vergara Gutiérrez, 2018; ARAC, 2015).

Finally, in this case, a critical enabling condition was the *external pressures that supported the IE Trinity’s vision of change*. These external pressures came from an offer to support the association

33 They began in 2010 (Acevedo-Osorio & Angarita Leiton, 2013; Vergara Gutiérrez, 2018) as an informal organisation (ARAC, 2015). Examples of their informal rules were their weekly meetings to supervise the organisation’s process both in the technical, marketing, and social areas (C4-IT6, 2019) and the following of agroecological practices for farming. By the time, and due to external pressure, in 2013 they became a formal organisation by fulfilling the requirements defined by the Colombian law (ARAC, 2015). This process strengthened their institutional environment, and some of their informal rules become formal. For example, it was the case of the agroecological practices, which were included in the articles of association (ARAC, 2014).

34 For more details see Acevedo-Osocio & Angarita Leiton (2013) and Acevedo-Osorio, Angarita Leiton, León Durán, & Franco Quiroga (2017).

from a political candidate, who became Subachoque's mayor afterwards. To receive such support, it was necessary to formalise ARAC (Vergara Gutiérrez, 2018; C4-IT11, 2020). After an intense discussion inside ARAC, in 2013 they decided to become a formal organisation and fulfil all the legal requirements to that purpose (Vergara Gutiérrez, 2018; C4-IT11, 2020). Once ARAC was officially formal, it could make use of a stall in the local market for free. The only requirement was an annual report about the activities developed there (C4-IT11, 2020; General-Presentation, 2019). They also received support to improve their water reservoirs (Rojas Carrillo, 2017; General-Presentation, 2019) and attended trade fairs (Vergara Gutiérrez, 2018; ARAC, 2015; C4-IT11, 2020).

iii. IE's Strategies Implemented

The analysis of this case shows a set of 14 strategies implemented by the IE Trinity (See *Annex 4*). This large number of strategies could be explained by mixing the profiles, skills, and backgrounds of the three actors who shaped the IE Trinity. Regarding the strategies' implementation, it is notable how the IE trinity used them in a complementary way. For example, the networking strategy allowed the space for deploying the *looking for allies* and *spreading vision* strategies. *Motivating by example*, *materialities* and *spreading vision* strategies could provide the arguments to support the *networking process*.

Among the different strategies implemented by the IE trinity, four of them stood out because of their role in the path-transformative process. The first one was *organisational involvement*. This strategy supported the cohesion between ARAC's associates and provided the space to spread the vision of change, both discursive and practical. The second relevant strategy was *looking for allies*. Allies have been crucial in finding the external support to inspire, motivate, and show possible results in following the vision of change. The third one was *networking*. It was crucial to support the strategy to search for allies and find solutions for their organisational challenges. Finally, the *shielding* strategy was essential to protect the path-transformative process from external actors and align the vision of change between ARAC's associates.

iv. The self-reinforcement mechanisms

This case showed five types of self-reinforcement mechanisms implemented in ARAC's path-transformative process. These mechanisms were External Agreements, Financial Investments, Institutional Density, Learning Activities, and Application to Public Calls. They and their examples are depicted in *Annex 4*. A study of these mechanisms shows links and complementarities between self-reinforcement mechanisms. For example, the external agreements between ARAC and buyers (C4-IT9, 2020) and between ARAC and the politician (C4-IT10, 2020; C4-IT11, 2020) pushed them to be formalised. This formalisation process became an institutional density self-reinforcement mechanism by defining and adding rules for the organisation procedures. In that process, the articles of association contributed to defining precise rules to each member (C4-IT11, 2020; ColciCase-IT13, 2019).

4.1.2.3. *The Creation Phase*

This section describes four components of the Creation Phase in this case. The first component is the Divergent Change. In this case, it was shaped by six attributes which showed a clear contrast between the practices and vision between the IE Trinity's Path-Transformative process and the "green revolution" expression in Subachoque. The second component is the Resistance to the Change Pressures. These pressures had External and Internal sources. On the one hand, the external sources were phenomena such as Climate Change, the lack of organic market development in Colombia, the close proximity to the capital city, and the lack of State support. On the other hand, four internal pressures were pinpointed. Among them, the weaknesses in the associates' marketing skills and the lack of associates land availability were linked with the external pressures of low level of organic market development and the close proximity to the capital city.

The third component in this phase is identifying external pressures to support the change championed by IE Trinity. Three pressures were identified, and among them, the ACC's award was salient regarding its role in strengthening the IE Trinity's Path-transformative process. Finally, the last component in this section is the evolution of the practices. This case exhibits an interesting set of practices crossed by the interplays between peasants and neo-peasants. Those practices were clustered into four sets named as Communitarian, Administrative, Market, and Farming practices. All the sets contain new practices and others were modified according to the vision of change and the divergent change fostered by the IE Trinity.

i. Divergent Change Attributes

The divergent change introduced by the IE trinity contrasts with the set of "green revolution" practices pointed out in **Chapter 3 (Section 3.3.3)**. ARAC's work is understood as an alternative to the current agricultural practices (Vergara Gutiérrez, 2018; RECON, 2019a; ARAC, 2015; C4-IT6, 2019; C4-IT8, 2019; C4-IT5, 2019). According to Vergara Gutiérrez, ARAC "is a pioneer organisation in matters of agriculture sustainability and agroecology in the municipality of Subachoque. When the organisaion [was] conceived, no similar organisations existed in the territory" translated text (2018, p. 7).

This divergent change is defined as an alternative to the agricultural practices in Subachoque. It contained three main features and some secondary attributes. In the different sources consulted, relevance was given to the criteria to build the two sets, named as *main* and *secondary* attributes. The *main* features were adoption of agroecological and ancestral farming practices, associative work, and trust. The *Secondary* attributes were fair trade, claiming the peasants' role and informing ARAC's consumers. All of them will be described in the following paragraphs.

The first main features of the divergent change were the **adoption of agroecological** (Acevedo-Osorio, Angarita Leiton, León Durán, & Franco Quiroga, 2017; ARAC, 2015) **and ancestral farming practices** (Rojas Carrillo, 2017; C4-IT3, 2019). For example, IE Trinity fostered a farming process without using chemical pollutants and pesticides (Rojas Carrillo, 2017; Vergara Gutiérrez, 2018; ARAC, n.d.; C4-IT9, 2020; C4-IT10, 2020). Besides, they had autonomy in using their seeds (Rojas Carrillo, 2017) and were aware of their environmental impact (Vela M., 2017; ARAC, 2015).

The second main feature was boosting the **associative work** (Acevedo-Osorio & Angarita Leiton, 2013; Vergara Gutiérrez, 2018; ARAC, 2015; C4-IT9, 2020; C4-IT10, 2020). It was a salient

attribute in the divergent change promoted by the IE trinity and based on a “fusion of lifestyles, life histories, knowledge” (C4-IT6, 2019, p. 2). Indeed, the Association was born because of its founders’ interest in working together to fulfil the association’s objectives (Acevedo-Osorio & Angarita Leiton, 2013). This intention was embedded in the vision of change (see section 4.1.1.2.i). The relevance of the associative work was identified in several documents (Vergara Gutiérrez, 2018; Vela M., 2017; ARAC, 2017g; ARAC, 2015; Corporación Consorcio, 2017; Rojas Carrillo, 2017) and interviews (General-Presentation, 2019; C4-IT2, 2019; C4-IT4, 2019; C4-IT5, 2019; C4-IT8, 2019; C4-IT9, 2020; C4-IT11, 2020; ColciCase-IT13, 2019). This associative work also included joining efforts with allies (ARAC, 2015).

The final main feature was building **trust** between ARAC’s associates. It was promoted and nurtured by different sources. For example, an interviewee suggested that IE₁ was a crucial player in fostering trust within the Association. He suggested that the IE₁ was coherent in his lifestyle. His willingness to share his knowledge and transparency inspired trust in the community (C4-IT7, 2019). An analysis considering the association’s practices, strategies and qualities allowed me to identify the following strategies and practices that nurtured and fostered trust within ARAC (General-Presentation, 2019).

First, ARAC’s associates have nurtured trust by **offering their support** to other associates whenever it was required (General-Presentation, 2019; C4-IT2, 2019; C4-IT4, 2019). Second, they **defined rules** (C4-IT3, 2019; C4-IT7, 2019) as the trial period for potential associates (see *Annex 4, Table 3*) or for managing the economic resources (General-Presentation, 2019). Third, in building trust inside ARAC, **the encounter spaces** (see *Annex 4, Table 3*) (C4-IT3, 2019), and the process of **achieving results** were fundamental (see *Annex 4, Table 3*) (C4-IT4, 2019).

The qualities of associates also contributed to building trust. Some of those such as **honesty** between associates (C4-IT3, 2019; C4-IT11, 2020) and their **modesty** (C4-IT3, 2019; C4-IT4, 2019; C4-IT7, 2019; C4-IT2, 2019) contributed to building trust within ARAC. Last but not least, it is necessary to remark that trust was also promoted between the Association and external actors like consumers (ARAC, 2015; C4-IT7, 2019) or allies (General-Presentation, 2019).

Finally, regarding the **secondary attributes** of this divergent change, **three of them** were identified. The first one was the introduction of the idea of **fair trade** (Acevedo-Osorio & Angarita Leiton, 2013; RECON, 2019a; ARAC, n.d.; ARAC, 2015; C4-IT10, 2020). Secondly, this divergent change sought to **claim the role of the peasants** (Vergara Gutiérrez, 2018; RECON, 2019a; ARAC, n.d.; C4-IT5, 2019; C4-IT10, 2020; C4-IT11, 2020). Finally, it looked for **informing to ARAC’s consumers** the importance of healthy food (Acevedo-Osorio & Angarita Leiton, 2013; Rojas Carrillo, 2017; Vergara Gutiérrez, 2018).

ii. Resistance to the Change

The IE Trinity has to deal with *External and Internal pressures against the change*. The *External pressures* were constituted by four phenomena that played against the changes promoted by the IE Trinity. Those phenomena were *Climate Change*, the lack of *organic market development* in Colombia, the close *proximity to the capital city*, and the *lack of State support*. They are depicted in **Table 25**.

Table 25. External Pressures Against the Change

Phenomenon	Description
<i>Climate Change</i>	Climate change played an important role as an external source of negative pressure for the path-transformative process. The main concerns were produced by a water deficit for the crops (Acevedo-Osorio, Angarita Leiton, León Durán, & Franco Quiroga, 2017; Rojas Carrillo, 2017; ARAC, 2015; Jiménez S., 2017; Vergara Gutiérrez, 2018; Corporación Consorcio, 2017).
<i>Lack of organic market development</i>	The lack of access to markets (Rojas Carrillo, 2017; C4-IT3, 2019; C4-IT10, 2020; Vergara Gutiérrez, 2018) and the low demand for products because of not enough consumers being aware of the importance of healthy food consumption (Vergara Gutiérrez, 2018; C4-IT2, 2019; C4-IT10, 2020) played against ARAC's development.
<i>Proximity to Bogotá D.C.</i>	Due to Subachoque's proximity to Bogotá, industrialisation and housing construction activities were limiting the land available for farming (Vergara Gutiérrez, 2018; C4-IT3, 2019).
<i>Lack of State support</i>	The lack of national support for farming activities (C4-IT2, 2019; C4-IT3, 2019), and the emergence of business intermediaries to have access to public resources (C4-IT3, 2019).

Source: Own elaboration.

Regarding the pressures which came from within the Association affecting the path-transformative process negatively, four were identified. The most salient internal pressures were **low productivity** and **weaknesses in production planning** in the associates' farms (Acevedo-Osorio, Angarita Leiton, León Durán, & Franco Quiroga, 2017; Rojas Carrillo, 2017; Vergara Gutiérrez, 2018; COLCIENCIAS, 2015a; ARAC, 2017g; C4-IT2, 2019; C4-IT6, 2019).

Besides, two additional pressures were pinpointed. These pressures are linked with external pressures, *low agroecological market development* and *Bogotá D.C.'s proximity*. In the first case weaknesses in the **associates' marketing skills** were detected (C4-IT9, 2020). In the second case, it was a lack of associates' **land availability** to increase production (Rojas Carrillo, 2017; C4-IT3, 2019).

iii. Support the Change

Along with pressures against the change, the IE Trinity's path-transformative processes were also affected by external pressures, which assisted the process of change. Three external pressures contributed to boosting the path-transformative process in this case. Among these three, the most salient one was **the ACC award**. This award contributed to strengthening the ARAC's path-transformative process (Vergara Gutiérrez, 2018; ARAC, 2017g; C4-IT4, 2019; C4-IT5, 2019; C4-IT7, 2019; C4-IT8, 2019; ColciCase-IT13, 2019). Among the different effects that it had, it was notable how it increased the ARAC's acknowledgement by external actors (Vergara Gutiérrez, 2018; ARAC, 2017g; C4-IT2, 2019), and promoting the incorporation of new members (C4-IT11, 2020). Besides, it helped improve ARAC's knowledge, farming techniques and equipment (Vergara Gutiérrez, 2018; ARAC, n.d.).

The two additional external pressures which assisted the path-transformative process were the **progressive development of the organic market** and an **“agroecological movement” in Colombia** (Acevedo & Jiménez, 2019). Firstly, despite its incipient development, the organic market had been gaining importance among consumers (Rojas Carrillo, 2017). Secondly, the agroecological movement nurtured the vision of change promoted by the IE trinity. It can be seen in the agroecological manifesto included in the articles of Association (ARAC, 2014).

iv. Evolution Practices

The mix between peasants and neo-peasants depicts a complex process of adjusting practices, both for practices development or modification. This complexity comes from the interplays between peasants and neo-peasants in the Association. Thus, while introducing a farming process without chemicals and pollutants was a practice modification for ARAC’s peasants, it was also a practice development for neo-peasants who did not know how to farm. This situation appears to be reversed, for example, in the case of fostering administrative practices while at the same time introducing managing practices. These practices could mean practice modification for neo-peasants but practice development for peasants. **Table 26** depicts the practices identified in the case analysis.

Table 26. Practices identified in the case

Practice Category	(Type of practice) / Description
Communitarian	<ul style="list-style-type: none"> · (Development) Associative working: According to the divergent change (see section 4.1.2.3.i), IE trinity fostered a process of developing associative work. · (Development) Communication: People have been improving their participation in the Association or external spaces (C4-IT10, 2020; C4-IT10, 2020) and by putting forward arguments in their interventions (C4-IT11, 2020). · (Modification) Healthy food: They began to become aware of their diet (General-Presentation, 2019; C4-IT5, 2019) and introduced healthy food.
Administrative	<ul style="list-style-type: none"> · (Development) Application to calls: Peasants learnt to design projects to apply for calls supported through by neo-peasants’ knowledge sharing (General-Presentation, 2019; C4-IT9, 2020). · (Development) Planning: To manage the ARAC’s resources (Vela M., 2017). · (Modification) Managing: Managing practices were improved based on two sources: first, neo-peasants shared their administrative knowledge to improve the association managing skills (C4-IT7, 2019; C4-IT8, 2019), like in the case of ACC award (C4-IT3, 2019). Second, the ACC award fostered such management practices (C4-IT8, 2019).

Table 26. Continued

Practice Category	(Type of practice) / Description	
Market	<ul style="list-style-type: none"> · (Development) Marketing: Peasants and neo-peasants learnt to manage the marketing processes both at sales point in the local market (General-Presentation, 2019; Corporación Consorcio, 2017) and with their allies (C4-IT6, 2019; C4-IT9, 2020; Rojas Carrillo, 2017). · (Development) Planning: Production planning to sustain their regional market agreements (Acevedo-Osorio, Angarita Leiton, León Durán, & Franco Quiroga, 2017; Vela M., 2017; ARAC, 2015). · (Development) Fair trade: ARAC introduced fair trade criteria in their commercial processes (Acevedo-Osorio & Angarita Leiton, 2013; Acevedo-Osorio, Angarita Leiton, León Durán, & Franco Quiroga, 2017; Vergara Gutiérrez, 2018; ARAC, 2017g). · (Development) Environmental caring: They incorporated marketing strategies to ameliorate the CO₂ footprint (Vela M., 2017). · (Modification) Post harvesting: They improved the procedures in the post-harvesting stage (ARAC, 2017g; Vela M., 2017). · (Modification) Technologies support: They supported their work at the sales point using a computer to manage the bills and the accounts (C4-IT9, 2020; Vela M., 2017). 	
	Farming	<ul style="list-style-type: none"> · (Development) Farming: Neo-peasants learnt to farm from peasants (General-Presentation, 2019; C4-IT5, 2019; C4-IT8, 2019; C4-IT9, 2020; C4-IT11, 2020) and shared knowledge with each other to improve their techniques (General-Presentation, 2019). · (Development) Irrigation: They introduced irrigation systems (Vela M., 2017; C4-IT6, 2019) based on rain harvesting systems (ARAC, 2017g; C4-IT2, 2019). · (Modification) Environmental caring: ARAC produced food with a positive impact on the environment and health (Acevedo-Osorio & Angarita Leiton, 2013; Rojas Carrillo, 2017; ARAC, 2014). For example, chemical-free food (Vergara Gutiérrez, 2018; ARAC, 2014), non-genetic modified seeds (ARAC, 2014). · (Modification) Farming techniques: Following agroecological principles (C4-IT3, 2019; Rojas Carrillo, 2017; C4-IT8, 2019; ARAC, 2014) ARAC began to improve their farming techniques (C4-IT6, 2019; Rojas Carrillo, 2017; ARAC, 2014; ARAC, 2015; Corporación Consorcio, 2017; C4-IT3, 2019), like implementing biological processes of pest control (Rojas Carrillo, 2017), “soil conservation practices, minimum tillage, compost preparation, crop diversification, crop rotation” (Vergara Gutiérrez, 2018, p. 40). · (Modification) Diversifying products: The introduction of agroecological principles led them to diversify their crops (Rojas Carrillo, 2017; Vergara Gutiérrez, 2018; C4-IT3, 2019).

Source: Own elaboration.

4.1.2.4. The Development Phase

This phase studied the actions oriented toward keeping and cementing the path-transformative process and the continuity of the vision of change promoted by the IE Trinity. In this regard, ARAC worked by opening both market and organisational opportunities. This work was supported by some of the strategies and self-reinforcement mechanisms described in previous sections, like looking for allies, networking, and applications to public calls, and new sources of support for the change. The IE Trinity vision of change is still guiding the Path-transformative process.

The organisation keeps the path fostered by the IE trinity. Despite changes like the withdrawal of the IE₂ in 2019, which became an ARAC's ally taking care of the organisation from outside, the organisational robustness achieved did not allow for the depth of the negative impact to be foreseen because of that situation. Instead, as a consequence of the organisational involvement strategy promoted over the years, others take the IE₂'s flags. In this section, I will describe some elements supporting the process of cementing the path-transformative process.

i. Market opportunities

ARAC implemented the **spreading the vision** strategy to push the demand of their products and share their organisational vision (General-Presentation, 2019). Thus, **new activities** were implemented. Examples of these activities are: “field days” to involve families and schools (Rojas Carrillo, 2017), agro-tourism to attract people from other regions and countries (Vergara Gutiérrez, 2018; C4-IT2, 2019; C4-IT4, 2019; C4-IT11, 2020; Madon, 2017), “peasant for one day” and courses for other organisations paid by public entities (General-Presentation, 2019). As a result, they gained a better market position of their products based on the sales point at the local market and their work with their ally “La Canasta” (Rojas Carrillo, 2017). Besides, they began to find new market possibilities because of their productive diversification (C4-IT8, 2019).

ii. Organisational opportunities

ARAC has become a point of reference in the municipality level (Vela M., 2017; Vergara Gutiérrez, 2018), **motivating by example**, and increasing the interest of local peasants in becoming part of the organisation (C4-IT5, 2019). Along with the acknowledgement, ARAC continued working to improve their **networking** practices (C4-IT8, 2019) and **looking for allies** (Rojas Carrillo, 2017; C4-IT9, 2020). For example, they continued working with universities and promoting internships (C4-IT6, 2019). In this process of opening organisational opportunities, they used self-reinforcement mechanisms like **applying to public calls** (RECON, 2019a; C4-IT4, 2019; Corporación Consorcio, 2017). In addition, it was an improvement to their marketing and logistics necessities (RECON, 2019a). Besides, they agreed with an external actor to have technical support for finding and applying to public calls (C4-IT9, 2020). These actions were consistent with ARAC's need of overcoming internal sources of Resistance to change.

iii. New sources of assistance to change

A universities network on agroecological topics was emerging, and it could provide support to the path-transformative process (C4-IT8, 2019).

iv. IEs vision

After working for years, the vision of change promoted by the IE trinity was still there in the Association (C4-IT10, 2020). It had identified ARAC's concerns about obtaining healthy food (General-Presentation, 2019), farming without chemicals and pollutants (General-Presentation, 2019), living in harmony with nature and trusting each other (General-Presentation, 2019) and working together (C4-IT9, 2020). This vision of change forms part of the Association. However, one of the constituents of the former IE trinity (constituent IE,) pointed out his interest in moving the Association to reflect on their role of impacting the Colombian rural sector, considering their acknowledgement as a model to follow up (C4-IT10, 2020). This idea can be considered a possible attempt to deepen the path-transformative process.

4.1.3. Case 3: Alternative food for young and older people in Cajamarca municipality – Program A Ciencia Cierta 2015

The Path-transformative process depicted in *Figure 9* shows that it began between 1998 and 2002 based on a Critical Juncture triggered from an exogenous event. This event was the Anaime's river pollution. This situation drew attention to the NGO Semillas de Agua and encouraged it to offer a training school for leaders from the Anaime's basin river. The IE was ensembled by mixing profiles of two women who, motivated by the training school, decided to foster a



Photo by Mario A. Pinzón-Camargo (2019).

vision of change integrated by five dimensions. Their social position and the field characteristics contributed to the strategies and self-reinforcement mechanisms implementation to introduce a divergent change characterised by four distinctive features and supported by the modification and development of communitarian, administrative, market and farming practices. The process of implementing the divergent change was challenged by external and internal sources against the Path-transformative process fostered by the IE. However, they could flip some of those negative sources of change and transform them into positive change pressures. In 2020, the IE was looking to cement their path-transformative process by using different strategies and self-reinforcement mechanisms, thus opening new economic, social, and sustainable development opportunities. This section will describe in detail the elements that shaped the four path-transformative phases in this case.

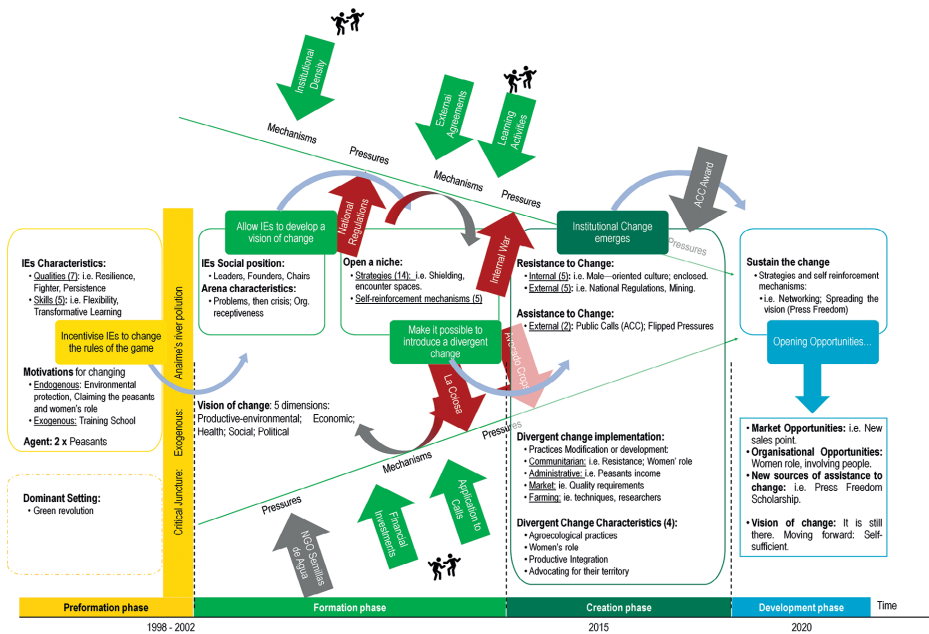


Figure 9. Case 3 - Path-Transformative Heuristic Applied.
Source: Own elaboration.

4.1.3.1. The Preformation Phase

This first phase in the path-transformative process was led by two women who assembled the IE. They were peasants who attended university and returned to the countryside. This fact allowed them to have internal and external perspectives of their world (Garud & Karnøe, 2001b). The women's qualities and skills were combined. Seven qualities and five skills were identified in this compound actor. Among them, fighter and knowledge sharing qualities were highlighted as salient elements in building the path-transformative process. In this preformation phase, the women who constituted the IE were motivated by a Training School offered by the NGO "Semillas de Agua" to change their farming practices and foster a path-transformative process. Thus, this training school and concerns around the Anaimé's river pollution shaped the Critical Juncture for the women, allowing them to foster the path-transformative process.

i. The Institutional Entrepreneur

In this case, two people from the municipality of Cajamarca fostered the path-transformative process. These people were involved in the agroecological training school offered by the NGO "Semillas de Agua". They were acknowledged by their organisation (APACRA, 2015c) and external actors (C5-IT5, 2019) as tireless women leaders. Also, as trustworthy peoples (C5-IT3, 2019). This leadership was also identified by the responsibilities performed by them in the organisation. For

example, they both performed the role of chair in the organisation (C5-IT3, 2019; APACRA, 2015b).

One of their distinguishing features is their professional profile. Like all the members of APACRA, they saw themselves as peasants. However, they could study a professional career at university, which allowed them to “take the lead”, as one of them stated (C5-IT3, 2019). This was also confirmed by another interviewee (C5-IT5, 2019).

“But it is also because of the academic level that we have and the professional training that makes one take the lead. Then, they are always attentive to what we propose, although they suggest many things. However, we are the ones who have to organise all that, the ideas and everything. Then the leadership more than everything else is what we are both focusing on” (C5-IT3, 2019, p. 17).

The profiles of these two people work in a complementary way. While IE_1 was focused on farming processes and gatekeeping the vision of change promoted by them, IE_2 focused on transforming, marketing, and managing (C5-IT5, 2019).

The general features of these actors can be described in the following way. IE_1 studied managing in agricultural enterprises (APACRA, 2016c). She was acknowledged as a hardworking woman dedicated to the farming activities on her family’s farm. On her farm, she guided the whole process from the planting to product commercialisation (APACRA, 2016c). Furthermore, she viewed herself as a peasant by profession (C5-IT3, 2019), and APACRA’s members recognized her technical knowledge (APACRA, 2017).

IE_2 studied business administration (C5-IT1-P1, 2019). She was acknowledged as one of the association’s leaders. She was in charge of the yearly information of the association’s performance to enable the decision-making of the processes of standardisation and cost-cutting (Cortés, Acevedo, & Baéz, 2019). She viewed herself as a leader with a strong character (C5-IT1-P1, 2019) and described IE_1 in a similar manner (C5-IT1-P2, 2019). These characteristics were also acknowledged by an interviewee (C5-IT5, 2019).

ii. The Institutional Entrepreneur’s qualities and skills

Like in case 2, in this case, the IE is a compound agent. It means that more than one person formed part of the IE. It emerged from the joint work of two women and the mixing of their profiles. Thus, a better understanding of this IE considering and studying each actor’s qualities and skills to its assemblage is required. This analysis is presented in *Annex 2*; it describes the qualities and skills identified in each case.

Table 27 shows a summary of the qualities and skills of both people who assembled the IE. Three elements should be highlighted in this table. The first one is the almost perfect coincidence of qualities and skills from each of the two people. The difference between them relies on the quality of *modesty*. This attribute was salient in the case of IE_1 , but it was not the case for IE_2 . For example, it was identified that IE_1 used to introduce herself politely to other people (APACRA, 2016c), having a non attention seeking demeanour (APACRA, 2016c), and as a traditional farmer of the region (APACRA, 2015c). The second element to highlight is the quality of *fighter*. It was

an attribute shared by both women and identified by their community (APACRA, 2015c; C5-IT1-P2, 2019) and external actors (ColciCase-IT13, 2019). The final remark about IE_1 and IE_2 is their *knowledge sharing* quality. They were both acknowledged as being generous individuals when knowledge sharing (C5-IT5, 2019). It was crucial to spread and foster their vision of change and also to join their community.

Table 27. Summary of the IEs' Qualities and Skills contribution to assemble the IE

Quality/Skill	Type	IE_1	IE_2
Quality	Curiosity	X	X
	Empathy	X	X
	Fighter	X	X
	Knowledge Sharing	X	X
	Modesty	X	
	Persistence	X	X
	Resilience	X	X
Skill	Flexibility	X	X
	Opportunities Tracking	X	X
	Recursive Talent	X	X
	Strategic Analysis	X	X
	Transformative Learning	X	X

Source: Own elaboration.

iii. The Institutional Entrepreneur's motivations

The two people who assembled the Institutional Entrepreneur pointed out the relevance of the NGO “Semillas de agua” training school in changing their minds. They considered this school an external source of change and the trigger event for starting to follow the agroecology movement (C5-IT1-P2, 2019).

In this vein, IE_1 suffered a transformation in her practices after attending the training school from “Semillas de agua”. She used to be a traditional farmer in terms of using chemical products in farming activities. However, once she attended the training school, she changed her farming practices on her farm (C5-IT1-P2, 2019; APACRA, 2016c). Regarding this change in her farming practices, it is worth mentioning that her concerns about using chemical products appeared before the training school (APACRA, 2016c). This situation warrants the argument that the training school worked as a trigger of an interest that she already had.

Looking at IE_2 's motivations, she stated that she fell in love with agroecology (C5-IT1-P1, 2019). This feeling was intensified in IE_2 due to her countryside origin and the fact that she had a farm (C5-IT1-P1, 2019). IE_2 explained this feeling was due to the lifestyle of agroecology (C5-IT1-P1, 2019). According to her, the agroecology movement claims the role of all the farming cycle's actors. Those actors ranged from the soil and its microorganisms until the final consumer (C5-IT1-P1, 2019). IE_2 's other motivations were her interest in claiming the rights of peasants and the rights of

the land (Jiménez Jiménez, 2020). She also was motivated by understanding “why peasants lost a lot of money” (Arteta Caballero, 2020; C5-IT1-P1, 2019), helping her community (C5-IT1-P1, 2019), and claiming the role of the women peasants (C5-IT3, 2019).

iv. The Critical Juncture

The Anaime’s river pollution because of the green revolution practices implemented in Cajamarca drew the attention from several projects and attempts were made to recover the river (Cortés, Acevedo, & Baéz, 2019). One of those attempts to recover and protect the Anaime river was launched by the NGO “Semillas de Agua”. Thus, in 1998 the NGO “Semillas de Agua” organised a training school in agroecology (APACRA, 2015b) to protect the Anaime river’s basin (APACRA, 2016c; Carranza Rojas & Acevedo-Osorio, 2018; Mateus Téllez, 2017a). This training school focused on applied methodology by applying concepts directly in the local farms (C5-IT3, 2019). The NGO invited leaders (APACRA, 2015a; APACRA, 2016c; C5-IT1-P1, 2019) involving 45 farmers leaders of the Anaime river’s basin (Consortio-dit, 2017; C5-IT1-P1, 2019; Carranza Rojas & Acevedo-Osorio, 2018). This training school lasted approximately four years (Carranza Rojas & Acevedo-Osorio, 2018).

Thus, the Anaime’s river pollution and the Semillas de Agua’s training school produced the conditions where two of the 45 leaders invited to the training school began to foster a path-transformative process. Therefore, this situation can be considered a Critical Juncture produced by external sources.

4.1.3.2. The Formation Phase

Similar to the previous cases, this case showed four elements in this phase. The first element was a *Vision of Change* shaped by five dimensions: a productive environmental, economic, safe food, social concerns and interests, and a political dimension. Those dimensions contributed to supporting the idea of *developing an alternative way of living based on agroecological practices*. The implementation of this vision of change counted with four types of *enabling conditions*, including the IE’s social position, field-level conditions, organisational receptiveness, and external pressures. Besides the aforementioned enabling conditions, the IE implemented 14 different strategies to build and protect its niche, like discursive capability, looking for allies, and shielding. For this purpose, five self-reinforcement mechanisms were identified.

In this phase, the role of the gold mining project “La Colosa” as a negative external source of change was relevant. It was because the mining project pushed the IEs’ role as gatekeepers of the vision of change, and the IE’s reaction in implementing strategies like *shielding* to protect its vision of change, and therefore its niche.

i. The Vision of Change

The vision of change introduced by the IE suggested **the development of an alternative way of living based on agroecology practices** (Corporación Consortio, 2017; COLCIENCIAS, 2018; C5-IT1-P1, 2019; C5-IT5, 2019). In this line, one of the IEs affirmed, “Being an agroecological producer is not about making money, it is about being happy, but that is not reflected in the country’s

economy (translation)” (Mateus Téllez, 2017a, p. 3). This vision of change is reflected in the way that APACRA introduced itself as an organisation of small farmers with the following purpose:

“promoting and encouraging, among agroecological producers, processes of production, transformation, marketing and inputs of organic agriculture, conserving biodiversity, respecting ecosystems and seeking excellent quality of life for producers and consumers” (APACRA, n.d.; APACRA, 2016c, p. 52).

The study of this purpose allows the identification of five dimensions that integrated the vision of change pointed out. **The first dimension is productive-environmental.** This dimension draws attention to changing the cultural practices in the farming labour (APACRA, 2015b; Carranza Rojas & Acevedo-Osorio, 2018) and taking care of the environment by using agroecological practices. In this vein, the association has identified five principles which guide their agroecological practices (Cortés, Acevedo, & Baéz, 2019): soil care and its management as a living organism; all beings in nature have a function; the competition processes between plants are fundamentally for light rather than for nutrients; protect the trees in their habitat; the territory’s defence.

The second dimension is focused on the economic variable. Although one of the IEs stated that agroecology aimed not to make money, the intention of the IEs to guarantee financial sustainability for their association and members was clear (Carranza Rojas & Acevedo-Osorio, 2018; C5-IT1-P1, 2019). Furthermore, this dimension was aligned with the idea of improving the organisation’s conditions (C5-IT1-P1, 2019).

A third dimension was food safety. In this dimension, the aim was to guarantee food safety to the organisation’s members (C5-IT1-P1, 2019), but also having a healthy diet for them (Cortés, Acevedo, & Baéz, 2019) and their consumers (Consortio, n.d.; Mateus Téllez, 2017a; APACRA, 2015a; C5-IT1-P1, 2019). An example of these two dimensions is reflected in the initiative’s objective supported by the ACC award.

“When the association proposed to carry out the project called ‘Alternative food for adults and children’, it sought to position in the market a diet that meets the nutritional requirements of the population, which is friendly to nature and economically viable for producers and consumers” (APACRA, 2016c, p. 5).

The social concerns and interests constitute the fourth dimension of this vision of change. This dimension includes the IEs interest in empowering the peasants and claims their role (Mateus Téllez, 2017a; APACRA, 2015c; Mateus Téllez, 2017b):

“then, it transcends into an alternative, [well], of production, [what we mean is] true development. [Real] good living is in empowering people; it is [about] telling people: ‘there are things that can be very profitable too, that may not conflict with the environment, and that can also contribute to everyone’s health.’” (Mateus Téllez, 2017, Min: 2:57).

The social dimension included the interest of IEs for claiming the peasant women's roles (C5-IT1-P1, 2019; C5-IT3, 2019). It was salient in a context featured by a deep male-dominated culture in the Cajamarca municipality (C5-IT4, 2019). Besides, this dimension shows the IE's interest in providing a second chance to young people in the countryside (C5-IT4, 2019).

“we can no longer see the field of slavery-like that, because that is why the young people left, [do not see], we paint them a field of tragedy, slavery and poverty, and no, that is suffered here, that I do not know what, so what young people are going to stay? [*sic*]” (C5-IT3, 2019, p. 24).

The *social* dimension has intersections with the *economic* and *food safety* dimensions. In the first case, the social consideration emerged from increasing the associates' income or just giving an opportunity of income for them based on their work as peasants. In the second case, the intersection between *food safety* and *social* dimensions is constituted by the interest of giving access to a healthy diet to the community, both consumers and producers.

The fifth dimension is a political dimension (Cortés, Acevedo, & Baéz, 2019). It is linked to a great extent with the first dimension. The IEs had a strong environmental awareness of their municipality (Hernández Bonilla, 2017), mainly regarding mining activities (Corporación Consorcio, 2017).

“mining for us was a disaster” (C5-IT1-P1, 2019, p. 25).

This position explains the active organisational involvement of APACRA in the set of activities implemented to stop the mining project “La Colosa” (C5-IT5, 2019). It also explains why the people from the region considered APACRA as the “environmental take carers” (Carranza Rojas & Acevedo-Osorio, 2018, p. 33). The political dimension of this vision of change included the claims to take care of the water, the territory, the biodiversity, and life (Giraldo Castaño, 2018), and it is consistent with the fifth organisational principle mentioned above in the first dimension.

ii. The Enabling Conditions

In this case, three types of enabling conditions that allowed the IE's work were identified. Those enabling conditions were the *IE's social position, field-level conditions, and external pressures, or windows of opportunity*. These three enabling conditions will be described below.

The *social position* that occupied the IE was configured based on two factors. First, IE's leadership and second their background. The first factor encapsulates four conditions described in **Table 28**. These conditions are considered expressions of the leadership and its acknowledgement by different actors. The background as a second set of conditions described that the IE's social position is linked with the IE's knowledge.

Table 28. The core of social positions conditions shared by the two people in the IE

Social Position conditions	IE ₁	IE ₂
Village's Leader	IE ₁ was acknowledged as a leader in her village (APACRA, 2016c).	The leadership of IE ₂ in her village was identified as a long-term process and somehow as family heritage (C5-IT5, 2019).
APACRA's Leader	In general, IE ₁ was acknowledged as a leader in her organisation (La Liga Contra el Silencio, 2020; C5-IT1-P2, 2019).	IE ₂ was identified as a leader in her organisation (C5-IT1-P1, 2019).
Founder	IE ₁ was identified as one of the founding leaders of APACRA (La Liga Contra el Silencio, 2020).	IE ₂ was identified as one of the founding leaders of APACRA (Arteta Caballero, 2020).
Legal representative	IE ₁ was the first organisation legal representative (APACRA, 2016c) and performed this role afterwards (C5-IT1-P1, 2019; C5-IT3, 2019).	IE ₂ was the APACRA's legal representative (APACRA, 2015b; Mateus Téllez, 2017a; Mateus Téllez, 2017b).
Knowledge background	IE ₁ was identified by her technical training (APACRA, 2017) and her level in agricultural business administration (La Liga Contra el Silencio, 2020).	IE ₂ was also identified because of her business knowledge. This kind of knowledge was crucial for planning APACRA's future activities (Cortés, Acevedo, & Baéz, 2019).

Source: Own elaboration.

The second factor in shaping the IE's social position was the two women's *personal backgrounds*. Both were identified as fighters (APACRA, 2015c; ColciCase-IT13, 2019) and trustworthy people (C5-IT3, 2019) in their organisation. **A relevant feature of their background was their possibilities to study at university.** This possibility fostered their role as leaders in APACRA (C5-IT3, 2019; C5-IT5, 2019; ColciCase-IT13, 2019). Considering IE₁, she was identified by her technical training (APACRA, 2017) and by her studies in agricultural business administration (La Liga Contra el Silencio, 2020). Similarly, IE₂ was also acknowledged because of her business knowledge. This kind of knowledge was crucial for planning APACRA's future activities (Cortés, Acevedo, & Baéz, 2019).

The second enabling conditions identified in this case were the *field-level conditions*. Two elements constituted these conditions. On the one hand, it was two possible sets of problems that could turn into a crisis situation, and on the other, it was the organisational receptiveness from the community. Looking at the two sets of problems that could turn into a crisis, the IE addressed these problems as opportunities to foster its vision of change. The first set of problems was the lack of Cajamarca's agroecological market development and difficulties with trading agroecological products. Both situations were due to the green revolution's traditional practices (APACRA, 2016c). These problems encouraged the IE to associate the agroecological producers who were part of the training school established by the NGO "Semillas de Agua" (APACRA, 2016c). As a result, IE

triggered the association process establishing a rotatory fund. This action was supported, once more, by the same NGO (APACRA, 2016c).

The second set of problems emerged from Cajamarca's male-oriented culture (C5-IT1-P1, 2019; C5-IT3, 2019). This culture played against the APACRA's process, considering that the membership of the association was comprised of women primarily (C5-IT1-P1, 2019; C5-IT5, 2019). The Cajamarca male-oriented culture generated constraints to the association's growth in terms of the production and members' participation in the association's activities (C5-IT1-P1, 2019). The IE addressed this situation by involving all the families, mainly the men. This involvement was focused on the farming activities and on explaining to them, from the farms' managing perspective, the benefits and advantages of becoming involved in the APACRA activities. In this latter activity, IE₂ was crucial because of her business knowledge (C5-IT1-P1, 2019).

“The man is the one who then gets the workers, eh well, he harvests the harvest, eh he manages the money, resources, right? And all this just like that. The lady only has the “obligation”, because that is how it looks here, to take care of the family, to feed the children, to take them to school, all the care of the children, and also suddenly when the husband arrives without talking, then look at how, because I have an obligation to feed my children. So if the husband came drunk, with no food and nothing, and it is Monday, the lady has to send the child to school, and well, she somehow has to look at how to solve to be able to give those foods to the boys. So it is here, so it is. So we try to change that, and well, we are more women than men in the association, but there are men too. However, then uhh, that happened. Well then, the ladies, “what do we do? Because look, they do not let me move forward, for example, I only have a bit and no more, that is, he will not let me.” So it was our turn to involve the men, to involve the entire family.[sic]” (C5-IT1-P1, 2019, p. 5).

The second element of the *field-level conditions* was *organisational receptiveness*. Cajamarca is acknowledged as a territory shaped by solidarity, mutual support, and cooperation among its inhabitants, and APACRA was highlighted as an example of reflecting Cajamarca's qualities (Giraldo Castaño, 2018). Regarding the case study, the ideas and projects fostered by the IE were well received by the APACRA's members. This behaviour was observed in the ACC award implementation (Corporación Consorcio, 2016a). In that case, the project was implemented by the division of responsibilities among the APACRA's associates (APACRA, 2017; Cortés, Acevedo, & Baéz, 2019). Besides, the local authorities were also receptive to activities fostered by the IEs in APACRA.

“So that commercialisation coincided with some parties here in Cajamarca. There were parties and the mayor at that time invited us. She already knew that there was an association doing some small things. She invited us to participate in the municipality's agricultural fair within the party's framework” (C5-IT1-P1, 2019, p. 11).

The organisational receptiveness was also identified in the involvement of Cajamarca's inhabitants in a public consultation to stop the “La Colosa's mining project”. Because of the organisational

receptiveness and involvement, it was possible to obtain around 6170 votes in favor of halting the project and only 70 against it (C5-IT1-P1, 2019).

The final *enabling condition* that intervened in the IE's activities was *external pressures or windows of opportunity*. It is possible to identify at least two sources of *external pressures* which supported the IE's vision of change in this phase. First, besides the external juncture triggered by the NGO "Semillas de Agua" (APACRA, 2016c; C5-IT1-P1, 2019), this NGO also supported the creation of a rotatory fund (APACRA, 2016c; C5-IT3, 2019). This fund was crucial to bringing financial support to the APACRA's activities. Second, the mayor's invitation to open a sales point because of the municipality's fair (C5-IT1-P1, 2019) provided an opportunity to foster APACRA's products commercialisation.

iii. IE's Strategies Implemented

The assemblage of two women in the IE produced 14 strategies to foster their vision of change and implement the divergent change³⁵. Among those strategies, three of them are salient in this case. The first one is the IE's *discursive capability*. Although, according to the literature, it is a common IE feature. In this case, it was quite clear how IE changed its discourse according to the public profile. It identified six different audiences, and for each one, the IE had different objectives in her discourse. The second strategy is *looking for allies*. This strategy stood out in the way that it drew attention to how the IE made allies to support technical and financial aspects, and allies to "fight" against the pressure from an external resistance to change, from a mining gold project supported by the National and Local government. In this sense, the IE received support to face this pressure and became an ally of other organisations concerned with this project. The last striking strategy of this analysis is *shielding*. Similar to the previous strategy, the mining project triggered this strategy. In this case, the interesting feature was the IE's use of APACRA as a shield for Cajamarca's agricultural traditions and the environment. In this sense, the APACRA's vision of change embodied work as a shield against the resistance to change pressure produced by the mining project.

iv. The Self-reinforcement mechanisms

The IE implemented self-reinforcement mechanisms to foster the path-transformative process. *Annex 4* depicts the five self-reinforcement mechanisms identified in this case. Those mechanisms were *External agreements*, *Financial Investments*, *Institutional Density*, *Learning Activities*, *Application to calls*. The IE used these mechanisms in a complementary way. For example, the external agreement with COLCIENCIAS which would benefit from the ACC award allowed them to access financial resources. In turn, these resources were used to make financial investments that reinforced the IE's vision of change. In like manner, achieving regulatory compliance led the IE to make financial investments to fulfil the regulatory requirements, thereby increasing the organisation's institutional density.

35 *Annex 4* describes these strategies in detail.

4.1.3.3. *The Creation Phase*

In a similar way to the previous cases, this phase is composed of four elements. The first element is marked by a divergent change constituted by four attributes. Those attributes entailed the development of agroecological practices, claiming the role of women, vertical integration of productive activities, and advocating for their territory. These attributes were challenged by five external and internal pressures that played against the path-transformative process fostered by the IE. This case shows the IE's capability in flipping some of these negative pressures and transforming them into pressures that support the IE's vision of change and divergent change.

Finally, in this phase, different practices were clustered into four categories to show how the IE's fostered the development of new practices or the modification of some practices already in place in the community. In some cases, like in the communitarian practices, *coordinated practices* emerged. These practices reflected the assembling of two or more practices that support the development of a new one. The following sections will describe in detail each of the elements mentioned in this paragraph.

i. Divergent Change Attributes

In line with the vision of change and its five dimensions discussed in section 4.1.3.3.i, introducing a set of agricultural practices characterised the divergent change (APACRA, 2015b). These practices have four attributes that differed from the traditional practices in the region. The first attribute was the use of the agroecological approach for farming (Cortés, Acevedo, & Baéz, 2019; Hernández Bonilla, 2017; Mateus Téllez, 2017a; APACRA, n.d.). This approach contrasted with the dominant set of practices based on the so-called “green revolution approach” (See Chapter 3).

“From a process of training and practice of agroecology, a venture was born. It has gone beyond the local border, positioned products with regional identity and generated a productive and economical alternative that guarantees the conservation of natural resources, organisation of the producer, deployment of their creativity and better welfare conditions for these farming families in the region” (Carranza Rojas & Acevedo-Osorio, 2018, p. 33).

The second attribute emerged from the role of women. Despite Cajamarca being a male-dominated setting, women were considered the agents who produced the transformation (C5-IT3, 2019; C5-IT4, 2019). They were crucial not only in the farming process (C5-IT1-P1, 2019; C5-IT3, 2019) but in the innovation and transformation of the crops into healthy and accessible food (APACRA, 2015b) for their families and the APACRA's consumers (C5-IT3, 2019; C5-IT1-P2, 2019). Therefore, the IEs implemented several actions discussed in section 4.1.3.2.iii to claim women's role in the association. Examples of these actions were the invitation to gender experts to participate in APACRA's projects (C5-IT1-P1, 2019). Besides, it is interesting to underline that APACRA does not acknowledge itself as a women's organisation (C5-IT3, 2019), even though most of the associates were women (C5-IT1-P1, 2019).

Third, it is an organisation that integrates the farming processes and the transformation and commercialisation of their products (Cortés, Acevedo, & Baéz, 2019; Buitrago Garay, 2018). This attribute also includes their interest in healthy consumption (Cortés, Acevedo, & Baéz, 2019;

Mateus Téllez, 2017b). Three stages composed this attribute. The first one was the production of agricultural products (C5-IT1-P1, 2019). The second stage was focused on transforming the products (C5-IT1-P1, 2019) and building an innovative products portfolio (C5-IT3, 2019). The last stage advanced the process of commercialisation (C5-IT1-P1, 2019). An interest in achieving financial sustainability was also part of the objectives pursued by the IEs (C5-IT3, 2019; C5-IT1-P1, 2019).

The fourth attribute of this divergent change was the role of advocating for their territory. IEs and APACRA performed this role (Cortés, Acevedo, & Baéz, 2019). The best example of this attribute was the involvement of the IEs and the association in stopping the mining project “La Colosa” by the mining company Anglo Gold Ashanti (C5-IT1-P1, 2019).

ii. Resistance to the Change

External and internal pressures against the change fostered by the IE played a relevant role in this case. The IE showed her ability to flip negative sources of change to positive pressures. The IE did this by using the strategies highlighted in the previous phase and described in *Annex 4*. For example, regarding the negative pressure exerted by the Mining project “La Colosa”, the IE made alliances with other actors in their municipality and from other cities like Ibagué. As a result, the IE and APACRA, became allies and made other allies for building a social group against the mining project. Based on those alliances, it was possible to increase their networking capacity and obtain enough votes in a public consultation to stop the project (Carranza Rojas & Acevedo-Osorio, 2018). In this process, the role performed by the IE “fighting” for and “shielding” their vision of change was acknowledged by other local organisations who decided to follow APACRA’s path. In this regard, APACRA was perceived as being an organisation that had positively impacted on the recovery of the environment and traditional production practices (Cortés, Acevedo, & Baéz, 2019).

Table 29 depicts five external pressures identified in this case. For example, the national food regulations fulfilling the enormous changes required in the plans defined for the IE to improve the women’s quality of life. The following quotation illustrates the challenge that is fulfilling these regulations meant for the IE:

“When we finished there, then we said, “we are going to send a letter to Invima to visit us”, and we sent the letter in the invitation, and it was the most challenging (“berraco”) entangle Mario Uyy no! Because obviously they came and said, “the kitchens are so beautiful, I mean, they were very beautiful, cool for the ladies who are going to cook here, they deserve the best, but they are kitchens, they are kitchens. I mean, we cannot do that, no, no, it does not comply, it is not, they have to buy a place where the chickens are not around, where the dogs are not around and where the children are nowhere [to be seen], in other words” Right? So it was like a change of objective” (C5-IT1-P1, 2019, p. 13).³⁶

36 The national surveillance body for medicine and food in Colombia is named “INVIMA”.

Table 29. External Pressures Against the Change

Phenomenon	Description
National regulations	The process of fulling national regulations to sell their products in the market (APACRA, 2016c) challenged the IEs' persistence and skills. This process also delayed (APACRA, 2017) and blocked (APACRA, 2017; Cortés, Acevedo, & Baéz, 2019) other activities planned for the association. Besides, this process fostered the IEs to adapt their activities to the regulatory requirements (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019).
A lack of organic market development	The IE had to face the lack of tradition of producing organic products and the unequal nature of the relationships for selling their products in the market. (APACRA, 2016c; Cortés, Acevedo, & Baéz, 2019). The traditional practices based on the "green revolution" (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P2, 2019; C5-IT3, 2019) have been implemented for 60 or 70 years (C5-IT1-P1, 2019). The lack of development in the organic market was also reflected in the consumers. On the one hand, due to their ignorance of the products (C5-IT1-P1, 2019), their purchasing-decision process was based on price instead of quality (Programa Oportunidades Rurales, 2010).
Colombia's internal war	Paramilitary forces threatened the organisation due to their active participation in the process of stopping the mining project "La Colosa" (CINEP, 2016). Before that, one of APACRA's members was killed, and their family had to leave their farm and buy another one in another place (C5-IT1-P1, 2019).
Mining project "La Colosa"	After 2010, the National and Local governments were supporting a mining project assigned to the Anglo Gold Ashanti Company in the Cajamarca municipality (Hernández Bonilla, 2017). This project was considered to be one of the largest projects in the world (Carranza Rojas & Acevedo-Osorio, 2018). It was a threat to the agroecological project led by the IEs, and therefore to their vision of change (Carranza Rojas & Acevedo-Osorio, 2018; Programa Oportunidades Rurales, 2010), and to the agricultural activities in general (Hernández Bonilla, 2017; Carranza Rojas & Acevedo-Osorio, 2018). The IEs had to deal with this mining project and invest time and resources to defend their territory (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019).
Large monoculture avocado crops investments	Aligned with a national policy to increase national production and exports of Hass avocado, significant investments have been made in Cajamarca (La Liga Contra el Silencio, 2020; C5-IT2, 2019). It assigned a large proportion of land to this crop, displacing the local variety of products and threatened water availability (La Liga Contra el Silencio, 2020). The Anglo Gold Ashanti fostered some of these investments (La Liga Contra el Silencio, 2020). The people from the region were afraid of talking about this situation (La Liga Contra el Silencio, 2020).

Source: Own elaboration.

The second set of pressures were five internal pressures against the change. *Table 30* describes these five pressures. Among them, the *enclosed organisational profile* was salient because it explained possible limitations for expanding the IE's vision of change. An example of its enclosed profile is depicted in the following situation. They only accepted new associates after modifying the articles of association in 2016. Since that moment, only three new associates have been received in the

association (C5-IT1-P1, 2019). Thus, it can prevent the organisation from growing in size (C5-IT5, 2019); or it can slow down such a process in comparison to other cases like ARAC.

Table 30. Internal Pressures Against the Change

Phenomenon	Description
External dependency of inputs	An analysis in the ACC award frame showed that 50% of the APACRA's associates relied on agrochemical products. It means that 50% of associates are not using organic compost (Corporación Consorcio, 2017).
Male-dominant culture	One of the challenges of the IEs' vision of change development was to involve men in APACRA's activities (C5-IT1-P1, 2019). "But the most difficult thing was to involve the [men], because of the, as I'm telling you, the form of macho culture that exists was very difficult." (C5-IT1-P1, 2019, p. 7).
Agroecological practices in the transformation processes	The adoption of agroecological practices supported the IEs' vision. However, being consistent with these practices is not advisable to use chemical preservatives for processed products. This feature of the processed products is advantageous in the market and a barrier to reaching geographical areas a distance away from the association because of the logistics required to deliver the products in good quality condition (C5-IT1-P1, 2019).
Geographical distribution of the associates	The APACRA's associates are dispersed in the municipality. Therefore, it creates logistical difficulties to collect the products. Their location near neighbours who use agrochemical products that can contaminate the agroecological crops was a challenge too (C5-IT1-P2, 2019).
The enclosed organisation profile with third parties	IEs were looking for allies to support and foster their vision of change. However, they were a tight organisation (C5-IT5, 2019; ColciCase-IT13, 2019) based on their intention to be self-sufficient (C5-IT5, 2019), extremely cautious (C5-IT5, 2019), and to control everything (ColciCase-IT13, 2019).

Source: Own elaboration.

iii. Supporting the Change

The IEs fostered a path-transformative process that was supported by enablers *for change pressures*. In this case, these pressures can be classified into two sets. **The first set is constituted by public calls that the IE exploited to nurture their vision of change.** This set was the public call from the Ministry of Agriculture "Oportunidades Rurales" and the ACC award from the Ministry of STI. In both cases, APACRA had the possibility of describing what they needed (C5-IT1-P1, 2019). In particular, the ACC award promoted the associates' participation and the willingness to take risks (C5-IT3, 2019). Besides, the award gave financial resources to improve the association's equipment, technical support (C5-IT4, 2019) and developed their skills to diffuse their experience (C5-IT5, 2019; C5-IT1-P1, 2019).

The second set of "assistance to change pressures" is shaped by "resistance to change pressures" that the IE flipped to support their vision of change. This capability was explained in the previous section. As mentioned, the IE used strategies to transform negative pressures for positive pressures to support the path-transformative process. In this process, its qualities and skills

were valuable assets to manage the negative source of change produced in its divergent change. For example, qualities like persistence and resilience, and qualities like recursive talent and strategic analysis, were crucial for managing situations like the mining project or the national regulations described in *Table 29*.

iv. Evolution Practices

Table 31 shows the practices identified in this case. It is interesting to highlight communitarian practices' development to vindicate the role of women in the organisation and the municipality. These practices were complemented by administrative practices, which gave arguments to the IEs to support their job. On the other hand, the introduction of farming activities based on the agroecological approach led to the development and modification of associated practices. It also impacted on practices in the process of transforming and commercialising the products from the association.

Table 31. Practices identified in the case

Practice Category	(Type of practice) / Description
Communitarian	<ul style="list-style-type: none"> · (<u>Coordination</u>) The APACRA's interest in taking care of the environment led them to expand their activities beyond farming and production borders. Thus, they included communitarian actions to resist and stop mining activities (Giraldo Castaño, 2018; Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019; Carranza Rojas & Acevedo-Osorio, 2018), empowering the peasants (Arteta Caballero, 2020), and taking care of their families and community (C5-IT5, 2019).
	<ul style="list-style-type: none"> · (<u>Development</u>) Women's role is central for the APACRA's purposes (APACRA, 2015b; C5-IT1-P1, 2019; C5-IT3, 2019).
	<ul style="list-style-type: none"> · (<u>Development</u>) The male-dominated culture was changed among the APACRA's associates (C5-IT1-P1, 2019), involving men, women and all the families in the vision of change (C5-IT1-P1, 2019), and working in gender equity (C5-IT1-P1, 2019).
Administrative	<ul style="list-style-type: none"> · (<u>Development</u>) They develop monitoring processes for their accounting to support their decision in terms of sales and production (Programa Oportunidades Rurales, 2010). This development supported the IEs' arguments to vindicate the role of women in the association (C5-IT1-P1, 2019).
	<ul style="list-style-type: none"> · (<u>Modification</u>) The association looks for improving the peasants' income (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019; C5-IT3, 2019; APACRA, 2015b; Carranza Rojas & Acevedo-Osorio, 2018).

Table 31. Continued

Practice Category	(Type of practice) / Description
Market	<ul style="list-style-type: none"> · (<u>Coordination</u>) The mix between the knowledge of peasants and professionals allowed them to innovate new production processes and defend those innovations based on their knowledge (C5-IT5, 2019; Cortés, Acevedo, & Baéz, 2019).
	<ul style="list-style-type: none"> · (<u>Development</u>) The APACRA's associates began to position their agroecological products in the market (APACRA, 2015b). They increased their productivity (Cortés, Acevedo, & Baéz, 2019; Programa Oportunidades Rurales, 2010), expanded their production from fresh products to processed ones (Cortés, Acevedo, & Baéz, 2019; Programa Oportunidades Rurales, 2010), and opened niche markets (Cortés, Acevedo, & Baéz, 2019; Programa Oportunidades Rurales, 2010; COLCIENCIAS, 2017e).
	<ul style="list-style-type: none"> · (<u>Development</u>) They began to fulfil requirements and procedures to guarantee the quality of their products as requested by the regulatory authorities (APACRA, 2016c; APACRA, 2017; C5-IT1-P1, 2019). It meant going beyond the farming activities and developing skills, infrastructure for technical production (Cortés, Acevedo, & Baéz, 2019; Hernández Bonilla, 2017; C5-IT1-P1, 2019; C5-IT5, 2019), and marketing processes (Programa Oportunidades Rurales, 2010; APACRA, 2015a; C5-IT1-P1, 2019; COLCIENCIAS, 2017e).
	<ul style="list-style-type: none"> · (<u>Modification</u>) APACRA's opened a new portfolio of healthy food accessible for the organisation and their consumers (APACRA, 2015b; Cortés, Acevedo, & Baéz, 2019). This new portfolio emerged from processes of trial and error in their kitchens (Cortés, Acevedo, & Baéz, 2019; APACRA, 2015b; C5-IT1-P1, 2019; C5-IT3, 2019) where women became researchers (APACRA, 2015b; C5-IT3, 2019). · (<u>Modification</u>) Exotic agroecological products from the region integrated the products' portfolio (APACRA, 2015b; APACRA, 2016c; Carranza Rojas & Acevedo-Osorio, 2018; Cortés, Acevedo, & Baéz, 2019). Examples of these products are the "Chachafruto" cookies (Carranza Rojas & Acevedo-Osorio, 2018; Cortés, Acevedo, & Baéz, 2019) and pumpkin yogurt (Giraldo Castaño, 2018; COLCIENCIAS, 2018; Mateus Téllez, 2017a).
Farming	<ul style="list-style-type: none"> · (<u>Development</u>) Peasants became researchers of their farms. They were able to assess the soil's quality (Corporación Consorcio, 2017; COLCIENCIAS, 2015f), to understand the insects' behaviour (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019), to identify the plants' properties (Cortés, Acevedo, & Baéz, 2019) and the market dynamics (APACRA, 2015b).
	<ul style="list-style-type: none"> · (<u>Modification</u>) The agroecological approach implementation led the peasants to leave practices like using pollutants in the farming activities (APACRA, 2015b; Giraldo Castaño, 2018; Mateus Téllez, 2017a). They had changed their farming practices (Carranza Rojas & Acevedo-Osorio, 2018; Cortés, Acevedo, & Baéz, 2019; APACRA, 2015b), based on the "green revolution". This change meant using organic compost, mulch, and agro-pastoral systems among others (Corporación Consorcio, 2017; Cortés, Acevedo, & Baéz, 2019; Hernández Bonilla, 2017; Programa Oportunidades Rurales, 2010; APACRA, 2017; Carranza Rojas & Acevedo-Osorio, 2018), and biological control systems (COLCIENCIAS, 2015f). These changes to the practices allowed them to grow without damaging the environment (Carranza Rojas & Acevedo-Osorio, 2018). The change from "traditional" farming practices to agroecological practices was gradual (C5-IT1-P1, 2019).

Source: Own elaboration.

4.1.3.4. *The Development Phase*

This phase looks for describing those actions oriented toward keeping and strengthening the path-transformative process. In this phase, the APACRA's activities and performance are coherent with the vision of change and the divergent change introduced in previous phases. Above the environmental, market and organisational opportunities described below, the IE's intention of fostering the association to be more self-sufficient was remarkable. It meant stopping the applications for public calls or subsidies to support the venture and "fighting" for their sustainability independently (C5-IT1-P1, 2019). The internal pressure to resist change could be explained by the third party barrier to enter the organisation (see section 4.1.3.3.ii). In this sense, APACRA has looked for guaranteeing their sustainability based on their sales (C5-IT3, 2019). Five elements were distinctive in this case, showing how the IE worked in cementing its path-transformative process.

i. Environmental opportunities

The APACRA's venture based on the agroecological practices brought economic opportunities to the association's members and preserved the environment (Carranza Rojas & Acevedo-Osorio, 2018). Furthermore, the increasing number of associations following the agroecological practices exhibited by APACRA led to considering positive environmental impacts in the municipality (Carranza Rojas & Acevedo-Osorio, 2018; C5-IT1-P1, 2019).

ii. Market opportunities

The ACC award contributed to fostering the IEs' vision of change. This award boosted positive expectations of increasing sales, fuelling the networking strategy to increase their products' local production and consumption (APACRA, 2017). These expectations emerged from seeking regulatory compliance for the APACRA's products (APACRA, 2017; COLCIENCIAS, 2017c).

"With all that has been achieved, the expectation remains to continue with the increase of the organisation's production and profits, [and] to improve sales, carry out some exchanges of knowledge with neighbouring communities that allow the increase in the production and consumption of healthier products in the municipality." (APACRA, 2017, p. 21).

The IE has supported the market niches development by fostering its vision of change (Cortés, Acevedo, & Baéz, 2019). This process has improved the agroecological process, having a positive environmental impact, and the peasants' income (Cortés, Acevedo, & Baéz, 2019). As a result, possibilities of expanding APACRA's scope in terms of the market are opening. Thus, they opened a new sales point based on a market study (Cortés, Acevedo, & Baéz, 2019; APACRA, 2017; Consorcio, n.d.), and had the plan of opening two more points, one in the University of Ibagué and the other in city of Armenia (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019). In the same vein, they can sell their products at the Universidad Nacional de Colombia based in Bogotá (C5-IT1-P1, 2019). The niche market development was also supported by a market analysis to improve the labelling and the market sales point in relation to five products (yoghurt, snacks, delicacy, cookies, and cakes) (APACRA, 2017; COLCIENCIAS, 2017c).

As the leading market strategy, the IE considered choosing one product from the 26 available in their current portfolio to make it their flagship product (C5-IT1-P1, 2019). Their idea was to sell this product all over the country and to keep their agroecological practices in terms of not using preservatives. The main candidate to fulfil this expectation is snacks. It is because they last for an extended period, even without preservatives (C5-IT1-P1, 2019). In this plan, IEs considered marketing strategies, like using young people's attraction for standard food packages but putting healthy food in those packages (C5-IT1-P1, 2019), or selling the snacks directly to the stores instead of having their own sales points (C5-IT3, 2019).

iii. Organisational opportunities

Some researchers have considered that APACRA's venture protects the peasants' knowledge and enforces the cultural identity processes (Carranza Rojas & Acevedo-Osorio, 2018). In that sense, APACRA has been considered a source for peasants' empowerment and food safety for its community (Cortés, Acevedo, & Baéz, 2019), an alternative for improving the wellbeing of families in the region (Carranza Rojas & Acevedo-Osorio, 2018), and an option for the women's association (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019; C5-IT4, 2019).

“Yes, they are not satisfied with society there; they want more things. However, I see that those things that they want are for their children, they want their children to have more significant development, so I liked that a lot because it generates transformation. That is why they are women who are [highly] forward driven, and that is interesting, so working with her is fantastic because you see that they are moving forward.” (C5-IT4, 2019, p. 14).

IEs see this organisation's future as a reference for society (C5-IT3, 2019). An interviewee highlighted this association's resilience, particularly its willingness to innovate and adapt. (C5-IT4, 2019). APACRA also has encouraged people in the municipality, mainly young people, to consider that change is possible. It has given results after the public consultation by the emergence of new agroecological organisations (C5-IT1-P1, 2019).

“There are a lot of people here in the municipality who say that to [it is] show [others] that it is possible with the agroecological agriculture in the world and things like that [*sic*]” (C5-IT1-P1, 2019, p. 39).

In this line of encouraging young people, the older children from the associates began to become involved in APACRA's activities. They were more aware of its agroecological relevance (APACRA, 2017). The young people's role was crucial for the IEs to maintain their vision of change (C5-IT3, 2019).

iv. New sources of assistance to change

One of the limitations that the IEs realised once the ACC award finished was their lack of skills to diffuse their vision and results (C5-IT3, 2019; C5-IT1-P1, 2019). To overcome this weakness, they received support from the Press Freedom (FLIP) to learn how to make videos and short

documentaries about their organisation and their community (C5-IT1-P1, 2019). In this frame, they won the “Solutions journalism” scholarship from the FLIP. This award was received due to a project about Cajamarca’s local orchards. It was developed through a media source named “La Colmena” (the hive) and published in the social network Facebook (Jiménez Jiménez, 2020).

v. IEs vision

After 20 years working on their path-transformative process, the IEs’ vision of change is still clear. Regarding the future, IEs imagine APACRA as being a social organisation’s point of reference for the country to empower, transform and innovate. But above all, as a point of reference for autonomy and independence (C5-IT3, 2019). An academic publication from 2019, where one of the IEs participated as a researcher, depicts the vision of change in the following terms:

“This experience of using agrobiodiversity and adding value has promoted the implementation of sustainable local productive systems, local empowerment, the strengthening of food safety, the protection of forests, social organisation and the reappropriation of knowledge.” (Cortés, Acevedo, & Baéz, 2019, p. 129).

The vision of change was expanded and deepened further, including its organisation’s role as a gatekeeper of Cajamarca’s agricultural practices (Carranza Rojas & Acevedo-Osorio, 2018). Those practices have to be aligned with the agroecological frame (C5-IT1-P1, 2019).

The results described in the previous sections lead to the reflection on the similarities, differences and lessons learnt from the cases regarding each phase of the path-transformative heuristic. Chapter six will discuss these reflections, jointly with those that emerge from the results of the analysis of Inclusive Innovation supported by National Entities in Local Communities in the next chapter. The presentation of these results in two chapters, the first regarding the *Path-transformative heuristic* and the second applying the *Inclusive Innovation Radar*, are part of a complementary exercise. This exercise looks for a better understanding of the role of institutional entrepreneurs in inclusive innovation initiatives supported by National Entities in Local Communities, as explained in the methodology chapter.

Following the abductive approach explained in chapter three, the following section will show the second set of results based on the cases studied into how they enriched the *Path-transformative heuristic*. This enrichment will present the addition of new elements, and the limitations of others once it was used to navigate social world complexity.

4.2 The heuristics enriched

Similar to the process fostered by the IEs in their path-transformative process, the heuristic designed to navigate the social world in this research also evolved. This section aims to show the heuristic’s development, the changes and the enrichment received from the case study process. In this regard, and following the abductive approach, while the heuristic journey began in the conceptual realm, it has reached the empirical world having more explanatory capability than at the beginning of the research path.

The results of this enrichment are depicted in **Figure 10**. To explain these results, it will follow the same structure used to describe the cases' results. Accordingly, each heuristic's phase and its corresponding changes will be presented.

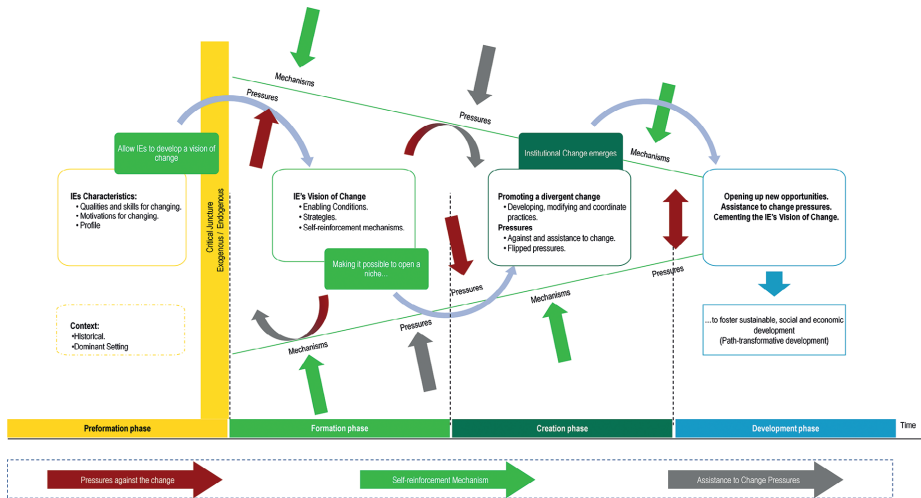


Figure 10. The Path-transformative heuristic enriched by the analysis of the cases.

Source: Own elaboration.

4.2.1. The Preformation Phase

This phase suffered three changes. The first change was the modification of *personal and external factors* resulting from *Institutional Entrepreneurs' motivations for changing*. This change in the category analysis "label" is considered to bring more clarity and heuristic's self-explanation. The second change was the inclusion of three new categories to enhance the understanding of the IEs' characteristics. Those new categories are the IEs' *qualities*, *skills*, and *profile*. In this study IEs' *qualities* were understood as being the salient attributes that describe them. IEs' *skills* were the abilities that IEs showed in doing something. Finally, the IEs' *profile* identified general IEs' elements like their background, if they were single or compound actors, and their acknowledgment by their communities.

IEs' *qualities* and *skills* were critical in building or rebuilding trust inside the communities (see Case 1 Section 4.1.1) and potential allies (see Case 2 Section 3.3.3). Also, these pointed out the distinctive profile of the IEs, like the "fighter" tone of the IEs in Case 3 (See Section 3.3.4), and their capability to flip negative external pressures. Besides, the IEs' *profile* contributes to identifying single (See Case 1) and compound IEs (See Cases Two and Three) or to understand the assembling between local and foreign actors (See Case Two). Therefore, these categories were included as part of the elements to understand and explain the IEs' profile. **Table 32** presents a list of qualities and skills and their definitions are built from the analysis of the cases.

Table 32. IEs' Qualities and Skills from the field

(Q) Quality / (S) Skill	Description	Case 1	Case 2	Case 3
(Q) Curiosity	This quality looks to capture expressions of searching activities performed by the IEs.		X	X
(Q) Knowledge Sharing	Knowledge-sharing or knowledge-generosity is a quality that describes how IEs are open to sharing their knowledge, not only as a quality but also as a strategy to spread their vision of change.		X	X
(Q) Modesty	This quality describes those situations where the IE realises that they are not superior or inferior to other actors or are not looking to show off their achievements.		X	X
(Q) Empathy	This quality shows those elements or actions accounting for how IEs understand the concerns of third parties and how they can put themselves in the place of the other for a better understanding.	X	X	X
(Q) Fighter	This quality expresses how IEs try to defend their ideas and processes.			X
(Q) Persistence	This category looks for elements or actions accounting for IEs' work throughout time to keep their vision of change and show that they do not give up.	X	X	X
(Q) Resilience	This quality describes adverse situations or events (internal war, natural disasters, geographical conditions, internal organisation pressures). Despite those, IEs can overcome those situations and sustain their vision of change.	X	X	X
(S) Flexibility	It represents the skill to change their roles according to the requirements of the situation that they are faced with.	X	X	X
(S) Opportunities tracking	It is a skill to expand and foster their vision of change and motivate others by looking for new opportunities in contracts, and spaces.	X	X	X
(S) Recursive talent	Based on general knowledge and supported by acquaintances, IEs are able to navigate across different environments.	X	X	X
(S) Strategic analysis	This skill shows how the IEs can assess different scenarios and identify the appropriate steps in a concrete situation.	X	X	X
(S) Transformative learning	IEs are open to learning how to make things differently, work with different actors, and manage new interplays with those new actors. Thus, this skill can be associated with second-order learning (Rip A., 1992).	X	X	X

Source: Own elaboration.

Finally, the third change in the preformation phase was the explicit inclusion of the *Context* category. This category draws attention to two elements that contribute to understanding the IEs' profile and their work in building a path-transformative process. First, those elements represent the history behind the context where the IEs are placed, and second, the features of the dominant setting that the IEs will try to change. The consideration of these two elements helps to contrast the divergence between practices introduced by IEs and those from the dominant setting. For example, they were the cases from contrasting agroecological practices introduced and fostered by the IEs in cases 2 and 3 with dominant settings featured by the green revolution's practices.

4.2.2. The Formation Phase

The three cases fine-grained the *formation phase* improving three elements. The first element was the *Enabling Conditions*. Thus, whereas chapter 2 identified the importance of the IEs' social position and the *arena characteristics*, they were organised under the category *Enabling Conditions* in this enriched heuristic's version. This new category includes the IE's social position and replaces *arena characteristics* with *Field-level Conditions*. The cases show the importance of the *institutional degree* and those *problems that could have evolved in a crisis*, as expected from the literature (Battilana, Leca, & Boxenbaum, 2009). Besides, they allowed the identification of *organisational receptiveness* as enabling conditions for the IEs' work. For example, in contrast with Cases 2 and 3, where *organisational receptiveness* was strong, in Case 1, the lack of this *enabling condition* did not allow the IE's work.

The second element included in this phase and as part of the *enabling conditions* was the identification of *external pressures* or *windows of opportunity*. IEs exploited those pressures to support their vision of change and open a niche to introduce their divergent change. An example of these external pressures was mentioned in Case 2 regarding the politician's promise of supporting the ARAC's Path-transformative process if they became a formal organisation.

The third element that enriched this phase was a detailed identification of *strategies* and *self-reinforcement mechanisms* implemented by the IEs in each of the three cases. **Table 33** presents fifteen different strategies and their definitions. Those definitions were built based on the information and the analysis of the IEs' actions mainly. However, some definitions were already identified in the literature. This was the case, for example, of *discursive capability*, *motivating by example*, *looking for allies* and *networking*.

Table 33. Strategies implemented by IEs in the three cases

Strategy	Definition	Case 1	Case 2	Case 3
Anchoring	This strategy is oriented toward including results and activities done by the IEs in documents. These documents could belong to the same organisation or external parties. These documents will be used afterwards as a source of validation to support the IEs vision.	X		X

Table 33. Continued

Strategy	Definition	Case 1	Case 2	Case 3
Bargaining	This strategy describes processes of negotiation led by the IEs.		X	X
Community acknowledgement	IEs use this strategy to improve their position in the community.	X		
Conciliation	IEs develop this strategy by translating the actors' points of view and solving the differences that could emerge between them in a common language. By implementing this strategy, IEs look for finding a balance between interests, expectations, or intentions from different parts, which conflict.	X	X	X
Discursive capability	IEs use their communicative skills to spread and share their vision, ideas, and projects across different actors. In this strategy, the IEs' ability to switch their language according to the counterpart is crucial.	X	X	X
Encounter spaces	This strategy looks for providing spaces of discussion, participation, deliberation whereby the organisation members get involved in the path-transformative process. This strategy could be considered a subcategory of the organisational involvement's strategy.		X	X
Knowledge for decision making	This strategy entails all activities made by IEs to foster knowledge production, research, and analysis, as input for decision making and supporting their vision of change.		X	X
Looking for allies	IEs trigger this strategy to find third parties who can help them to support their vision of change. This strategy has been well covered in the literature. In this analysis, it is possible to identify at least two contributions from the allies. First, their support considering that they have a power position. Second, their support regarding economic resources.	X	X	X
Making materials	IEs develop materials or artefacts to show their results and goals achieved. It is helpful to boost the reliability of their community, third parties or potential allies.	X	X	X
Motivating by example	This strategy is named by Mintrom & Norman as leading by example (2009, p. 653). This strategy depicts those activities and situations where IEs show their organisations the viability of their ideas by illustrating examples.	X	X	X

Table 33. Continued

Strategy	Definition	Case 1	Case 2	Case 3
Networking	This strategy could involve both the creation and consolidation of allies' networks to support the vision of change.	X	X	X
Organisational involvement	This strategy entails actions performed by the IEs to increase commitment and participation from other organisation members and stakeholders.	X	X	X
Shielding	This strategy is a process of avoiding or neutralising actors who can affect organisation development.		X	X
Showing results	It is a strategy to justify IEs actions by achieving concrete goals that could be measured and shared with stakeholders. This strategy uses <i>the strategy materials</i> as input.	X		X
Spreading the vision	This strategy depicts the activities developed by IEs to introduce and keep the vision of change among their organisation members or in other organisations.		X	X

Source: Own elaboration.

Regarding the self-reinforcement mechanism implemented by IEs to strengthen their path-transformative process, **Table 34** depicts six of these mechanisms identified in the analysis of the cases. Similarly to strategies in **Table 33**, some mechanisms were identified in the literature, and others emerged from the cases studied. An example of the last ones is *Strategic alliances* or the *Application to public calls*.

Table 34. Self-reinforcement mechanisms implemented by IEs in the three cases

Mechanism	Definition	Case 1	Case 2	Case 3
Application to calls	It is the process of applying for calls to finance your activities or get technical or funding assistance.		X	X
External Agreements	Agreements with third parties increase the organisational commitment to fulfil the requirements from the other party. These agreements push the use of organisational practices and reinforce their adoption. These agreements could be market-oriented, or organisational oriented, among others. Whereas market agreements look for attending product or services requirements, organisational agreements look for spreading the organisational vision of change and their practices to others.		X	X

Table 34. Continued

Mechanism	Definition	Case 1	Case 2	Case 3
Financial investments	They worked like a sunk cost making it expensive to change from one path to another. It also describes the processes of allocating resources to implement the vision of change and support the divergent change.	X	X	X
Institutional density	Institutional density is understood as the institutional arrangements done to improve or cement a specific set of rules (Pierson, 2000).	X	X	X
Learning activities	Activities such as training and learning processes reinforce a particular pattern and processes of practices modification and development (Martin & Sunley, 2006; Schreyögg, Sydow, & Holtmann, 2011).	X	X	X
Strategic alliances	They are agreements with allies that contribute to shielding the elements which shaping the vision of change. In this mechanism, two strategies are crucial, networking and looking for allies. Those strategies will contribute to increasing the number of strategic agents to make strategic alliances.	X	X	

Source: Own elaboration.

4.2.3. The Creation Phase

In this phase, the heuristic version assembled in chapter two was focused only on the divergent change. The heuristic enriched four additional elements to complement the IEs' actions and was considered in opening the niche and introducing the divergent change. The first of these elements was identifying pressures, both internal or external, that could negatively affect the IEs' work. Those pressures were named *pressures against the change*, and red arrows illustrate them in **Figure 10**. While the *Internal pressures* emerge from inside the organisation, like the organisation's barrier to entry profile in Case 3, the *External* ones come from outside, for example, the climatic phenomenon "el niño" in Case 1.

The second element added to the *Creation phase* was the *enablers of change pressures*. Grey arrows depict these pressures in **Figure 10**. They contrast with the *external pressures against the change* because instead of blocking the path-transformative process, they can strengthen the IEs' building path process. This *assistance to change pressures* came up as an analytical category after Case 2 and Case 3 confirmed them. This situation explains why Case 1 does not account for this category. In a retrospective exercise, the inclusion of this category in Case 1 could have shown, for example, the role of Ideas para el Cambio's project as *assistance to change source*³⁷. The third element included was *flipped pressures against the change*. Curved arrows that begin in red and become grey illustrate those

37 Chapter Six will discuss the twofold role of the Ideas para el Cambio project as an internal pressure against change and as an assistant to change pressure.

flipped pressures. Those pressures are the result of the IEs capability of flipping negative external pressures towards assistance to change ones. These pressures and the IEs capability to flipping them were identified in Case Three.

The final element included in this phase was more detailed in the practices that support the divergent change. In this vein, the cases studied show three types of practices, practices development, practices modification and practices coordination. The first set of these practices aims to describe new routines in the organisation. The second set illustrates those modified or aligned practices with the IEs' vision of change. Finally, the coordinated practices present the assembling of two or more practices that support the development of a new one. Besides these three types of practices, the analysis allowed for clustering them into six sets, as shown in **Table 35**. Those sets describe the practices identified in each case. However, in some cases, one set can be embedded into another. For example, Farming practices in Case 2 include Environmental and Technical practices or Market practices in Case 3 include Technical practices.

Table 35. Sets of Practices

Cluster	Case 1	Case 2	Case 3
Administrative	X	X	X
Communitarian	X	X	X
Environmental	X		
Farming	X	X	X
Market		X	X
Technical	X		

Source: Own elaboration.

4.2.4. The Development Phase

The improvement of this phase relies on Cases 2 and 3 because Case 1 did not achieve this phase. These two cases allowed me to identify three elements that contribute to understanding this phase. These elements are illustrated in **Figure 10**. The first one is linked with the different processes fostered by the IEs and their allies to strengthen their Path-transformative processes. In line with the description of this phase in Chapter two, IEs continued implementing strategies and self-reinforcement mechanisms to cement their path and opening opportunities for sustainable, social and economic development. Common types of opportunities in these two cases were market and organisational opportunities. Case 3 showed, in addition, environmental opportunities. The second element identified in the two cases was the emergence of new sources assisting the change promoted by the IEs. Finally, the IEs vision of change was again included to verify the path consistency between phase two and this last phase.

To sum up, the purpose of this chapter was twofold. First, it aimed to present the results from applying the Path-transformative Heuristic to three cases studied in this research. These results contributed to a better understanding of the IEs' role performed and the contexts addressed by these actors in the three cases. The second purpose of this chapter was to present the enrichment process

that the Path-transformative heuristic experienced. This enrichment was due to the cases studied and generated more categories and fine-grained the phases to navigate social complexity with ease.

However, the process of enriching the Path-transformative heuristic also showed the necessity of developing a second heuristic. This second heuristic was named the *Inclusive Innovation Radar*. It was developed to continue the navigation of the social complexity and arrive to an understanding of the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities. This second heuristic and its application to the three cases of study will be presented in the following chapter.

CHAPTER 5

The Inclusive Innovation Initiatives Harbour: Arriving to an understanding of the role of Institutional Entrepreneurs

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Chapter Four explained the process of presenting the data analysis results as a complementary exercise composed of two parts. The first part was the navigation of the social complexity using the *Path-transformative heuristic*. It helped to understand the IEs' contexts, efforts, and roles. However, this first part also showed the necessity to adjust the instruments to cruise better the IEs' role in Inclusive Innovation Initiatives (InInIn hereinafter) supported by National Entities in Local Communities.

In this frame, this chapter introduces a second and complementary heuristic. As mentioned in Chapter Four, this second research strategy was named the *Inclusive Innovation Radar*, and it was built considering the six Inclusive Innovation dimensions discussed in Chapter Two. As it will be explained below, the purpose of this heuristic is to zoom-in on the InInIn as assistance to change pressures in the IEs' path-transformative processes. Furthermore, this zoom in the InInIn will provide information about the role of actors, mainly the IEs' roles in those initiatives.

This chapter has two sections. The first one will introduce and explain the *Inclusive Innovation Radar* shortly. The discussion about this heuristic and the differences with the dimensions defined in Chapter Two will be addressed in Chapter Seven. The second section will present the results of applying this heuristic to the three case studies in this research. I will follow the same order as Chapter Four for presenting the results of the cases.

5.1. The Inclusive Innovation Radar

The *Inclusive Innovation Radar* (InIn-Radar hereinafter) can be considered as the enriched version of the six Inclusive Innovation dimensions defined in Chapter Two. In this vein, this heuristic takes those dimensions as a starting point and makes three changes to improve its explanatory capability. *Figure 11* illustrates the components of this heuristic.

The first change was a better conceptualisation of the dimensions based on their application to the three case studies. This better conceptualisation also implied renaming some of the dimensions to guarantee coherency between the dimension name and its definition. The dimensions renamed were *Involvement* (it was before Processes), *Results* (it was before Outcomes), *Space* (It was before Places). The second one was the inclusion of *Knowledge* as a dimension that accounts for two elements. The first one is the types of knowledge in terms of the actors who provide ideas and thoughts, and the second element is the interplays of that knowledge. In this respect, this dimension provides a lens to verify and understand the inclusion of different viewpoints in InInIn. Finally, the third modification that entails the InIn-Radar is the apparent exclusion of *People* as an analytical dimension. Although it is not explicitly a *People* dimension, I consider that *People* is present in all the InIn-Radar dimensions. Thus, InIn-Radar is applied to navigate the social complexity and understand the actors' role in such complexity.

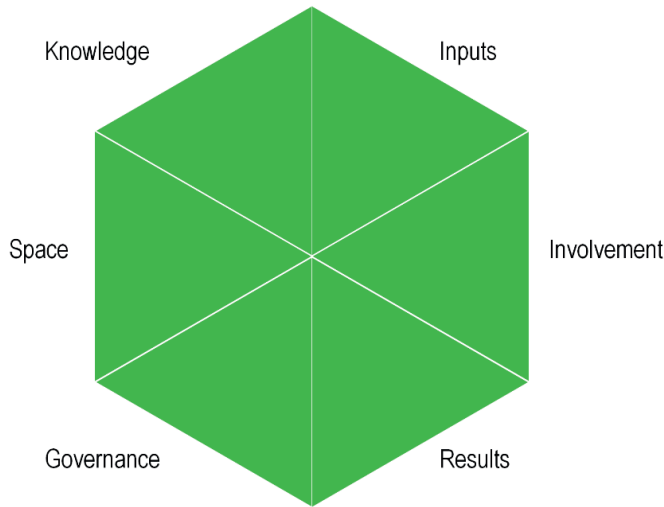


Figure 11. The Inclusive Innovation Radar.

Source: Own elaboration based on Schillo & Robinson (2017), Onsongo & Knorringa (2020), and Pinzón-Camargo & Centeno (2021).

The conceptualisation of the InIn-Radar dimensions is described in *Table 36*. The conceptualisation process followed the abductive approach explained in Chapter Three. It means that I depart from an understanding of these dimensions based on the conceptual approach discussed in Chapter Two. However, once they were studied under the frame of the three cases of study in this research, the initial dimensions changed, as mentioned. In some cases, they were conceptually complemented. The Conceptualisation row in *Table 36* has text in italics representing the understanding from the fieldwork and text in non-italics from the theory to show movement between theory and data.

To finish this section, it is worth pointing out the limits of this heuristic. The first limit is linked with its purpose. The InIn-Radar was built to identify if one of all the dimensions of InIn is present in a specific situation. In this research, this specific situation is the InInIn supported by National Entities in Local Communities. In the following section, three colours, green, yellow, and red, will be used as traffic light approach. This means that yellow will indicate if a dimension showed tensions, and red will note problems that affected the development of the InInIn. The colour green will indicate the absence of the two previous situations. The second limit of this heuristic is its explanatory capability. It means that it was designed from a qualitative approach and did not look for quantitatively measuring dimensions.

Table 36. Conceptualisation of the InIn-Radar Dimensions

Dimension	Conceptualisation
Inputs	The primary input in an inclusive innovation initiative is the concerns and interests of marginalised communities (Foster & Heeks, 2013; Swaans, et al., 2014). However, <i>financial resources, legal frameworks, and experiences (projects) are also inputs that contribute to building the InIn.</i>
Involvement	People or communities involved in inclusive innovation initiatives should play a central role in all the processes required to address their needs or challenges (Papaioannou, 2014; Arocena & Sutz, 2017). <i>Thus, in this dimension, two variables are principal. The first variable was the people from marginalised communities, and the second one, their practices. A better understanding of this dimension demands an analysis before and through the InIn.</i>
Results	According to the literature, one set of inclusive innovation initiatives' results is the production of opportunities for participants (Sonne, 2011; George, McGahan, & Prabhu, 2012). These opportunities should be available equitably. <i>These results can be expressed in terms of social and economic development, diffusion of the practices, empowerment, materialities, sustainability, and quality of life.</i>
Governance	Inclusive Innovation initiatives show decisional processes that make it possible to consider schemas of tentative (Kuhlmann, Stegmaier, & Konrad, 2019) and inclusive governance (Kuhlmann & Ordóñez-Matamoros, 2017). These schemas support the redefinition of the institutional arrangements in the communities. <i>The analysis of this dimension requires the study of the structures, actors, decisional process, and tensions produced in the governance development.</i>
Space	The spatial dimension can be constituted for several subdimensions (Rip & Joly, 2012). In InIn, space allows an understanding of where marginalised communities are placed (Papaioannou, 2014). <i>This spatial dimension could be expressed in terms of a physical place or territory, a contextual, virtual, or sectorial space.</i>
Knowledge	<i>Knowledge is a crosscutting element in the previous dimensions. However, it also depicts practices associated directly and explicitly with the management of the knowledge, the types of knowledge and their interplays, and how those types of knowledge boost coproduction processes (Balanzó, Nupia, & Centeno, 2020).</i>

Source: Own elaboration based on Pinzón-Camargo & Centeno (2021).

5.2. Applying the InIn-Radar in Inclusive Innovation Initiatives in Colombia

This section will present the results from applying the InIn-Radar to the three case studies of this research. However, before beginning with the analysis of each case, it is worth pointing out that this analysis brought a better understanding of InIn and InIn. Thus, while InIn can be considered the set of the six dimensions considered in the InIn-Radar, the InIn is the shape that InIn takes in the field. Besides, the application of the heuristic in these three cases provided fine-grained to enrich the heuristic from a conceptual perspective. This heuristic's enrichment was presented in *Table 36*.

5.2.1. Case 1: Harvesting water and grey systems at Mancilla village - Ideas para el Cambio Program 2016

Figure 12 depicts the six dimensions considered by the InIn-Radar. Among those dimensions, four are striking because they entail tensions or situations that affected the InIn development. The first of those dimensions were the *results*. This case allowed me to identify six types of results described below. Five of those results showed tensions. Firstly, results linked to the *diffusion* of the InIn presented indirect benefits to the community. Secondly, *Socioeconomic development*, *Quality of life*, and *Environmental sustainability* results had mixed impact on the community. The mixed impact was identified based on economic benefits, the understanding of solution benefits, and the relevance of taking care of the environment. The lack of enough coverage by the *materialities* results could explain some of these mixed impacts.



Title: Mancilla's local participation.

Photo by SENA's research team archives (2017).

The second dimension that showed tensions was *governance*. The governance, in this case, was organised according to two levels named strategic and operational, respectively. Some of the tensions came from disagreements between actors, both at the strategic and the operational level. Other tensions emerged from IE's lack of leadership and the institutional uncertainty.

Knowledge was the third dimension which drew attention because of the possible tensions in developing the InIn. The analysis of this dimension was linked with the analysis of two types of practices, *knowledge sharing* and *knowledge co-creation*. Whereas the first practices were identified, the second was not clear enough. Regarding *knowledge sharing*, it happened in two ways. The first way was bidirectional between the IE and the research team. The second way was unidirectional. It means that knowledge flowed from the research team towards the community but not the other way around, as it could have been expected.

Finally, the dimension of *Involvement* appears. In the InIn-Radar, this dimension is illustrated in red. As mentioned in section 5.1, this colour aims to depict those situations that could have affected the InInIn's development. In this case, three sources of problems were detected in involving the community in the InInIn. The first source was the community and its features, the second one was the decisions and interplays between actors, and finally, the roles played by the IE and the research team.

In contrast with the previous four dimensions, the dimensions *Inputs* and *Space* did not show tensions. Thus, the *Inputs*' dimension provided information about the community's needs and the financial resources received by the community to attend to their needs. Regarding *Space*' dimension, three types of spaces took part in the implementation process of the InInIn. Those spaces were contextual, virtual, and physical.

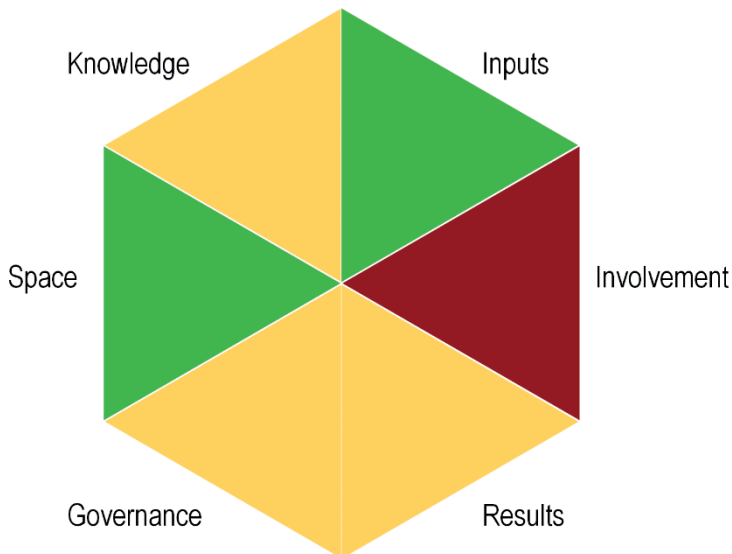


Figure 12. Case 1: InIn-Radar Results.

Source: Own elaboration.

5.2.1.1. *Inputs*

The primary input in an InInIn is the concerns and interests of marginalised communities (Foster & Heeks, 2013; Swaans, et al., 2014). However, other possible inputs to be considered are financial resources, legal frameworks, and experiences (projects) (Pinzón-Camargo & Centeno, 2021). These additional inputs will contribute to developing the inclusive innovation solution.

In this case, two inputs were identified. First, the community needed to have access to a safe water supply (C6-IT1, 2020; C6-IT4, 2020; ColciCase-IT8, 2019).

“Eh, in this municipality of Mancilla, there are some very serious water problems because sometimes they go up to 2 months without water, so the project was looking for easing that process a little.” (C6-IT4, 2020, p. 1).

This situation was identified in Chapter Four, section 4.1.1.3.ii. The second input was the financial support provided by the public call from the program Ideas para el Cambio. This financial support was equal to COP 114.040.000. From this amount, MinCiencias contributed COP 99.400.000, the community COP 4.032.000 and SENA's research team COP 10.608.000 (COLCIENCIAS, 2016i). This financial support was invested in developing the project.

5.2.1.2. Involvement

People or communities involved in InInIn should play a central role in all the processes required to address their needs or challenges (Papaioannou, 2014; Arocena & Sutz, 2017). In this case, the community's involvement was considered along six stages that shaped the project's trajectory. Those stages were: Pre-kick-off, Needs Identification, Solution Design, Project Kick-off, Project Implementation, and Project Closing. *Annex 5* describes the most crucial features in each stage.

The analysis of this dimension uncovers problems around the community's involvement in the project. These problems emerged from five different sources. The first source of problems arose from the community and their scepticism which played against the project implementation. This community's scepticism was because of the mistrust produced by politicians, students and researchers who made false promises to them. Therefore, in implementing the technological solution, some families that benefited were reluctant to participate in the system co-construction.

The second source of problems that affected the community's involvement came from decisions taken by the IE and the research team. For example, they did not include the community directly in the Pre-kick-off and neither in the technological solution design. This decision was taken to protect the community from raising false expectations, preferring to inform and involve them once they had been selected in the public call (C6-IT1, 2020). However, the community's exclusion from these two InInIn stages undermined their further involvement in the following stages of the initiative.

The third set of problems emerged from interactions between the community and the research team. Both had external commitments besides the InInIn. Therefore, it became a complex process to find common spots to work together. As a result, it was impossible to coordinate the agendas between the families and the research team (C6-IT1, 2020; C6-IT3, 2020). In this frame, the research team decided to keep the installation of some techno-scientific solutions without direct community participation.

The IE was the fourth source of problems to foster community involvement. Although she contributed substantially in gathering the families that benefited, she considered it complex to fulfil the involvement level required by the public call (C6-IT2-P1, 2020). This situation is consistent with the reading about the weak IE position in the community discussed in the path-transformative process in Chapter Four.

Finally, the role performed by the research team could have affected the community's involvement. Four situations that could have affected the community's involvement in the InInIn were identified. First, the research team member in charge of leading the social appropriation

component dropped out of the team, affecting its implementation process (C6-IT3, 2020). Second, the social appropriation component was designed without an accurate understanding of the community and its needs (C6-IT3, 2020). This situation makes sense considering that the proposal was formulated mainly by the research team without actual community participation. Third, the research team had problems with the techno-scientific solution provider. Those problems delayed the systems' installation and diminished the community interests (ColciCase-IT8, 2019; C6-IT1, 2020; C6-IT2-P1, 2020; COLCIENCIAS, 2017i). Finally, the cost of the technological solution chosen by the research team constrained the amount of benefited families. Only 13 out of 68 benefited from the Ideas para el Cambio's project (C6-IT2-P1, 2020; C6-IT2-P2, 2020).

5.2.1.3. Results

The literature has highlighted the provision of opportunities for participants as a result of InInIn (Sonne, 2011; George, McGahan, & Prabhu, 2012). These opportunities should be available equitably. This case showed different results, grouped into six categories: Diffusion, Socioeconomic development, Empowerment, Materialities, Quality of life, and Environment sustainability. These six categories will be described below.

i. Diffusion

This category represents those results, which considering the terms of reference, contributed to spreading the experience of the project to other communities and actors (COLCIENCIAS, 2017i). These results can be studied from two viewpoints. The first belongs to the research team. From this perspective, the research team indicated how people from other villages came to talk to them about the project (C6-IT1, 2020). Also, it was possible to identify the SENA's research team spreading their experience through the SENA's mass media (C6-IT1, 2020), the presentation of the results by a scientific paper (Forero, Pedraza, González, & Jaimes, 2018), and an international forum (Casas Córtes, 2017). However, the *diffusion* shows indirect benefits from the community's viewpoint because third parties could acknowledge the community. Furthermore, it could be capitalised through one of IE's strategies described in Chapter Four.

ii. Socioeconomic development

The public call was designed to encourage communities and researchers to develop solutions to mitigate the environmental impact and improve regional socioeconomic conditions (COLCIENCIAS, 2019a). Regarding the economic conditions, it was expected to reduce the monthly water fees that the community had to pay because of reusing water. This reduction will impact even the profit margins of the crops positively (APENIMPA, 2016). Although it was not possible to confirm these expectations based on the data collected, some complaints about the increasing fees of the electricity bills were identified because of the use of the systems (C6-IT2-P1, 2020).

iii. Empowerment

The public call is framed around a national Strategy that was looking for producing twofold results. On the one hand, it aimed to strengthen relationships between communities and academia

to make salient the role of science in the territories. On the other, it aimed to “build a more critical and empowered community” (COLCIENCIAS, 2019a, p. 6). According to one research team member, once the project finished, it was possible to note in those who benefited from the project that unity had been forged. They more enthusiastic and active in fostering and maintaining the systems (C6-IT1, 2020). From the IE’s perspective, the project brought pride to the community. It was because they felt that everything was transparent (C6-IT2-P1, 2020). The godfather made a similar observation. He explained that the community was amazed because they did not have to give anything to anybody, like in corrupt practices (C6-IT4, 2020). This situation fostered the families who benefited to “appreciate the processes, appreciate the equipment and realise that it was possible” (C6-IT4, 2020, p. 5).

iv. Materialities

Materialities is a category that clusters all those tangible results that contributed to serving the community’s needs. In this sense, three types of materialities were identified. They are described in **Table 37**. Although these elements benefited some families, they did not bring full coverage for all the community. Only thirteen out of sixty-eight families benefited from this InInIn.

Table 37. Materialities developed in the project

Materiality	Description
Rainwater harvesting and treatment systems	Ten of these systems were developed (Forero, Pedraza, González, & Jaimes, 2018; COLCIENCIAS, 2017h; COLCIENCIAS, 2017i). “This technology consists of a catchment, collection, storage, filtration, chlorination and/or ozonification system, thus allowing the families of Mancilla to have access to drinking water” (Forero, Pedraza, González, & Jaimes, 2018, p. 8). “Each of the ten co-developed solutions for the efficient use of water is made up of a rainwater collection system - gutters and downspouts - that allow the collection and storage of water in two tanks of 1,000 litres each. Once the water is stored and with a treatment module - a half horsepower motor pump, a 20/40 silica sand filter, an active carbon filter and a chlorine dispenser - it is made drinkable for human consumption” (COLCIENCIAS, 2017i, p. 12). In addition, the research team included the possibility for these systems to be connected to the aqueduct. Thus, the families could improve the aqueduct water (C6-IT1, 2020).
Greywaters treatment systems	Three of these systems were installed to reduce the surfactants and solids levels (COLCIENCIAS, 2017i; C6-IT4, 2020). “Each of the greywater treatment systems has a similar structure for collecting water from the shower and washing machine. It has a collection and storage with two 1,000-liter tanks and a treatment module with a half-horsepower motor pump, a filter of Zeolites, an active carbon filter and an Ozonator for reducing surfactants. These systems make it possible to use the water to which some conditions were improved in irrigation, in cleaning processes or simply send it back to the original environmental source, but reducing the environmental impact” (COLCIENCIAS, 2017i, p. 12).

Technical support
material

Each of the thirteen benefited families received a system's manual, "kits to check pH and residual chlorination, and videos about using and maintaining [the water]" (Forero, Pedraza, González, & Jaimes, 2018, p. 19; C6-IT1, 2020; C6-IT3, 2020). The videos mentioned came "from the activities of interchange and knowledge transference where they were the main character being featured" (Forero, Pedraza, González, & Jaimes, 2018, p. 19).

Source: Own elaboration.

v. *Quality of life*

In 2016, the idea to improve the quality of life was included in Ideas para el Cambio's terms of reference, but also in the objective to preserve and make the use of the natural resources sustainable (COLCIENCIAS, 2016c; COLCIENCIAS, 2019a; COLCIENCIAS, 2017i). These two objectives were aligned with the IE's vision of change promoted (See Chapter Four). In this frame, Mancilla's project was looking to provide safe water access consumption alternative for thirteen out of sixty-eight families. It was expected that the project would improve the quality of life of these families with respect to their health (C6-IT4, 2020) and economic conditions. Thus, it was considered that giving safe water to the community would allow them to avoid illnesses (COLCIENCIAS, 2017h; C6-IT1, 2020). The health conditions also would improve because of healthy food growing as a result of better agricultural practices like water use in better conditions (APENIMPA, 2016).

The case analysis shows that people believed that their quality of life was improved because of the project. Two interviewees explain how this improvement was in Mancilla's quality of life:

"People were super grateful because they knew very well what conditions they had had before, and what conditions they were in now, and they saw the change in their life." (C6-IT3, 2020, p. 7).

"Faca understood, Faca understood that the need to make water drinkable to avoid the level of diseases that existed in the region, is revolutionary" (ColciCase-IT8, 2019, p. 32)³⁸.

However, it was also acknowledged that despite the project looking for improving the quality of life of the families that benefited, not all the beneficiaries understood that benefit (C6-IT2-P1, 2020).

vi. *Environment sustainability*

Mancilla's project defined three objectives to have a positive environmental impact (APENIMPA, 2016). First, it looked for better use of residual water from the family units (APENIMPA, 2016; C6-IT3, 2020). Second, it wanted to diminish the pressure in demand for water from the aqueduct using harvesting rainwater collectors (APENIMPA, 2016) and to reuse greywater (C6-IT3, 2020). Finally, it aimed to improve the environmental education of the community to make them realise the relevance of saving and using the resource efficiently (APENIMPA, 2016).

38 The interviewee uses *Faca* as a short expression of *Facatativá* and referring to the case of Mancilla.

The information consulted in this case shows mixed evidence about these results. On the one hand, the project closing minute highlighted that the project contributed to improving relationships inside the communitarian association and the environment (COLCIENCIAS, 2017i). However, on the other hand, an interviewee affirmed that there was not a genuine interest from the community to take care of the environment: “but that love for nature was not noticeable (...)” (ColciCase-IT8, 2019, p. 10).

5.2.1.4. Governance

Neither the program Ideas para el Cambio, the policy documents that support it, or the public call had a section focused on the governance of these projects. However, it is possible to infer that such a structure regarding the notion of tentative governance existed (Kuhlmann, Stegmaier, & Konrad, 2019). The public call was designed “with the objective of building and cementing a scenario of dialogue and collaborative work between STI experts, communities and social sectors who could be experiencing vulnerability conditions, and thus answer to social challenges and co-create scientific-technological solutions together which transform and improve the citizens’ quality of life” (COLCIENCIAS, 2016c, p. 1; COLCIENCIAS, 2016j, p. 2). The results from the data analysis in this dimension will draw attention to four fields considered critical for understanding the governance building process. Those fields are the *governance structure*; *the actors*; *the decisional process*; and *the tensions*.

i. Governance structure

As mentioned, Ideas para el Cambio’s program did not define a governance structure. However, its intention to link different actors to solve a community need required a governance structure. Therefore, it was produced in a *de facto* process. This *de facto governance* was supported by two variables. The first one was a set of activities boosted by the Ideas para el Cambio’s terms of reference and the interplays between actors. Those activities are described in *Annex 6*. The second variable in shaping the governance of the InInIn was a set of alliances between actors. These alliances showed overlaps or intersections between them. For example, the alliance between COLCIENCIAS and SENA for launching chapter one of the public calls (COLCIENCIAS, 2016h), or the agreement between the Fundación para la Educación y el desarrollo Social (FES) and the SENA’s research team (COLCIENCIAS, 2016e) for managing the financial resources. The Godparent and COLCIENCIAS (COLCIENCIAS, 2017b) supported both the community and the research team technically. The SENA’s research team and Universidad de Cundinamarca’s (COLCIENCIAS, 2016i) alliance to provide more technical support to the project. The SENA’s research team and the IE association to design and present the project’s proposal. It is interesting to see how these alliances were promoted or triggered by the terms of reference from the Ideas para el Cambio’s program.

Figure 13 depicts the emergence of the tentative governance as a set of alliances that overlap between them. In the figure, each ellipse represents a different alliance between two or more actors. For example, the ellipse in blue could be the alliance between the research team and the IE, and the green one the alliance between COLCIENCIASs and the SENA. The tentative governance is illustrated with the capsule cutting the intersection between the different alliances.

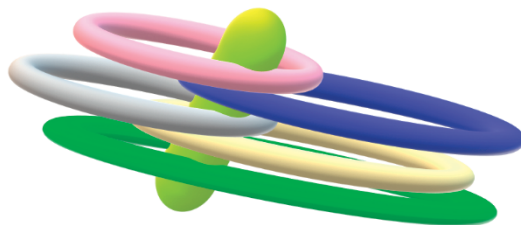


Figure 13. Tentative governance as a set of alliances.

Source: Own elaboration.

ii. Actors

An important factor in understanding the InInIn governance is the actors' roles. *Annex 7* shows an analysis of the different roles performed by the actors involved in the InInIn. Based on *Annex 7* and in the InInIn stages depicted in *Annex 5* two sets of actors were identified. The first set was involved in the pre-kick-off, needs identification and solution design stages. The SENA's research team (SENNOVA and Tecnoparque), two consultants, and some members of the Community Action Committee (APENIMPA, 2016) comprised this first set. Interviewees suggested that in this stage, the project was steered by the SENA research team, a professor from the Universidad de Cundinamarca, and the IE (C6-IT3, 2020; C6-IT4, 2020). At that stage, the IE contributed to the data analysis to identify the needs and provided the idea for the techno-scientific solution (C6-IT2-P1, 2020) to be implemented for the SENA's research team. In light of this, the IE was guaranteeing the due InInIn alignment with her vision of change. Regarding the research team's role in these stages, it was responsible for formulating the project (C6-IT3, 2020).

The second set of actors immersed in the InInIn governance were identified after the InInIn kick-off. Seven actors shaped this set of actors: The COLCIENCIAS social appropriation team, Corporación Enlace, the Education and Social Development Foundation (FES), the Godparent, the IE, the SENA's research team, and the Community Action Committee. In this second set, the COLCIENCIAS' social appropriation team set the rules for the public call and InInIn implementation. The Corporación Enlace played the role of COLCIENCIAS' delegate for surveillance of the InInIn and supported the social appropriation process (C6-IT1, 2020; ColciCase-IT8, 2019). Additionally, this entity was in charge of informing COLCIENCIAS about the "difficulties, findings or actions that go against current regulatory compliance, regarding the implementation process of the scientific-technological solution" (COLCIENCIAS, 2017i, p. 11). The third actor was FES, who supported financial and procurement procedures (COLCIENCIAS, 2017i; C6-IT2-P1, 2020; COLCIENCIAS, 2016e). In fourth place, the Godparent was a researcher who advised the community and the research team to implement the InInIn and helped to solve possible conflicts between parties (C6-IT2-P1, 2020). In addition, he was considered a mediator between the parties when a controversy emerged (C6-IT2-P1, 2020). After the InInIn kick-off,

the IE supported the InInIn implementation and surveillance processes (COLCIENCIAS, 2017i). Besides, she helped to conciliate the differences between the SENA's research team and the community (C6-IT1, 2020) and was part of the decisions governance structure explained in the following section. The sixth actor in this set was the SENA's research team. Besides implementing the InInIn, the SENA's research team was also part of the decision-making governance structure. Finally, the last actor in this set was the Community Action Committee. According to the terms of reference, it was the formal figure for representing the community. It was the local organisation in Mancilla village in charge of co-implementing the project with SENA's research team (COLCIENCIAS, 2017i) and designing a sustainability plan for the project jointly with the SENA's research team (COLCIENCIAS, 2017i).

iii. Decision-making process

A crucial component for the InInIn was the decision-making process. In this case, it had two levels. The first level could be called *strategic*, and actors in that level were in charge of the project surveillance and making structural decisions about the project. For example, they decided to postpone the project closing stage because of “a low level of social appropriation of knowledge” (COLCIENCIAS, 2017i, p. 11). An essential feature of this decision-making level was its scope; it was restricted or guided by the proposal approved by COLCIENCIAS. This governance level involved the research team leader, a Community Action Committee member, representatives from Corporación Enlace, FES, and COLCIENCIAS.

The second decision-making process level could be named *operational*. In this stage, the interplays between the actors were more visible, although the project's proposal also bordered them. At the operational decision-making process level, the research team and the IE steered meetings and social appropriation activities. Those activities were crucial for providing a participatory space to the community. In this space, the community, supported by the research team, made decisions about the project. For example, they decided on a strategic geographic distribution of the techno-scientific solutions to allow water sharing with other families who were not benefiting directly (C6-IT3, 2020). It was a decision made trying to solve community frictions because of the lack of InInIn coverage. Another example was their decision to “collect a monthly amount of money, something around 1,500 Colombian pesos, 2,000 Colombian pesos per month” (C6-IT1, 2020, p. 17) to maintain the project.

In these decision-making levels, the channel to address the differences between the community and the project's vision or the actors was the IE. She used to meet with the community to align them before discussing or making a decision with the research team or other actors at any governance level (C6-IT4, 2020).

iv. Tensions

The interplays between the actors involved at both governance levels produced some tensions in the project. Three factors contributed to addressing these tensions. The first factor was the inner motivations of all the actors in the project. For instance, when frictions between the IE and the research team emerged because of technical discrepancies, they used to solve them considering that “the priority is the village, not us” (C6-IT3, 2020, p. 15). The second factor that helped to

solve tensions between the actors was the terms of reference, legally binding for actors. Finally, conciliation was an action that contributed to solving the tensions. Different actors performed the role of conciliators. For example, the research team conciliated on behalf of some community members who had frictions with the IE (C6-IT1, 2020). Also, as mentioned, the Godparent played a crucial role as a mediator in relation to two aspects. First, by suggesting solutions to cope with the challenges that the research team, the IE and the community faced. Second, by having active participation in the implementation process of the techno-scientific solution (C6-IT2-P1, 2020; C6-IT4, 2020).

Regarding the possible sources of these tensions, it can be considered that those linked with the community happened because of problems involving the community (see section 5.2.1.2). However, some interviewees suggested that tensions could have emerged from an ex-post reflection because of different reasons. The first reason was the disagreements between the SENA's research team and the Corporación Enlace about understanding and assessing the process of social appropriation of knowledge (C6-IT1, 2020). The second one was the lack of leadership on the part of the IE (ColciCase-IT8, 2019; ColciCase-IT3, 2019). The third one, there was a lack of alignment between the research team and the community (ColciCase-IT3, 2019). Finally, Community Action Committees (ColciCase-IT3, 2019), which in this case changed twice their president (C6-IT1, 2020). Thus, if the Community Action Committee changes, the actors will change (ColciCase-IT3, 2019).

5.2.1.5. Spaces

The space dimension contributes to understanding where marginalised communities are placed (Papaioannou, 2014). However, the InInIn does not happen only where the community is placed; it involves other types of spaces. According to Rip & Joly (2012), space can be understood as a reference to boundaries, as an expression of agreements and rules of interaction, and where the things append spaces. Regarding this understanding of space, it has been named *contextual*, *virtual*, and *physical*, respectively.

Regarding the *contextual space*, the project in Mancilla had two layers. The first layer was at the macro level. The project was developed under a national strategy (COLCIENCIAS, 2016c) focused on communities and social sectors that could be in vulnerable conditions (COLCIENCIAS, 2016c). In the particular case of this public call, it is focused on addressing socio-environmental problems (COLCIENCIAS, 2016c) and the “transformation of these on living conditions and the sustainable development of environmental environments” (COLCIENCIAS, 2019a, p. 12). The second layer was at the micro-level, the Mancilla village context. It was described in Chapters Three and Four as a rural community featured by mistrust in third parties. The context space was useful for defining the rules to implement the project in Mancilla village and relevant input for developing the project proposal (COLCIENCIAS, 2016d). The research team also considered this space to develop manuals, videos, and other material to maintain and use the techno-scientific solutions (Forero, Pedraza, González, & Jaimes, 2018).

The second understanding of space was named *virtual*. Although the project was developed in Mancilla village, most of the interactions between the actors involved at the strategic governance level were done online. For example, regarding the public call rules, the process of applying

had to be via the Ideas para el Cambio web page (COLCIENCIAS, 2016h; COLCIENCIAS, 2016d). Besides, relevant information about the public call was published on such a website (COLCIENCIAS, 2016h), and the final proposal defence was virtual (COLCIENCIAS, 2016d). Furthermore, some interactions between the solver team (community and the research team) and COLCIENCIAS or Corporación Enlace should be virtual. Besides, the support from COLCIENCIAS and Corporación Enlace was done mainly online. For example, 28 meetings were done online for surveillance purposes and advised about Social Appropriation of Science, Technology and Innovation's activities to the research team and the community (COLCIENCIAS, 2017i).

Finally, *physical space* considered the Mancilla village features. For example, its condition of being a rural area in Facatativá, with a water shortage and some environmental problems. These features were described in Chapter Three (Section 3.3.2). This space, along with the contextual space, was a crucial enabling condition to apply to the Ideas para el Cambio's public call.

5.2.1.6. *Knowledge*

This dimension looks for making explicit the types of knowledge and their practices. In addition, it has the purpose of understanding how the knowledge of each participant is included in the coproduction of solutions to the community's needs (Balanzó, Nupia, & Centeno, 2020).

i. Types of knowledge

The program Ideas para el Cambio considers two types of sources of knowledge, the STI experts and the communities (COLCIENCIAS, 2016d; COLCIENCIAS, 2016j; COLCIENCIAS, 2019a). In this case, the community provided their knowledge about steering the village aqueduct and managing the water at the village, information about the weather and the environment (APENIMPA, 2016). Besides, before the research team arrival, the IE and some community members already knew the rain harvesting process (C6-IT2-P1, 2020). This knowledge was shared with the research team.

The relationship between STI experts and the communities is complemented by three more actors. These actors are the Corporación Enlace and COLCIENCIAS, and the technological Godparent. While Corporación Enlace and COLCIENCIAS bring knowledge focused on the social appropriation of knowledge and project management, the Godparent supports both the technical implementation of the InInIn and the social appropriation process.

ii. Knowledge practices

The Ideas para el Cambio's terms of reference defined that the technical solution to address the community need would be characterised by using knowledge from research teams as well as from the communities involved (COLCIENCIAS, 2016d) in a sort of co-creative process (COLCIENCIAS, 2016d). Thus, it is possible to infer two types of practices: *knowledge sharing* and *knowledge co-creation*. However, while it was possible to identify knowledge sharing practices, it was not the case with knowledge co-creation. The data did not provide enough evidence to claim its existence. The knowledge sharing between the IE and the research team was evident in designing the techno-scientific solution (C6-IT2-P1, 2020). The IE shared with the research team the idea of devel-

oping a greywater system and a harvesting water system. According to her, it was the base for the research team to design the proposal to apply to the COLCIENCIAS call (C6-IT2-P1, 2020).

The research team performed the practice of knowledge sharing by doing four activities. First, they did activities to transfer knowledge according to the requirements about social appropriation defined in the terms of reference. Second, they did individual transfer of knowledge about building, working and system maintenance by training activities (Forero, Pedraza, González, & Jaimes, 2018). Third, they developed a manual to guide the families in using the system. Finally, they made a video for the community explaining how to control the pH and chlorine from the rainwater harvesting.

The process of knowledge sharing was not easy for the research team. Besides the community's mistrust, another barrier to setting a channel of dialogue was the research team's technical language (C6-IT3, 2020). Therefore, the research team had to implement different strategies to build trust with the community and overcome the language barrier. The first strategy was to get used to leaving aside the role of technicians or engineers with the community (C6-IT4, 2020) and contacted the community more often. The following quote illustrates this strategy:

“1: And, teacher, how did you achieve that? How did you manage to gain that people's trust so that they would get involved in the project?”

2: Ah, [it was by] drinking *agua de panela* (water's sugarcane), eating *chicharron* (pork rinds) there, with the people, eh yes, that is, it was almost taking by stripping away that role of technician and engineer and all that, but arriving there as one more individual and sharing with them: making bread, uh, talking about the problems, uh, also talking to [them] a bit that not everything in this country is about money, no, then yes, basically that is how it was, that is how it was done.” (C6-IT4, 2020, pp. 3-4).

The second strategy implemented by the research team to bond with the community was developing spaces for community engagement, knowledge interchange and transference. In those spaces, it was possible to discuss with the community the techno-scientific solution functions and deal with doubts (Forero, Pedraza, González, & Jaimes, 2018).

The third strategy to open a dialogue with the community to share their knowledge was using technological artefacts. Besides the techno-scientific solutions that the research team installed in Mancilla, they brought some equipment that caught the community's attention and opened the floor for talking with them. The following quote shows this:

“For example, when we arrive with the measuring equipment, which is quite robust and always has a physical touch, that is, they look very beautiful, they [asked] “but how does it work? And [said], “I do not know that”. Then I said to them, “come, and I will explain” (C6-IT3, 2020, p. 18).

5.2.2. Case 2: Agroecological crops at La Pradera village –A Ciencia Cierta Program 2015

Two dimensions are highlighted in **Figure 14** because they point out tensions. The first dimension is *governance*. Inside this dimension three sources of tensions were identified. The first one was a misalignment between the expectations from the community and the COLCIENCIAS team. This misalignment opened two discussions about the community needs in terms of physical infrastructure and the meaning of Science, Technology and Innovation (STI). The second source of tensions was linked with some activities and practices that emerged because of the Public Call. Finally, the last source of tensions came from discussions between the community's members. The second dimension which showed tensions was the *knowledge dimension*. As mentioned, this tension is linked with different understandings of the STI meaning between the community and the COLCIENCIAS team. As a result, this tension allowed the building of a common ground between the actors and increasing the understanding of the scope of STI.



Title: ARAC's water harvesting
Photo: COLCIENCIAS' archives (2017).

The other four dimensions did not show tensions. The dimension of *Inputs* showed three kinds of inputs in this InInIn. The first was the community's *experience*, the second was the community's *needs*, and finally, it was the financial input from the ACC award. Looking at the dimension of *Involvement*, it describes a community with high participation in this InInIn. The interest, commitment and participation were features that distinguished the community before and through the InInIn, and they contributed to explaining the *results* dimension. Thus, the study of the *results*' dimension, besides identifying six types of results, showed a community that enjoyed all these six results. Finally, the *space*'s dimension identified four different types of space that took part in this InInIn. Those spaces were contextual, physical, virtual, and sectorial.

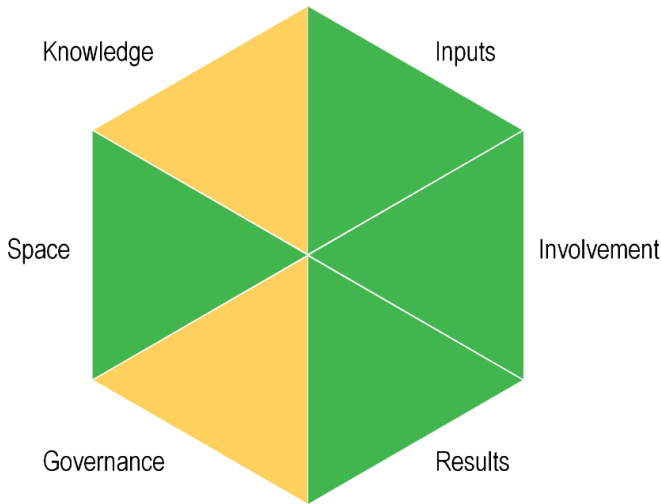


Figure 14. Case 2: InIn-Radar Results.

Source: Own elaboration.

5.2.2.1. *Inputs*

This case had three types of inputs. The first one was the “**experience**” in Science, Technology and Innovation. This input is a crucial element for those organisations who want to apply to this public call. The following quote explains the idea of experiences:

“When we talk about “experiences”, we refer to the result of a social practice in which people share and exchange knowledge, wisdom, experiences and learning to carry out actions of common interest and that over time impact personal, collective and social scenarios. In this sense, an “experience in Science, Technology and Innovation” is generated when they have made innovations, adaptations or applications of science and technology to solve a problem or improve the performance of the activity to which the social group is engaged” (COLCIENCIAS, 2015e, p. 6).

From the perspective of the public call, the “experience” is the set of elements to be strengthened (C4-IT7, 2019). In this case, the experience was officially named “From the green revolution to organic agriculture: Improvements in agroecological production in Subachoque, Cundinamarca” (COLCIENCIAS, 2016a, p. 1).

The second input was **community needs**. These needs were considered within two situations. The first one was in the Community description of the “experience” (COLCIENCIAS, 2018). As a result, the experiences to be strengthened by the public call should have addressed the needs of some or all the community members (COLCIENCIAS, 2015e). The second situation where the community’s needs were considered was in the online format to apply to public call (COLCIENCIAS, 2015b). In this case, the community identified three areas or needs to be improved: marketing, water management and production (COLCIENCIAS, 2016a). These inputs

were discussed in the local encounter with the COLCIENCIAS team and the other participants. From this discussion emerged four topics to be strengthened by the public call, the three needs identified by the community and a component of social appropriation of knowledge (ARAC, 2017f; ARAC, 2017g). Among these four needs, the community showed more interest in water management (Corporación Consorcio, 2016b; ARAC, 2017g; C4-IT5, 2019; C4-IT11, 2020; ColciCase-IT13, 2019).

Finally, the case had a **financial** input. This financial input had two sources. First, the award of COP 50 million that COLCIENCIAS gave to the community (COLCIENCIAS, 2015e). It was assigned to them because they were one of the 20 most voted experiences in the country (COLCIENCIAS, 2015e). The second source came from the community; they contributed COP 24.965,000 (COLCIENCIAS, 2017f). Most of the economic resources provided by the community were in kind (C4-IT2, 2019). The community received the first 50% of COLCIENCIAS' funding after finishing all the legal procedures. After that, 50% remained conditional on an expenditure of 80% of the first amount after the middle of the implementation process (COLCIENCIAS, 2015e).

5.2.2.2. Involvement

The community involved in this inclusive innovation initiative was the Asociación Red Agroecológica Campesina-ARAC. Although it was a peasant association, neo-peasants³⁹ were also integrated, making a hybrid association. The community was composed of 23 members, divided into 21 families when applying to the public call (ARAC, 2015). According to COLCIENCIAS, the project began with an association constituted by 20 families. However, once the project finished, the number of families increased to 24 (COLCIENCIAS, 2018). In 2020, the association had 30 families, and between 8 or 12 were neo-peasant members (C4-IT2, 2019).

Community involvement was an explicit feature in this case. This involvement was evident not only in the development of the public call but before it. In this vein, the involvement dimension was studied on two occasions, before and during the ACC award implementation.

i. Involvement as a pre-existing community feature

As a pre-existing feature, **community involvement** has been part of the community since its foundation (ARAC, 2015). This involvement was linked with the sense of belonging of each community member to their association (General-Presentation, 2019). A community member expressed this feature in the following way: "All this [is the result] of us all being volunteers; we all work for the association, and we all respond on its behalf" (General-Presentation, 2019, p. 5). Community involvement was evident both in internal organisational practices and in their relationships with external actors. Regarding the internal organisational practices, they used to rotate the management positions (C4-IT5, 2019; C4-IT7, 2019) and set informal rules like having weekly meetings which contributed to this purpose of keeping the involvement. Remarkably, these meetings have become the organisational core of the community (ARAC, 2015). All members tried to attend the meetings, even if some were not living in the village (C4-IT2, 2019). In these spaces,

39 A neo-peasant is a person from the city who decided to move from the cities to the countryside to live a rural life (COLCIENCIAS, 2018).

community members felt free to express themselves and to help each other (C4-IT3, 2019). They considered these meetings spaces to have fun (C4-IT3, 2019) and discuss work-related issues and familiar ones (C4-IT6, 2019).

“Arriving at ARAC meetings on Tuesdays became my amusement park” (Puentes E., 2017, p. 8).

The relationships between the community and external actors showed that their involvement was evident in previous projects where the community took part. It was the case of the joint project with Universidad Minuto de Dios (UniMinuto). For example, in that project, the community was tracking and assessing the performance of nine indicators defined with UniMinuto in a period of three years. This process had the purpose of improving their farms (ARAC, 2015; C4-IT7, 2019). This pre-existing feature of community involvement was an essential asset for the community to apply to the public call. In addition, the call's terms of reference showed it was important to have the involvement of the organisation's members. Thus, one of the COLCIENCIAS' requirements for the call was that for experiences to be nominated they had to be “result of shared and concerted management, in which the people who benefited from the activities or project had directly participated” (COLCIENCIAS, 2015e, p. 7).

ii. Community Involvement through the public call development

The 2015 public call provided guidance on the stages considered to develop the public call (COLCIENCIAS, 2015e). Based on those stages, *Annex 5 (Table 2)* shows a description of the community's performance regarding their involvement in the public call. Accordingly, **the public call tried to increase the community members' involvement in most situations**. Thus, the community was involved during several and critical stages of the process: the nomination of their experience, the voting process, the identification of their needs, the solution design and implementation, and the presentation of the process results to third parties.

Actors such as the COLCIENCIAS team acknowledged this involvement. As a result, they underlined the good community performance in terms of their involvement and achievement of the goals defined in the strengthening plan (COLCIENCIAS, 2017d). Regarding the public call as a policy tool, an interviewee highlighted the advantages of this tool to foster involvement. He stated that the call gave the freedom to the community to decide on how to invest the financial support. Furthermore, it put the community in charge of the project, always with the support of the godparents and Consorcio para el Desarrollo (C4-IT8, 2019).

5.2.2.3. Results

In this case, the work of the community in the public call allowed them to achieve **six types of results**. These six results were in terms of Diffusion; Socioeconomic development; Empowerment; Materialities; Quality of life; and Environmental sustainability. Before explaining each one, it is worth pointing out two general features. First, all the community contributed to help obtain these results, and second, the results can be explained because of the community's involvement in all the public call possible stages.

i. Diffusion

Indirect and direct actions contributed to diffusing both the community experience and its actions for strengthening its experience. Regarding the indirect actions carried out in the frame of the public call, the voting process fostered the community to make known their process to other actors (see National Voting Period in *Annex 5 (Table 2)*). Several direct actions were planned for *diffusing* the ARAC's experience (ARAC, 2016b). Some of these activities came up with materials that supported the diffusion process, like the ARAC's webpage and their newsletter (ARAC, 2017g) (See section 5.2.2.3.i). Other activities were workshops, where they shared their vision of agroecology with children (ARAC, 2017g), people in general, and peasants from other municipalities (ARAC, 2017g).

In the process of *diffusing* their experience, the adjustment and relaunch of the sales pointed toward the municipality marketplace and played an important role (C4-IT8, 2019). Furthermore, it was because this place allowed them to show the results of their process and share their vision with consumers and tourists (ARAC, 2017g) and other producers who arrived there (C4-IT7, 2019). Also, a video made as a product of the call (ARAC, 2017c), where the community shared the process followed and the goals achieved, was a way to diffuse their experience (ARAC, 2017f).

In general, *diffusion* was considered an opportunity to share with “people, organisations, programs, scientists what these organisations are doing and derive or replicate from this [experience] new knowledge” (C4-IT8, 2019, pp. 15-16). In particular, participants in the process considered essential the *diffusion* activities for five reasons. First, these activities made them visible (C4-IT5, 2019; C4-IT7, 2019; C4-IT8, 2019; C4-IT2, 2019). Second, the *diffusion* of these activities opened opportunities to work with other actors like students from universities (C4-IT11, 2020). Third, these activities involved new community members (C4-IT11, 2020). Fourth, the *diffusion* activities allowed them to share with other communities awarded by the public call (C4-IT11, 2020). Finally, the *diffusion* increased the recognition of the community's work around the country (C4-IT3, 2019; C4-IT8, 2019; C4-IT9, 2020) and internationally (C4-IT11, 2020; Marco's Local Adventures, 2016; Madon, 2017; C4-IT3, 2019).

Besides the results described before, they fulfilled the expectations defined by the public call. Those expectations were:

- Giving access to the Colombian people to the experiences developed to increase food production using STI (COLCIENCIAS, 2015e).
- Making interchanges between the communities awarded with the purpose of mutual strengthening based on knowledge sharing (COLCIENCIAS, 2015e).
- Experience sharing with similar organisations nearby (COLCIENCIAS, 2015e).
- Finally, systematising some of the awarded experiences to foster their diffusion process was considered (COLCIENCIAS, 2018).

It means that the community from the association enjoyed the InInIn results, and third parties also were included in some of them.

ii. Socioeconomic development

The socioeconomic development of communities who applied to this public call was identified as one of the results expected from the public call. The idea from the COLCIENCIAS team of targeting rural production organisations was to provide them with job opportunities, economic income, and social and communitarian development (COLCIENCIAS, 2015e). Besides, it was expected to increase the productivity and sustainability of these experiences (COLCIENCIAS, 2017a). In this case, these results were studied regarding those linked to social and economic development.

In terms of social development, activities from different stages in the ACC award contributed to strengthening ties between the community members (C4-IT7, 2019) and actors in the municipality. Examples of those stages that strengthened social development were voting, pre-local encounter, local encounter, and the experience's strengthening stage (see *Annex 5, Table 2*). Some examples of those activities were: developing a garden for the village's kinder-garden or offering workshops for the people in the municipality and the community members (ARAC, 2017f; ARAC, 2017g). These activities provided elements to the community to consolidate their process in three fields. First, developing their skills and qualities (ARAC, 2017g). For example, they increased their skills to discuss and argue (ARAC, 2017g) and personal decision-making. Second, understanding the relevance of working together (ARAC, 2017g). Finally, to "build a broader and more hopeful horizon for countryside's life and the associative work" (ARAC, 2017g, p. 26). Therefore, these developments contributed to the community's democratic dynamic (ARAC, 2017g).

The analysis of results linked to the economic development showed technical and management components. The community learned new technical practices from the technical component such as interpreting the soil analysis and implementing new technologies in their processes such as irrigation systems and harvesting rainwater (Vela M., 2017; ARAC, 2017g; C4-IT3, 2019). As a result, the technical improvement in their practices increased the crops production from 20% to 50%, in relation to the beginning of the strengthening experience's implementation (ARAC, 2017g). Finally, they ameliorated their post-harvest processes fostering sales at the local marketplace (Vela M., 2017).

Regarding the management component, they developed planning practices both farming (Vela M., 2017; Corporación Consorcio, 2017; C4-IT7, 2019) as well as financial (Vela M., 2017; Corporación Consorcio, 2017). They made alliances with producers from others regions to increase the local offer and variety of ARAC's products (COLCIENCIAS, 2017f; ARAC, 2017f), and also to distribute their products (C4-IT7, 2019). Besides the impact in terms of diffusion (see section 5.2.2.3.i), the upgrades and relaunch of the sales point at the municipality marketplace helped to position ARAC in the local market (Corporación Consorcio, 2017; C4-IT7, 2019; C4-IT8, 2019). Direct sales from the farms also contributed to that purpose (Corporación Consorcio, 2017). In general, the community had a positive impact on their income because of their technical and management improvements (Vela M., 2017; COLCIENCIAS, 2018; ARAC, 2017g), and they grew as a community (C4-IT8, 2019).

iii. Empowerment

In this case, empowerment was identified in two situations. The first situation describes the community perception of them, and the second one considers the effects of the actions from the public call. In the first situation, the community considered their associative process as innovative because it boosted the empowerment of their association (C4-IT3, 2019; General-Presentation, 2019). In the second situation, some of the participants in the public call considered that A Ciencia Cierta empowered the community (C4-IT11, 2020; ColciCase-IT13, 2019). This consideration was the consequence of the activities carried out that made the community feel proud. Examples of these activities were the irrigation systems' installation (Vela M., 2017) and the sales point upgrading at the local marketplace (C4-IT6, 2019). Also, sharing experiences with other communities and actions to diffuse the ARAC's experience (see section 5.2.2.3.i) "produced a comforting vision of the daily work" (ARAC, 2017f, p. 17). As a result, in some participants, those activities also fostered trust between them (C4-IT3, 2019; C4-IT4, 2019). Others suggested that the public call contributed to claiming the role of peasants as legitimate actors in the innovation realm (C4-IT11, 2020).

"All this came together: mathematics, chemistry, biology, [and] physics, and it was very tangible when you saw upon turning on your pump how the energy or the air or the slope moved our waters to irrigate the orchards. Then one says: oh my! That is [how it is]. That has a name. However, many times the peasant, in this case, for example, he does it because, for this reason. I was telling you, for me, the innovation; the resourcefulness was there, they did not bring it. It was here. Instead, it was given a shape, and they told us: "Look, that is called innovation" (C4-IT11, 2020, p. 14)

These situations, besides those achieved from the socioeconomic development, led the community to acknowledge three lessons. First, they acknowledged their capability of doing and achieving things together (ARAC, 2017g; Ardila R., 2017; Posada S., 2017). Second, these situations made them believe that they could do it, "Yes, we can" (C4-IT3, 2019; C4-IT4, 2019; C4-IT5, 2019; C4-IT6, 2019; C4-IT7, 2019; C4-IT2, 2019; C4-IT11, 2020). Finally, they were aware that the things that they were making made sense (C4-IT8, 2019).

In this analysis of community empowerment, three factors should be highlighted. First, the public call empowered the community and some of their allies, like the academia:

"It has [meant] more recognition for us academics because we can demonstrate through that recognition that things can be achieved around agroecology, in governance, in the principles of agroecology, that finally lead to a very great academic result for the new generations" (C4-IT4, 2019, p. 7).

The second factor to highlight is the alignment of these results with the activities and process considered by COLCIENCIAS in a normative stance. For example, the process of strengthening the experience was considered the main asset to empower the community (COLCIENCIAS, 2018). In light of this, the community would be empowered through public acknowledgement

(COLCIENCIAS, 2018) from other organisations, and the actors from the National System of STI (COLCIENCIAS, 2015e). And also, by the strengthening of their organisation’s skills (COLCIENCIAS, 2015d).

Finally, the empowerment achieved by the community boosted them to apply for new public calls and find new funding sources (Corporación Consorcio, 2017). Furthermore, it increased “a deep commitment to continuing betting on dignifying peasant life and the recovery of ancestral customs that care for the environment, harmonize life and show true reverence for nature” (Ardila R., 2017, p. 5).

iv. Materialities

Under the frame of this public call it was expected to systematise some of the experiences strengthened (COLCIENCIAS, 2015e) and provide technical developments to the communities (COLCIENCIAS, 2018). **Table 38** presents a systematic description of those developments found in this case.

Table 38. Materialities developed in the project

Materiality	Description
Irrigation systems	Eleven water reservoirs with capability between 15.000 and 30.000 litres were built, and in the farms without enough space eight water tanks with the capability of 2.000 litres were installed. Both reservoirs and tanks included 14 water pumps and 19 filters and sprinklers and micro-sprinklers for 18 farms (COLCIENCIAS, 2018; COLCIENCIAS, 2017f). The community members also upgraded their roofs to harvest rainwater (COLCIENCIAS, 2018). These developments increased the water quality for the Community (Corporación Consorcio, 2017).
Upgrading of the sales point at the municipality marketplace	To upgrade the sales point “several purchases to adapt the plaza point as well as clean and paint.” were made (ARAC, 2017f, p. 15). “We adapted the market point; [it was nicely done], we decorated it well typically, we bought our computer, we bought shelves, we bought chairs, coffee tables. So, we turned that site into a really attractive point for the Community. So, we put down the pencil, and now we work with computer[s], which is one of the great advantages that we had from the logistics part of marketing.” (C4-IT9, 2020, p. 6).
Soils analysis for 20 farms	The godparent contributed to doing the soil analysis of 23 lands (ARAC, 2017g; COLCIENCIAS, 2018; Universidad Nacional de Colombia, 2016).
General farming tools	The Community bought harvesting tools, equipment for post-harvesting handling and transport of products. Tools and equipment distribution were according to community members’ needs (COLCIENCIAS, 2017f; General-Presentation, 2019).
Material for diffusing the experience	The community commissioned the community’s webpage development and the first Community’s newsletter (ARAC, 2017g; Corporación Consorcio, 2017). The first newsletter was launched in July 2017 (ARAC, 2017a). Also, booklets were printed (ARAC, 2017b), and a video of the experience was done (ARAC, 2017c).

Source: Own elaboration.

v. Quality of life

Improving the community quality of life was a dimension considered in this public call. Thus, the experience to be nominated should demonstrate how it improved the community quality of life (COLCIENCIAS, 2015e; COLCIENCIAS, 2015h). Besides, the strengthening of the experience should continue improving such quality of life (COLCIENCIAS, 2018). In this case, one of the community's objectives was to improve the associated quality of life (Fernández U., 2017; ARAC, 2014). The coincidence of these objectives of COLCIENCIAS and the community was evident in the definition of the strengthening experience process objective: "Improve the quality of life of community members, consumers, and the people in general, based on strengthening the agroecological production by implementing strategies of technology, scientific and innovative qualification in the different ARAC's processes" (ARAC, 2016b).

The results of the strengthening experience process led the community members to consider that the technological ameliorations from the public call contributed to increasing their quality of life. It was because they had less physical work, more time to spend time with family, and more significant production than before raising their income (Vela M., 2017). The community also underlined the link between the income increment and the quality of life in their final report (ARAC, 2017g).

vi. Environmental sustainability

The intention of achieving results in terms of environmental sustainability was identified in the public call terms of reference. Thus, the public call attempted to obtain socioeconomic development results jointly with being agriculturally friendly with the environment (COLCIENCIAS, 2015e).

In this case, the community was aware of their impact on the environment (Vela M., 2017). This awareness became well-founded with actions like using solid waste in composting and animal feed and implementing agroecological practices to take care of the soil (Corporación Consorcio, 2017), being responsible with reforestation and doing rainwater harvesting (ColciCase-IT13, 2019). These actions were aligned with their desire of trying "to transform our region and our agriculture into agriculture that is totally kind and good with nature, where we can rescue all nature" (General-Presentation, 2019, p. 4).

5.2.2.4. Governance

Local encounters triggered the development of the governance structure to steer the strengthening of the experience (Pinzón-Camargo & Centeno, 2021) (See *Annex 5, Table 2*). Thus, the local encounter played a central role in this dimension. However, like in the previous case study, it is essential to remark that the terms of reference did not provide clear specific instructions to define the governance of these initiatives, neither did the other policy documents that support the program or the call.

The local encounter could be described as an intentional space (Pinzón-Camargo & Centeno, 2021) with two purposes. The first one was to meet both the community and their experience by actors involved in the process of strengthening the experience (COLCIENCIAS, 2015e; COLCIENCIAS, 2018). The second objective was to provide a space to "deconstruct and reconstruct the proposal, with broad participation and the dialogue between allies, the community,

the technological godparents, and other experts” (COLCIENCIAS, 2018, p. 50). The results described in this dimension will follow the same fields considered in the previous study case.

i. Governance structure

In this case, the data analysis showed two governance structures. The first structure was before the public call. It was the community’s governance that was established by a diverse set of ARAC’ members. This diversity came from the members’ origins (neo-peasant and peasants) and their backgrounds contributing to community sustainability (Vergara Gutiérrez, 2018; COLCIENCIAS, 2018). Furthermore, ARAC’s governance was featured by the community involvement, commitment, and trust between the members. Besides, the participation of associates was democratic when performing management and operational roles (C4-IT5, 2019; C4-IT7, 2019; General-Presentation, 2019; Vergara Gutiérrez, 2018), as well as in the decision-making process and the benefits produced by the association’s work (ARAC, 2015; General-Presentation, 2019). Finally, the leadership within the community was distributed (C4-IT5, 2019).

ARAC’s governance emerges from a mix of formal and informal rules. The formal rules, among other aspects, defined the administrative structure which supports ARAC’s governance. According to the articles of association, the most crucial decision-making body was the general assembly and a management board which steered it. The board had five members elected by the general assembly for one year and performed the roles of president, vice-president, board secretary, treasurer and controller (ARAC, 2014). Decisions were taken through a voting process in the general assembly, and they were mandatory (ARAC, 2014). However, their decision-making process was characterised by achieving consensus (Vergara Gutiérrez, 2018).

The informal rules settled activities such as weekly community meetings (See sections 5.2.2.2.i and *Annex 5, Table 2*). These meetings were crucial for at least four reasons. First, these meetings provided a space for getting together and for raising awareness of all situations affecting the community (General-Presentation, 2019; Vergara Gutiérrez, 2018). Second, they were the space to make contact and build relationships with new actors, like in the UniMinuto’s case (C4-IT5, 2019). Third, they contributed to building trust within the community (General-Presentation, 2019). Finally, they allowed the solving of conflicts between the members. On the latter, the community participated in workshops on conflict resolution (General-Presentation, 2019).

The second governance structure identified based on the data analysis was **the ARAC’s tentative governance**. It began its development in the frame of the **Local encounter** in March 2016. (MinCiencias, 2016b; COLCIENCIAS, 2016a). At that meeting, the community, the godparents, Corporación Consorcio and COLCIENCIAS developed **three activities**. **First**, it was the opportunity to get in touch with them and meet the experience (COLCIENCIAS, 2016a). **Second**, the strengthening plan was discussed and agreed (MinCiencias, 2016b; C4-IT7, 2019), more details about this activity would be shared in the following two sections. **Finally**, the administrative structure was defined to manage the strengthening of the experiences implementation stage (COLCIENCIAS, 2016a; C4-IT7, 2019). This administrative structure was constituted by a Community Project leader, a coordination committee, an accountant and an overseer (COLCIENCIAS, 2016a). Besides the administrative structure defined in the local

encounter, the community had organised committees that contributed to managing the project (General-Presentation, 2019; C4-IT3, 2019; C4-IT6, 2019; C4-IT7, 2019).

The coordination committee was the cornerstone to build the tentative governance across the following stages in the public call (see *Annex 5, Table 2*). This committee took decisions about planning, price quotes, purchases, contracting and investments. It also supported the project leader's activities (ColciCase-IT13, 2019). This support came from insights about the advances and requirements from the strengthening process stage (C4-IT9, 2020; ARAC, 2016b). The project leader could discuss with the other actors such as the COLCIENCIAS team, the godparents or Consorcio about the project's performance using these insights. Besides the work of this committee, Consorcio was in charge of following up the process and having first hand information, with the Community project leader, on the advances made by the community (ARAC, 2016b).

The work performed by the coordination committee was complemented by discussions in the weekly meetings developed in the ARAC's governance frame. The community project leader expressed his viewpoint about the support of these meetings in the following terms:

“These decisions are shared in the weekly meetings that the associates have as part of the ARAC arrangements. So far, this methodology has been fully complied with, receiving great support and collaboration from all partners who propose suggestions, adjustments and strategies for the situations that arise in the execution.” (ARAC, 2017f, p. 14).

These meetings provided a platform to link the coordination committee with the community (Corporación Consorcio, 2017). Thus, these meetings were the channel to bridge and align expectations from the tentative governance and the ARAC's governance. *Figure 15* attempts to describe the interplays that emerged between the two sets of governance pointed out in this section. Thus, the ring in blue depicts the community's governance, and the grey one the tentative governance. The ring in yellow represents the link made at the weekly community meetings, and the capsule in green the public call, which was a sort of an axis aligning them.

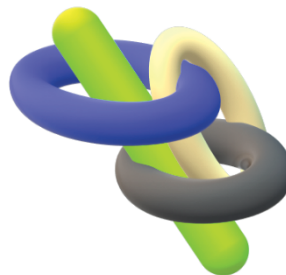


Figure 15. Governances linking.

Source: Own elaboration.

The process of settling the tentative governance and its alignment with the community was enriched by several activities developed from different sources. *Annex 6* depicts those activities and explains their contribution to the beforementioned process.

ii. Actors

The InInIn initiative involved seven actors described in *Annex 7 (Table 2)*. Among those seven actors, four of them were involved in the tentative governance of the experience: the IE trinity; the Godparents; COLCIENCIAS' team; and COLCIENCIAS' operator (COLCIENCIAS, 2018; C4-IT7, 2019).

In this case, from IE trinity's side, and two of the three actors who assembled the trinity were part of this governance. Thus, while one of them was the chair of the community, the second one was the community project leader. The **latter one was the speaker and the direct channel** between the actors in the tentative governance, the Community's governance, and the community in general.

On the Godparents side, this community had several godparents (ColciCase-IT13, 2019). It was possible to identify four of them, two from Universidad UniMinuto, one from Universidad Nacional de Colombia, and one from the Colombian Institute of Agriculture (ICA by its acronym in Spanish). Those godparents, who came from UniMinuto were old **allies** of the community. They became community godparents in the public call (C4-IT8, 2019; C4-IT5, 2019). Previous projects between them and the community built a strong tie between them (COLCIENCIAS, 2018; ARAC, 2015) and favoured the knowledge and technologies transmission (Vela M., 2017). In general, the godparents' role through the Local encounter was "simply to be there and listen and, at the appropriate moment, to be able to say: 'If you are right with this [issue], be careful with this other [issue]'" (C4-IT5, 2019, p. 17).

A third actor was *Corporación Consorcio para el Desarrollo Comunitario* (COLCIENCIAS' operator, hereinafter Consorcio). They were in charge of boosting the interplays between the community and their project leader, the COLCIENCIAS team, and the Godparents (C4-IT5, 2019), **conciliating** between them (C4-IT5, 2019), and **following up** the experience's strengthening stage (C4-IT6, 2019; ColciCase-IT13, 2019)(See *Annex 7, Table 2*). One of their working rules was to ensure respectful discussion and negotiation between the parties (C4-IT7, 2019). Both the Consorcio and Godparents were in charge of **offering support** to the community to develop the activities agreed in the Local encounter (C4-IT8, 2019) and **conciliating** between actors (C4-IT8, 2019).

Finally, it was the COLCIENCIAS team (See *Annex 7, Table 2*). They enforced the public call, supported the community along with the public call (C4-IT6, 2019), and contributed to diffusing the community experience. The community highlighted the human quality of the COLCIENCIAS team and Consorcio. It was a feature of those actors (See *Annex 7, Table 2*) and could be considered a proxy of their **empathy** with the community.

iii. Decisional process

The decisional process, in this case, was defined by three elements. First, the public call's terms of reference. It stated as mandatory for the communities awarded to be willing "to reach agreements and implement in the strengthening process the suggestions of the experts participating in the local

meeting, the technological sponsors and the COLCIENCIAS technical team” (COLCIENCIAS, 2015e, p. 7). Although this element did not define a rule to make decisions, it encouraged and reinforced the community’s participation in the decision-making process.

The second element was the role of the community in the decision-making process. Here, the community had the last word (COLCIENCIAS, 2017a). It means that they could define what they needed (C4-IT8, 2019). The third element was the community role. Although the community had the last word, it is necessary to underline also that a participatory process of dialogue featured the decision-making process to arrange the decisions (COLCIENCIAS, 2018). This participatory process was supported by using the “Chiva’s methodology” (C4-IT5, 2019) (see *Annex 6, Table 2*). In this case, and after a process of bargaining and discussion on the community proposal, the community represented by the IE trinity and COLCIENCIAS’ team agreed on four points. Those points considered the three initial targets defined in the community proposal (marketing, water management and production (COLCIENCIAS, 2016a)). The four points agreed between the actors were:

- “1. Design and execute a strategy to promote agroecological production and the consumption of organic products at the local and regional level that contributes to the sustainability of ARAC.
2. Design and implement a water harvesting system for the ARAC Association.
3. Design and implement a strategy to increase agroecological production based on planning, modernisation and knowledge of successful experiences.
4. Design and implement a plan for the social appropriation of science, technology and innovation of ARAC’s knowledge and experiences within the association and with other communities.” (COLCIENCIAS, 2016a, p. 7).

iv. Tensions

Tensions within the tentative governance emerged from three sources. The first one is the *misalignment of the actors’ expectations* and different understandings between them about, for example, what STI means and what it entails. The second source was some *activities and linked practices* defined by the public call. Finally, some *interplays in the community’s governance* worked as a source of tensions affecting the actors involved in the tentative governance. These three sets of tension will be explained below.

Expectations’ misalignment

The first source of tensions appeared in the Local encounter stage. In this stage, the misalignment of expectations between the COLCIENCIAS team and the community was identified (C4-IT7, 2019; C4-IT5, 2019). Thus, while the main interest from the COLCIENCIAS team was the social appropriation of STI, the Communities concern was to attend to their needs (C4-IT7, 2019). The Consorcio’s role as **conciliator** in this misalignment was essential. They were focused on finding the balance between the parts (C4-IT7, 2019). It is important to remark that according to an

interviewee, this tension did not happen exclusively in the Local encounter but across other projects. Therefore, the role of Consorcio as **conciliator** was necessary through the project (C4-IT7, 2019).

Apparently, one of the most common expressions of this misalignment between COLCIENCIAS team and the communities were physical infrastructure activities. Thus, in those cases where the community was looking to address a necessity of infrastructure, and COLCIENCIAS' team rejected it, Consorcio was looking for a solution in terms of "Yes infrastructure with appropriation" (C4-IT7, 2019, p. 12). The mediation process allowed the alignment of actors' expectations and the achievement of agreements between them. However, it required that both parts tempered their expectations (C4-IT7, 2019). This misalignment, in terms of physical infrastructure, was identified in this case. **Box 1** describes the discussion around this topic.

Box 1 allows me to introduce the second expression of misalignment identified in this case. It is about the understanding of the meaning of STI on the part of each actor. For example, one of the statements from the proceedings quoted in that Box points out how the community understands STI from the social sciences. In particular, the misalignment was about the ARAC's proposal. Thus, while the COLCIENCIAS team considered that the proposal was a social bet, the Community project leader underlined that even if it was a social proposal, it featured science and technology (C4-IT6, 2019).

"They (MinCencias) said that this is not scientific or technological, but it is a social bet, and I said, "wait a moment because there is science and technology too". [One thing] is that it is not the kind of technologies, let us say, those that we are used to, but the social technologies exist, and the social paradigms are different and there [are] ways of working that break certain schemas, and it is our bet" (C4-IT6, 2019, pp. 3-4).

The discussion about the proposal's features between the Community project leader, with the support of the godparents, and COLCIENCIAS' team, led COLCIENCIAS' team to increase their scope of understanding of STI. One interviewee stated about COLCIENCIAS' team:

"I feel that the horizon has broadened, they said: 'hey, that can also be, and it can also be from social science'" (C4-IT6, 2019, p. 4).

It is essential to draw the attention of the actors involved in the misalignments. So far, those between the community and the COLCIENCIAS team have been highlighted. However, the misalignment also happened between the community and the Godparents (COLCIENCIAS, 2016a). For example, in a discussion about water management. Thus, while the community's proposal considered treating grey waters and building water reservoirs, the godparents suggested focusing on water reservoirs and harvesting (COLCIENCIAS, 2016a). The COLCIENCIAS team suggested experiences from other ACC public calls as alternatives (COLCIENCIAS, 2016a). The godparents offered their help to talk with experts on reservoirs building and identifying the best solution for the Community (COLCIENCIAS, 2016a).

Box 1. A Discussion about local market sales point

The discussion around the necessity of improving the local sales point infrastructure defined by the community and the COLCIENCIAS team was identified in the proceedings of that meeting:

“1. COLCIENCIAS asks what the strengthening of commercialisation consists of, which cannot simply be [about] infrastructure; it has to be related to science, technology and innovation. The organisation says that its objective is fair trade and the consumption of organic products. The marketplace is discredited; they want to create a better place in the marketplace for people to point to organic consumption in agroecology; that’s where the innovation [lies]. The fences are to be able to leave all the equipment and promotional material of agroecology there. Besides, people seeing the products invitation to start sowing in the same way. Selling makes the agroecological project viable and sustainable. *The reference that they take from science and technology concerning the consumer is from the social sciences*; they are not in the mass media, more in voice to voice. The food it provides is healthy, handled with clean water, clean, healthy crops and that scientifically, it gives a better quality of life, for example, to sick people who come to look for it.” (COLCIENCIAS, 2016a, p. 3). (Italics added).

Consorcio was in charge of mediating this disagreement (C4-IT5, 2019; C4-IT7, 2019). Next, they open the floor to discuss the arguments from each part (the Community project leader and the COLCIENCIAS’ team) (C4-IT5, 2019) by using the Chiva’s methodology (C4-IT5, 2019). According to one interviewee, in this discussion, the “Chiva’s” methodology was used by the Community’s project leader to **frame** the disagreement with the COLCIENCIAS understanding of the strengthening process (C4-IT6, 2019).

“They said: ‘we are doing this, and we are moving forward, and if you are not here, we have to continue with this, and you can get off the bus.’ So on the La Chiva route that COLCIENCIAS brought, ‘you are the ones getting off, it is not us.’” (C4-IT5, 2019, p. 17).

The Godparents started supporting the community’s position. They framed their intervention based on previous research results with the Community (COLCIENCIAS, 2016a). Furthermore, they argued the advantages of upgrading the sales point at the local marketplace, like diminishing the ecological footprint (COLCIENCIAS, 2016a). Besides, a new godparent from the Universidad Nacional also supported the Community proposal (COLCIENCIAS, 2016a).

The parties achieved agreements from the dialogue between them (C4-IT6, 2019). Furthermore, the mix of the necessity defined by the community and the inclusion of the social appropriation of STI component featured those agreements (C4-IT7, 2019). Finally, the strengthening of the local market sales point was accepted with some changes. Those changes were oriented to use the sales point as a space to diffuse the agroecology advantages to the community members and the public in general (C4-IT7, 2019).

Source: Own elaboration.

Public call activities and practices

The second source of tensions in the tentative governance were some activities defined by the public call. The first one was the **overcharge of administrative procedures**. Community participants pointed out the excessive administrative burden to fulfil the public call requirements (C4-IT2, 2019; C4-IT3, 2019; C4-IT6, 2019; C4-IT11, 2020). They suggested that those administrative requirements were not in line with the peasants' skills. These administrative requirements were addressed because of the mix between neo-peasants and peasants, which featured ARAC. Thus, neo-peasant members were in charge of the administrative procedures (C4-IT2, 2019; C4-IT3, 2019; C4-IT6, 2019).

The second kind of activities that produced tensions in the tentative governance arose from the **time frame to implement the activities** defined in the local encounter. The community pointed out that the public call did not allocate enough time to implement all the activities planned in the local encounter (C4-IT2, 2019). Because of that, it was necessary to extend the implementing period by two months (ARAC, 2017d).

Finally, even if it was not directly defined in the public call, the interaction with some of the actors from the public call did not last more than one year after the project commenced. An interviewee suggested that it could have been interesting to have at least two visits in the year to keep in touch with the actors (C4-IT11, 2020).

Community's governance interplays

The last source of tensions originated from some interplays in the community. In that case, a community member was hindering the public call process, by making noise among the community and with other actors (C4-IT7, 2019; C4-IT11, 2020). For instance, according to an interviewee, the community member requested an appointment with the COLCIENCIAS' team. In that meeting, she "said she was not going to speak badly of the organisation, but deep down she was" (C4-IT7, 2019, p. 4). Others described how she browbeat the community by calling the national surveillance authorities to investigate the community (C4-IT11, 2020).

The noise mentioned is understood to be the result of mistrust between the actors (C4-IT7, 2019). According to an interviewee, this community member had severe problems in interacting with the community (C4-IT6, 2019). The disagreements with this community member led to the change of the organisation's chair (C4-IT6, 2019) and the postponement of the local encounter (C4-IT7, 2019).

The community managed the situation with this member by allowing her participation but ignoring her in the decision-making process (C4-IT6, 2019; C4-IT7, 2019; C4-IT11, 2020). By coincidence, the member had also fallen behind with her financial responsibilities with the community. This paved the way for them to make decisions without her vote because of the rules defined in the articles of association of the community (C4-IT11, 2020). Also, changing the chair of the organisation allowed the new president, who was the peasant from the IE Trinity, to block email requests from this member using the following argument to justify his actions:

"I do not have [an] email [account]. I do not know how it works" (C4-IT6, 2019, p. 13).

As the days passed, this member “did not come back to the Community, and we [continued along] our path” (C4-IT11, 2020, p. 10).

5.2.2.5. *Spaces*

This case showed four types of spaces. The first type was the **contextual space** composed of two layers. The first layer was defined at the **national level**, and it was included in the public call’s terms of reference. In line with this, at the national level the spaces that delimited the kind of communities that could apply to the call were defined (COLCIENCIAS, 2015e). These spaces comprised the work of rural areas and communities to guarantee their food safety. The communities’ context was also a central element to better understand their necessities and offer the most appropriate support (COLCIENCIAS, 2018).

The second layer was identified at the **micro-level**. This level is focused on where the experience was strengthened by the public call, and it has two variables. The first variable is the features of the dominant setting described in Chapter Three. The second variable is linked with the experience’s characteristics. In this case, the experience to be strengthened was the Asociación Red Agroecológica Campesina (ARAC, by its acronym in Spanish). It was an agroecological community that specialised in vegetables and aromatic plants. Regarding the livestock, they produced eggs and some dairy products (Acevedo-Osorio & Angarita Leiton, 2013). It was integrated by peasants and neo-peasants (MinCiencias, 2016b), who considered the association a family (C4-IT11, 2020). According to an interviewee, ARAC was born as the social answer to environmental, economic and food safety problems in their region (C4-IT11, 2020).

The **second space** studied in this case was the **physical** dimension of the call. In this sense, the public call was designed to find communities from villages, and municipalities anywhere in the country (COLCIENCIAS, 2015e). For example, ARAC works in the municipality of Subachoque. This municipality is near to the main capital city of Colombia, Bogotá D. C. The distance between the two places is around 45 kilometres (Acevedo-Osorio & Angarita Leiton, 2013). Subachoque is a dry mountainous forest region, with an altitude between 2.640 and 2.958 m.a.s.l. (Acevedo-Osorio & Angarita Leiton, 2013). ARAC is mainly settled in La Pradera and El Valle villages in the municipality of Subachoque (MinCiencias, 2016b). However, their members are distributed along eight or nine villages in the municipality (C4-IT3, 2019). Most of their farms have areas around 0,65 hectares (Acevedo-Osorio & Angarita Leiton, 2013).

The **virtual space** was crucial to develop the public call. Several activities between the communities, COLCIENCIAS’ team, COLCIENCIAS’ operator and other actors were conducted virtually. (COLCIENCIAS, 2015e). In this case, the public call triggered the community to use social networks to spread their experience to obtain votes for the National voting period stage and find support (C4-IT11, 2020). It was identified that the actors who took part in the public call, namely COLCIENCIAS’ team and Consorcio, provided support by telephone and virtually (ColciCase-IT13, 2019).

Finally, a **sectorial dimension of the space** was identified. Thus, the agricultural sector was the target in this public call (COLCIENCIAS, 2015e; COLCIENCIAS, 2017a). The features and development of the case showed the alignment of ARAC with the target defined by the public call.

5.2.2.6. *Knowledge*

Two subdimensions shape the *knowledge* dimension. The first subdimension refers to the types of knowledge included in the InInIn. In this case, three types of knowledge were identified. The second subdimension looks for describing the interplays between the different types of knowledge identified.

i. Types of knowledge

This case shows three different types of knowledge. The first type of knowledge emerged from the community and its practices. The second came mainly from the Godparents. Finally, the public call procedures and the COLCIENCIAS appropriation team, Consorcio, and Falla and Valencia, contributed with managerial knowledge (See *Annex 7*). These three types of knowledge are described below.

Community knowledge

The *community knowledge* was derived from traditional (C4-IT7, 2019) and ancestral knowledge from peasants. It was acknowledged as a source “to protect the environment, harmonize life, and show a real reverence for nature” (Ardila R., 2017, p. 5). This knowledge was developed around agroecological practices, which were focused on:

“integrating the scientific and traditional knowledge of farmers in search for the improvement of agricultural productivity in environmentally stable agroecosystems, providing economic support to the rural family, allowing equal access to resources and opportunities in the market, and strengthening local forms of peasant organisation and participation in order to ensure decent lifestyles for families, rural communities, and society in general” (translation) (Acevedo-Osorio & Angarita Leiton, 2013, p. 16).

The community knowledge was characterised by a mix of knowledge sources which also depicted the community members’ plurality. Thus, while some of them were peasants from Subachoque, others were retired professionals from Bogotá, and others were young people who had moved to Subachoque looking for a more tranquil lifestyle than the one from the city (Vergara Gutiérrez, 2018). In building the community knowledge, the weekly meetings were crucial spaces for knowledge sharing between the associates (C4-IT6, 2019).

Scientific, academic, and technological knowledge

The *Scientific, Academic, and technological knowledge* came mainly from the godparents. In this case, they were part of the experience strengthening process (ARAC, 2015; C4-IT11, 2020). Knowledge from actors like the COLCIENCIAS’ chair, who was an astrophysicist (C4-IT6, 2019), also contributed to nurturing this type of knowledge. Regarding the relationship between the community and scientific knowledge, one interviewee considered it implicit in the community before the public call. However, the call helped them realise the scientific practices already implemented (C4-IT11, 2020). For example, technological knowledge was identified in the community learning process. This knowledge was linked to how devices implemented in the

strengthening process worked, such as pumps in the irrigation systems (C4-IT11, 2020). But also, in the community production of devices such as the fertirrigation (ColciCase-IT13, 2019).

Managerial knowledge

The last type of knowledge identified in this case was *managerial knowledge*. This kind of knowledge came from the procedures defined in the public call (C4-IT7, 2019). For example, the application of the “Chiva’s” methodology (See *Annex 6, Table 2*) by Consorcio (C4-IT7, 2019) contributed to developing this knowledge. Besides, alliances with third parties by Consorcio contributed to bringing accounting knowledge to the community to improve their skills (C4-IT7, 2019). This was the case of the accountancy company Valencia and Falla. They supported the community in this field (See *Annex 7*).

ii. Knowledge practices

Like in the dimension **spaces**, the knowledge practice showed two layers. The first layer was shaped by practices promoted by the public call and linked to the use of knowledge. The second layer was the practices that effectively appear in the implementation process of the public call. These layers will be described below.

First layer: Knowledge practices aimed by the public call

The public call was done in the frame of the National Strategy of Social Appropriation of Science, Technology, and Innovation of 2010. In such a frame, in the public call, practices of using appropriation of scientific and technological knowledge by the communities were expected (COLCIENCIAS, 2015e). Practices of sharing and replicating were also expected (COLCIENCIAS, 2015e; COLCIENCIAS, 2015h; COLCIENCIAS, 2018). The emergence or development of the beforementioned practices should arise from processes of mutual respect and knowledge dialogue (COLCIENCIAS, 2015d), and collective creation (COLCIENCIAS, 2015h). Thus, these processes were considered the centrepiece in the public call (COLCIENCIAS, 2018), and it had the purpose, besides allowing the emergence of the practices mentioned, of promoting a “concrete transformation of agricultural production conditions and environmental sustainability” (COLCIENCIAS, 2018, p. 108). As a result, the public call aimed to contribute to strengthening the community’s empirical knowledge, “a better understating about the why of the things that they already knew in a practical way” (COLCIENCIAS, 2017a, Min: 2:14).

Second layer: Knowledge practices identified in the case

This second layer showed an alignment with the first one regarding the importance of knowledge-dialogue practice. This practice was understood as a process between actors which had a clear intention of solving a concrete concern or problem (C4-IT5, 2019). This knowledge-dialogue was present in the community as common practice and between the community and other actors involved in the public call implementation.

Inside the community, the knowledge-dialogue emerged from knowledge sharing between peasants and neo-peasants. Through this approach, the peasants shared their knowledge, and neo-peasants were eager to learn from the peasants and understand how to live and practice agriculture

together (C4-IT5, 2019). Thus, although the relationship between peasants and neo-peasants could be imbalanced, neo-peasants also contributed to the community's development. Thus, peasants shared their knowledge about their territory (Vergara Gutiérrez, 2018) and how to sow crops. In turn, the neo-peasants contributed with their knowledge of management (COLCIENCIAS, 2018; C4-IT7, 2019), their skills to search the internet (COLCIENCIAS, 2018), and to find and apply for public calls (General-Presentation, 2019).

“In other words, each one could give and receive, and [share] their knowledge and take the issue of agroecology seriously, thinking of it as a way of life and not merely as something to produce and sell.” (C4-IT7, 2019, p. 2).

In this process of sharing knowledge, the **humility** of each partner (peasants and neo-peasants) (C4-IT7, 2019), **solidarity** between them (COLCIENCIAS, 2018), and **reciprocity** in the learning process were essential (Posada S., 2017).

“That is why the valuable thing [is] that here in the association nobody is more or less [than the other]. I can write a letter on the computer, but I do not know how to get a Creole potato, there if I have to ask: How is this sown? What do you put [in it]? What is taken away? How long does it last?” (C4-IT11, 2020, p. 4).

The diversity of their members enriched the organisational learning process, and it was a valuable asset to this organisation (General-Presentation, 2019). Two situations illustrated this feature. First, in the local encounter, the community project leader and the speaker with the other actors involved were a neo-peasant (one of IE's trinity) (C4-IT5, 2019). Second, having a neo-peasant as member was handy to solve the tension arising from the administrative burden from the public call procedures (C4-IT3, 2019) (See section 5.2.2.4.iv).

As mentioned, knowledge-dialogue also formed part of the interplays between the community and other actors involved in the public call. Evidence of knowledge-dialogue taking place was identified in the interplays between the community and professors from Universidad UniMinuto (ARAC, 2015; C4-IT5, 2019), other communities (C4-IT11, 2020), and the COLCIENCIAS team. For example, an interviewee referred to an interplay between one of the peasants from the community (one of the IE's trinity) (C4-IT6, 2019) and the COLCIENCIAS chair.

“A Doctor of Astrophysics with the wise peasant, it is like an impressive validation of knowledge. It is like a recognition of the work of the one and of the other, and it seems to me that this is something, that may not be so tangible, but that is something to be pride for a community that is capable of recognising that.” (C4-IT6, 2019, p. 8).

Consortio played a crucial role in enabling knowledge-dialogue between the COLCIENCIAS team and the community. This role was supported by using the “Chiva's” methodology (C4-IT7, 2019) produced the plan to strengthen the ARAC's experience and the agreement between the actors in such a plan (C4-IT7, 2019). In these interplays between the community and other actors

involved in the public call, field formats were relevant to apply the theory to the practice (C4-IT11, 2020). However, it is necessary to note that knowledge-dialogue was not always smooth. The different understandings about what STI meant in the community process brought tensions about the expectations between the actors involved in the local encounter (See section 5.2.2.4.iv).

Besides knowledge-dialogue, and other practices linked with the knowledge were identified in this case. Some of them were managerial and other scientific. In the first case, the community began processes of internal dialogue and information sharing. According to an interviewee, those processes became more systematic and virtual by using mobile apps like WhatsApp (Vela M., 2017). In these processes, the weekly meetings were crucial (C4-IT6, 2019). An interviewee underlined, “it is [being] a marvellous space of learning” (C4-IT5, 2019, p. 23). In the second case, the community considered their farms were being used as places to experiment: to “plan the processes, analyse, make conclusions, prove, validate and share with others what is working and what is not” (Vela M., 2017, p. 18).

5.2.3. Case 3: Alternative food for young and old people in the Cajamarca municipality –A Ciencia Cierta Program 2015

Like in case 2, *Figure 16* shows governance and knowledge dimensions as sources of tensions. In this case, the **governance dimension** showed three types of tensions. Among them, the differences between the IEs and the godparents were salient. These differences are explained because of the APACRA’s



Title: APACRA’s Local Encounter

Photo: A Ciencia Cierta Website (MinCencias, 2017a)

enclosed profile (See Chapter 4), and they led to the godparents having a marginal role in the tentative’s governance. As mentioned, the **knowledge dimension** also showed tensions. Those tensions that emerged again between the IEs and the godparents are described in *Box 2* at the end of this case section. These tensions produced two effects. On the one hand, APACRA realised the importance of external knowledge to nurturing its path; and on the other, both actors achieved mutual learning.

The other four dimensions did not exhibit tension like in the two previous ones. However, they have elements to highlight. Thus, the **inputs dimension** was shaped by three types of inputs. The community’s needs were comprised, in turn, for three critical areas that required improvement. The **involvement dimension** showed two elements. First, before the ACC award, the involvement dimension was already an association’s feature, and second, how, through the award’s

implementation, the community was committed to all the InInIn stages. The **results' dimension** describes six types of results. Among them, two elements are highlighted. First, the APACRA's empowerment, mainly in relation to the role of women and the importance of environmental sustainability. Second, the APACRA's interest in involving third parties in enjoying the results of its work. Finally, the **space dimension** identifies three **types of spaces** (physical, contextual, and virtual) that intervened in the InInIn's development.

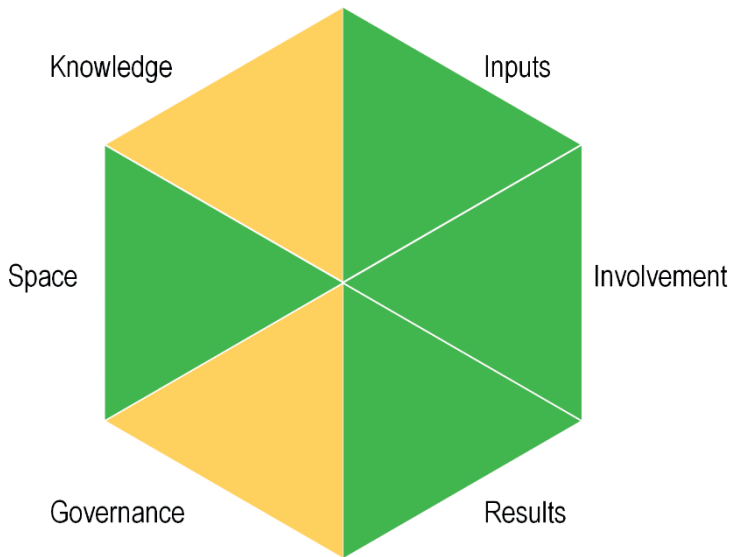


Figure 16. Case 3: InIn-Radar Results.

Source: Own elaboration.

5.2.3.1. *Inputs*

This initiative has **three types of inputs**. The first one is **the community's experience**, not only in developing APACRA but in implementing the agroecological approach in their farming and production practices (Báez C. E., 2015). The second type of input was **financial**. In the frame of the ACC award, APACRA contributed COP 30.200.000 (APACRA, 2016b; COLCIENCIAS, 2016g) and COLCIENCIAS COP 50.000.000 (COLCIENCIAS, 2016b; COLCIENCIAS, 2017e).

Finally, the third input was **organisation's needs**. Those needs were included as part of the budget execution plan (COLCIENCIAS, 2015f). The IEs defined three critical areas to improve using the ACC award. Those areas were strengthening raw materials production, regulatory compliance, and marketing activities (Báez C. E., 2015). The first area to strengthen was water management, seeds conservation, and soil quality (Báez C. E., 2015). The second critical area required the upgrade of the food transformation infrastructure, and the third one required technical advice and resources to improve the sales points (Báez C. E., 2015). According to one APACRA associate, their needs were taken into account by the ACC award:

“It has been an important process for the organisation since they allowed us to carry out the activities that the organisation really needed in the principal axes [which is where] the organisation was weak and [where] we, therefore, wanted a bit [more] progress.” (Consortio-dit, 2017, Min. 02:31).

5.2.3.2. *Involvement*

The community involved in the ACC award was the Association of Agroecological Producers of the Anaime River Basin (APACRA by its acronym in Spanish). This association was constituted by 14 families and had a membership of 50 persons in total (APACRA, 2015b). In this association 62% of the participants were women and 38% men (Corporación Consorcio, 2017). APACRA's associates were defined in the following way:

“All of them were humble, all of them [were] peasants, [who were] dedicated to their work, focused on their work, but all of us have the same concept, the same, like love for the earth and nature, it is a big love, it is well-founded, all of them are clear that this is not [meant to be broken apart], but to take care of it” (C5-IT3, 2019, p. 16).

The analysis of the organisation's involvement in the inclusive innovation initiative can be studied in two stages. The first one focuses on the practices and activities of this organisation before the ACC award. The second describes events, actions, and situations that happened in the frame of such an award. The analysis of these two phases contributed to contrasting and identifying changes regarding the community's involvement.

i. Involvement as a pre-existing community feature

After a training process offered by the NGO “Semillas de Agua”, the organisation emerged. According to the IE, the training fostered the constitution of APACRA. However, from 45 leaders who undertook the training from “Semillas de Agua”, only 15 decided to continue with the process of funding APACRA (APACRA, 2015b).

The 15 members who funded APACRA adopted agroecological practices as a lifestyle for them and their families (APACRA, 2015b). In this process, the **role of women was crucial because they were considered innovators** (APACRA, 2015b). In this association, while the women “were in charge of researching and developing products, the men were in charge of producing organic raw material. The association was in charge of commercialising the products” (APACRA, 2015b, p. 3). However, claiming the women's role was a long-term process (C5-IT1-P1, 2019) where it was necessary to involve professionals in gender equity (C5-IT1-P1, 2019).

Two features contribute to describing the organisational involvement of the APACRA's members. The first feature is linked to the activities implemented by the IE to involve the associates. For example, they organised joint activities implemented to foster the path-transformative process, like *mingas* or monthly meetings (APACRA, 2015b). Furthermore, these activities allowed knowledge sharing between the associates about the production processes (Corporación Consorcio, 2017), and they were characterised by working based on open and honest discussion between the associates

(C5-IT1-P1, 2019). An illustrative example of such activities was the building process of the articles of association.

“These statutes have one particularity, and that is that they are not copies of existing ones. They result from almost two years of work drafting and debating article by article until we determine a law that will adapt to each of our dreams” (APACRA, 2016c, p. 52).

The second feature was the decision-making process inside the association. The decisions are made in consensus, with a high level of trust, respect, and a sense of belonging between the associates (Corporación Consorcio, 2017).

ii. Community Involvement through the development of the public call

Regarding the involvement of the APACRA’s associates along the process of implementing the ACC award, they showed their commitment to strengthen the association (Corporación Consorcio, 2017; Corporación Consorcio, 2016a). The associates kept their consensual and participatory decision-making process (APACRA, 2016c; C5-IT5, 2019), and their participation in the activities agreed to implement the ACC award (APACRA, 2016c; C5-IT5, 2019). Examples of those activities were the *mingas* (APACRA, 2016c), training (APACRA, 2017), workshops and meetings (APACRA, 2017). An interviewee illustrated the associates’ involvement regarding the Local Encounter in the following terms:

“1: How was that experience?

2: Very nice because, for example, we planned activities for the first time with Mrs Gloria and other officials who came; and a timeline, we had not done that, with a timeline that we then put in 19XX How were we? and looking at the board where we had arrived, and one already begins to say, “look at everything we have done”. One believes that no one has not done anything. All the partners participated in the planning of the activities.

1: 15?

2: Yes, and then everyone [shared] ideas and things “let us not do this, let us do that”. The association was strengthened internally with this exercise because the work was ours in other cases. One is already going to execute the activities or buy the machinery or, yes, to carry out the proposed activities. However, we had to do a program of activities, then they at once launched “no, we [have strengths here], we are weak [there] so let us do this one”, and it was very interesting, very nice.” (C5-IT3, 2019, p. 11).

However, it is essential to highlight that the association did not have all the full participation from all the members in all the activities. For example, according to the meetings proceedings, in some cases, not all of them attended the activities planned (APACRA, 2016c).

As a consequence of the organisation's involvement, the association was strengthened (COLCIENCIAS, 2017e). This was made possible by the "recognition of the associates' contributions, responsibilities assignment and roles. This has meant a higher degree of cooperation, a sense of belonging and active participation in the organisation's activities" (Corporación Consorcio, 2017, p. 126). This feature allowed them to know and develop a sense of ownership of the knowledge from activities like soils improvement, systems irrigation implementation (APACRA, 2017), and researching the causes of the Chachafruto disease (APACRA, 2017).

5.2.3.3. *Results*

This case shows six different types of results. Most of the elements in those results were not new to APACRA. Instead, those results should be considered as strengthening inputs due to the Inclusive Innovation Initiative (ACC Award). Among them, it was the salient empowerment of the APACRA, mainly of women, and the great attention given to environmental sustainability.

i. Diffusion

The data analysis shows four types of actions that contributed to the diffusion's process of the vision of change introduced by the IEs and the results achieved under the ACC award frame. The first type of actions was to do with those carried out by APACRA before the ACC award. As a result, the organisation gained the acknowledgement from its community (APACRA, 2015b). However, the IEs were looking to strengthen this acknowledgement as part of fostering the path-transformative process. Therefore, they defined it as one of the expected results from the ACC award to publicise Cajamarca as a gastronomical and tourism place based on their products (Báez C. E., 2015).

The second activity that supported the diffusion of the inclusive innovation initiative and its results was a process of knowledge sharing with other actors. Thus, the interest in spreading the results to other communities was clearly on the part of COLCIENCIAS. Therefore, some agreements between COLCIENCIAS and APACRA were focused on guaranteeing the knowledge sharing of their experience with other communities (COLCIENCIAS, 2016b). These agreements were fulfilled with a knowledge interchange process that APACRA did with the Chorros Blancos' association from the Bermellon river basin (Consorcio-dit, 2017). This activity was led by the IE (APACRA, 2017) and contributed to strengthening the organisational, marketing and production areas of the Chorros Blancos' association (APACRA, 2017). This knowledge sharing process with other organisations also included some of the winners of the ACC award in other regions of Colombia like ARAC (C5-IT1-P1, 2019). Besides, meetings with universities and professors from other regions increased the APACRA's networking capacity (C5-IT1-P1, 2019; C5-IT5, 2019) and the diffusion of the inclusive innovation initiative and their results.

The third activity to diffuse the inclusive innovation initiative was focused on strengthening the awareness raising that APACRA had begun with its consumers. In doing so, APACRA informed its consumers about the relevance of a healthy diet and of taking care of the environment. The ACC award contributed to strengthening this awareness (C5-IT5, 2019), increasing the diffusion of the APACRA's vision of change and the inclusive innovation initiative.

Finally, an additional activity contributing to diffusing the results was the video production of the inclusive innovation initiative. It was presented at the end of the initiative to summarise the results achieved under the ACC award frame (Consortio-dit, 2017). This video supported the diffusion of the ACC award's results and the path-transformative process of APACRA (C5-IT1-P1, 2019).

ii. Socio-economic development

The ACC award, along with the IE, contributed to strengthening the APACRA's social fabric. It was done by the responsibilities and roles assigned between the associates to implement the inclusive innovation initiative (Corporación Consortio, 2017). Also, meetings, workshops and joint activities between the associates (APACRA, 2017) fostering the associates' involvement, empowerment and participation (See sections 5.2.3.2.ii and 5.2.3.3.iii).

These activities and the associates' participation allowed the enhancement of their knowledge and skills in topics like irrigation systems, soils analysis and how to take care of them, and the biological control as part of the agroecological practices (APACRA, 2017). These elements positively affected their farms' productivity; raw materials production was increased periodically (MinCiencias, 2017b). The final report presented by APACRA to COLCIENCIAS pointed out that the productivity of raw material had an increase of 50% (Consortio-dit, 2017). Processed products, new commercialisation channels, and sales also had an increase (APACRA, 2017).

In general, the association's productivity had a 50% increase because of the improvements in the productive systems, sales (Corporación Consortio, 2017; APACRA, 2017), marketing (APACRA, 2017), and the acquisition of the sanitary licenses from INVIMA (APACRA, 2017). In addition, a result of the strengthening of the APACRA's social fabric is the increase in the associates' participation and their attitude towards taking risks.

“1: What things do you think changed after the work done with COLCIENCIAS in the organisation I mean, or did it not change anything?”

2: No, yes, of course, many things changed, the participation changed, people participate a lot [now], this changed. Let us say, that passive attitude ... of not taking risks [changed]. Yes? Sometimes, one says “... that there is a proposal to do such a thing” “[well], let us not get involved to waste time”, right? Now it is more like “let us make sure something comes out”, that is, we lost our fear of participating. Well, [that is how] I see it right now, [I'm] thinking that is how people open up more.” (C5-IT3, 2019, p. 14).

iii. Empowerment

APACRA was an empowered association. It was depicted in their participation in the popular consultation process and the linked activities, and how they claimed the role of women peasants (C5-IT1-P1, 2019). An interviewee suggested that APACRA was a matriarchal organisation because, despite men's participation, the decision-makers were women (C5-IT4, 2019). Thus, they were empowered women (C5-IT1-P1, 2019).

“They (women) are the ones who rule, men, carry, but women are transformers. They are women who want to develop, they are women who you notice that they are the ones who want to improve the quality of their children’s lives, they are very concerned about that. [Are they not?” (C5-IT4, 2019, pp. 13-14).

The work implemented in the ACC award frame strengthened the APACRA’s empowerment. It was done by increasing its leadership capability (Corporación Consorcio, 2017). This improvement of the leadership contributed to the association’s internal development and magnified its impact in their region (APACRA, 2015b). Furthermore, as part of this empowerment, the IEs contributed to fostering the associates’ participation both in the decision-making process and in the activities to implement the agreements settled with COLCIENCIAS (See section 5.2.3.2). In this vein, the ACC award boosted the associates’ participation and changed their risk-averse mindset. “The fear to participate was lost” (C5-IT3, 2019, p. 14). For example, an illustrative action of APACRA’s empowerment was the process that they did to find new godparents to support the inclusive innovation initiative implementation (ColciCase-IT13, 2019). An interviewee affirmed that “They (women) gave us a lesson on how the same organisations can get new godparents” (C5-IT5, 2019, p. 13).

iv. Materialities

The analysis of the inclusive innovation initiative in the ACC award frame unveils at least eight different products or materials (See **Table 39**). Those materials contributed to serve the community’s needs.

Table 39. Materialities developed in the project

Materiality	Description
Sanitary licenses	APACRA needed these licenses to sell their products and access other market niches (Báez C. E., 2015; C5-IT1-P1, 2019). The sanitary body of Colombia (INVIMA for its acronym in Spanish) was in charge of checking the compliance of the regulatory requirements to give the license. Sanitary licenses were obtained for snacks, yogurt and delicacy (Corporación Consorcio, 2017; APACRA, 2016c; APACRA, 2017; COLCIENCIAS, 2017e; COLCIENCIAS, 2018).
Eleven soil studies	After the Local Encounter, the association agreed to conduct some soils studies to verify the soil quality and identify room for improvement in their conditions by implementing fertilisations plans (COLCIENCIAS, 2016g; COLCIENCIAS, 2015f; COLCIENCIAS, 2015g; APACRA, 2016c; APACRA, 2017; COLCIENCIAS, 2017e).
Chachafruto’s disease control management plan	The organisation identified problems to control a disease affecting the Chachafruto’s crops (APACRA, 2017). They decided to research with the godparents to identify the causes and build a management plan to control the disease (COLCIENCIAS, 2016g; COLCIENCIAS, 2015g; APACRA, 2017; COLCIENCIAS, 2018).

Table 39. Continued

Materiality	Description
Irrigation systems	Water management was also a concern for the association (COLCIENCIAS, 2016g). In this regard with the godparents' support and some associates built low-cost irrigation systems (APACRA, 2017; MinCiencias, 2017b; C5-IT1-P1, 2019; C5-IT3, 2019; APACRA, 2016c). Eleven farms benefited from the installation of such systems (Corporación Consorcio, 2017; COLCIENCIAS, 2015g; APACRA, 2017; COLCIENCIAS, 2017e).
Physic-chemical analysis and microbiological (Análisis Bromotológico)	The regulatory compliance to get the sanitary license required several studies to bring the information requested for the regulatory body. Those studies were carried out with the ACC award's support (COLCIENCIAS, 2015f; COLCIENCIAS, 2015g). In this process, the IE acknowledged the support from Consorcio to find the lab to do the analysis (C5-IT1-P1, 2019).
Equipment and infrastructure	APACRA had to buy equipment for products transformation (COLCIENCIAS, 2015f; C5-IT4, 2019). These purchases were needed for improving the production infrastructure to achieve the regulatory compliance requested by INVIMA (APACRA, 2016c; APACRA, 2017). As a result, the infrastructure was improved with the same objective (APACRA, 2017; C5-IT3, 2019). An example of that equipment was a machine to process snacks (COLCIENCIAS, 2017e; COLCIENCIAS, 2018).
Marketing improvements	To support the adjustment of labels, packages, sales points, and other mechanisms of marketing to boost selected products were agreed (COLCIENCIAS, 2015f; COLCIENCIAS, 2015g; APACRA, 2017; C5-IT4, 2019).
Video	In section i the request of producing a video to diffuse the results of implementing the ACC award were described (COLCIENCIAS, 2015f).

Source: Own elaboration.

v. *Quality of life*

The ACC award fostered improvements in the association's quality of life and third parties like its consumers. From the association's perspective, the initiative nominated to the ACC award aimed at "positioning in the market a diet that fulfilled nutritional requirements for the population, friendly with the environment and economically feasible for producers and consumers" (APACRA, 2017, p. 5). This objective was aligned with the IE's vision of change (see Chapter 4), and therefore with the idea of following agroecological practices as a lifestyle and thus access to healthy food (APACRA, 2015b). In this lifestyle, the ACC award contributed to improving the APACRA's associates soil quality. This improvement, in turn, had a positive effect on the crops used by the association for their consumption and market purposes (APACRA, 2017). From the consumers perspective, the association was concerned about improving their and the consumers' quality of life. In light of this, APACRA tried to make their consumers aware about the relevance of eating healthy (C5-IT5, 2019).

vi. *Environmental sustainability*

The association's concerns and awareness of the relevance of taking care of the environment existed before the ACC award (Corporación Consorcio, 2017; C5-IT5, 2019). According to the

APACRA's assessment made by Consorcio, the association had "environmental sensitivity, especially in the face of sensitive issues in the municipality such as mining" (Corporación Consorcio, 2017, p. 126).

The award contributed to strengthening the actions performed by APACRA's associates to take care of their environment and find economic and social alternatives for them. The relevance of taking care of the environment was reflected in activities agreed with COLCIENCIAS as part of the inclusive innovation initiative. It is possible to point out at least four examples of those activities. First, in the soils analysis to identify room for improving their quality. Therefore, the associates used agroecological amendments (COLCIENCIAS, 2015g). Second, to face Chachafruto's disease, they applied pest control based on biological insecticide (APACRA, 2017). Third, in the packaging for the processed products, they tried to use environmentally-friendly packages (APACRA, 2017). Finally, the associates improved their environmental education process aimed at consumers (C5-IT5, 2019).

5.2.3.4. Governance

In this case, the governance was assembled in the frame of the local encounter. This activity was crucial in putting together all the actors and their interests and needs. Like in the previous two cases studied in this chapter, the InInIn and its supporting policy documents did not provide a predefined governance structure. However, the processes and stages (See *Annex 5, Table 3*) offered conditions to build tentative governance. This section will describe four crucial variables, the Governance structure, Actors, Decision-making process, and Tensions within the governance, to understand the tentative governance that steered this case.

i. Governance structure

APACRA had a governance structure prior to applying for the ACC award. The APACRA's formalisation process fostered the association's governance consolidation (*Annex 4, Table 6*). In this frame, APACRA had management and decision-making bodies represented by the general assembly and the management board (APACRA, 2016c). The association also had technical and financial bodies shaped by the marketing committee, finance committee, and the revolving fund (APACRA, 2016c). This institutional arrangement was featured by a consensus decision-making system, with a high level of trust, honesty, respect, and open discussions between the associates (See section 5.2.3.2.i).

The existing governance structure facilitated the settling of the ACC award's governance. Building this governance was required to identify the associates' roles and responsibilities to fulfil the agreements with COLCIENCIAS (COLCIENCIAS, 2016b). In this process, the **local encounter** was an event that worked as a trigger to build **tentative governance** for the inclusive innovation initiative. This **local encounter** was held on 26th January 2015 (COLCIENCIAS, 2016b) and had three main stages (See *Annex 5, Table 3*). **The first one** was an opening event with an attendance of 75 people. **The second stage** was the APACRA's presentation of their experience in a guided tour across their farms. **Finally**, it was a workshop using the "Chiva's metaphor" to build and agree on the inclusive innovation initiative. In this last moment the process of shaping tentative governance to define the directionality of the inclusive innovation initiative began.

The tentative governance arrangement shaped in the frame of the **local encounter** was comprised of a community project lead, a coordination committee, an accountant, and an overseer. These were the central governance members from the organisation's perspective (COLCIENCIAS, 2016b). In addition, these bodies were complemented with the participation of COLCIENCIAS, Consorcio para el Desarrollo and the Godparents. However, while the godparents were relevant figures in the decision-making process, in this case, they did not undertake a substantial role in the governance structure. This is explained by the APACRA's resistance to work with them (see **Box 2**).

Figure 17 describes the structure of the tentative governance in this case. It can be described as the sum of the interplays between the IEs⁴⁰, COLCIENCIAS and Consorcio. In **Figure 17**, the blue ring depicts APACRA's governance before the ACC award, and the white ring is APACRA's ACC award governance. The IEs, Consorcio and COLCIENCIAS' team constituted the white ring. In this figure, the black line between the blue and white rings illustrates the governances' channel. The IEs worked in channelling these governances. Finally, the green capsule illustrates the public call and the role of this public call as an axis to align the different governance structures.

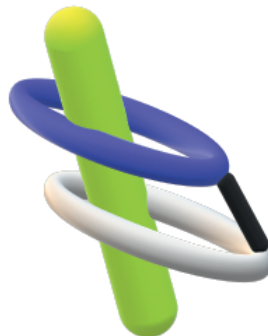


Figure 17. Governances linking.

Source: Own elaboration.

The process of setting the tentative governance was reinforced by various activities that worked as self-reinforcement mechanisms. **Annex 6 (Table 3)** describes some of those activities and their role in shaping the tentative governance.

ii. Actors

In this case, seven actors were identified. Those actors are described in **Annex 7 (Table 3)**. However, five of them were crucial in building the tentative governance. The first one was APACRA. The APACRA's association was featured by solid participation and involvement in all the activities

40 One was the project's leader, and the other was part of the coordination committee (COLCIENCIAS, 2016b).

implemented in the inclusive innovation initiative (See **section 5.2.3.2**) (C5-IT5, 2019). The second actor was the IEs. They were in charge of leading all the process and spaces, **gatekeeping** that the ACC award was aligned with their vision of change, and **channelling** the financial and technical assistance from the ACC award towards their interests.

In this case, the third actor was Consorcio. It performed the roles of community ally (C5-IT5, 2019; C5-IT1-P1, 2019) and mediator between the other actors (C5-IT5, 2019). Besides, it contributed to building the operation plan to implement the ACC award (APACRA, 2016c) by using the “Chiva’s methodology”. In general, they were in charge of **gatekeeping** to complete implementation of the inclusive innovation initiative (ColciCase-IT13, 2019).

Fourth, the Godparents were an actor who supported the technical analysis of the soils and the identification of the biological causes of Chachafruto’s disease (APACRA, 2016c; APACRA, 2017; Consorcio-dit, 2017; C5-IT4, 2019). Besides, the Godparents from the Centre of Tolima Productivity contributed to a marketing analysis for APACRA’s products (APACRA, 2017; COLCIENCIAS, 2018; Consorcio-dit, 2017).

Finally, COLCIENCIAS’ teams were always aware of the inclusive innovation initiative and the organisation (C5-IT1-P1, 2019). They worked as **game-makers** because they introduced the rules and financial and technical assistance to make the ACC award real. Besides, along with Consorcio, IEs acknowledge them because they were concerned about the award’s social dimension (C5-IT1-P1, 2019).

iii. Decision-making process

The analysis of the IE involvement strategy (See **Annex 4, Table 5**) and the involvement dimension of the community (See **section 5.2.3.2**) shows a process of decision-making based on the consensus and participation of the association’s members (Corporación Consorcio, 2017). This feature was also identified when implementing the inclusive innovation initiative (APACRA, 2016c). Thus, for example, decisions about implementing the irrigation systems involved the associates and the IEs in the discussions on who should benefit from that activity (APACRA, 2016c).

The participatory and consensual decision-making process was crucial in the implementation process. All the actors involved in the implementation of the ACC award had a clear idea about their roles and responsibilities in relation to each activity. It contributed to doing joint work, allowing the inclusive innovation initiative to reach the expected results (APACRA, 2017).

iv. Tensions

This case has three types of tensions. The first one depicts the misalignments between the IEs expectations and those of COLCIENCIAS’ team. Apparently, this tension was not sufficiently strong to affect the ACC award implementation process. The second set of tensions was linked to the process of implementation as such. In this case, some possible sources of tensions were identified. However, it was not possible to verify if they really affected the implementation process. Finally, a tension between the actors involved in the governance appeared. This tension was between the IEs and their community and the Godparents. This tension emerged because of the enclosed profile of the community and their intention of being self-sufficient (see **Box 2**), and it assigned a marginal role to the Godparents in the governance structure.

Expectations' misalignment

IEs believed that being one of the 20 most voted experiences in Colombia would give them free access to the COP 50 million. However, they realised that they would access this money but under certain conditions (C5-IT1-P1, 2019). Therefore, part of the discussions involved talking about whether it was necessary to bring financial support for labelling procedures.

“So they did not want to finance the labels because [they are not seen] as technology and innovation. ‘How is it not technology and innovation?’ Then again, we had to go back and explain to COLCIENCIAS why [we needed them] to move forward. We need, for example, the Invima labels or sanitary licenses. That was already there that it is innovation and again [we had to] explain [this] to them” (C5-IT1-P1, 2019, p. 32).

APACRA had to explain to COLCIENCIAS why their priorities were real and not a whim. They had to set their viewpoint (C5-IT5, 2019).

“Then, how [can we] show to COLCIENCIAS that those are our necessities, [and] that they are going to work?, that it will last over time, that it is going to be sustainable” (C5-IT1-P1, 2019, p. 33).

This misalignment was not substantial because the IEs considered the ACC award signified more than financial support, (C5-IT1-P1, 2019) and acknowledged the technical assistance and the human touch (C5-IT1-P1, 2019) - also relevant dimensions in this award.

Public call activities and practices

Regarding the public activities and practices required in the implementation process of the public call, it was possible to identify three possible sources of tensions. However, there was not enough evidence to understand the effects of the following situations deeply. In addition, something to consider is that this case was selected as a methodologies’ “laboratory” of instruments designed by the ACC award. Therefore, it meant that APACRA served as a test case in many aspects (C5-IT5, 2019). The first possible source of tensions was that the implementation process was affected by **a delay in the financial transference** from COLCIENCIAS (APACRA, 2016c). It produced a delay of five months in the planned activities and a loss of interest of the associates (APACRA, 2016c). The second situation was **linked with the assessment of the soil**. In this situation, the departmental laboratory to make the soil assessments was closed, and APACRA had to find another one in Medellin (C5-IT1-P1, 2019; Corporación Consorcio, 2016a; APACRA, 2016c), but it increased the procedure costs (APACRA, 2016c). Finally, one of the IEs affirmed that one of the challenges in implementing the award was **the administrative burden** (C5-IT3, 2019).

Community governance interplays

The APACRA and IEs’ tendency to put up a barrier to entry generated tensions to receive external opinions about their practices (APACRA, 2016c). This situation can be explained by the great level of trust in their association and their path-transformative process (C5-IT5, 2019). For example,

the tension emerged in the local encounter when Godparents and other entities suggested making a soil analysis of the association's farms (APACRA, 2017; COLCIENCIAS, 2018; C5-IT5, 2019). The IEs rejected this activity because it was not their priority (C5-IT1-P1, 2019).

The discussion around the soils analysis opened a second debate about the Godparents' roles. The APACRA's IEs questioned why they had not been invited to choose their Godparents (C5-IT1-P1, 2019). From the APACRA's perspective, those Godparents were chosen by COLCIENCIAS, and they (the Godparents) did not provide the technical assistance expected to the association (C5-IT3, 2019; C5-IT5, 2019). Therefore, the association considered that the Godparents did not fulfil their commitments as expected (C5-IT1-P1, 2019; Corporación Consorcio, 2016a; APACRA, 2016c; C5-IT5, 2019). An example of this is that before signing the public banner as a signal of the parties' commitment (ColciCase-IT13, 2019) at the end of the Local Encounter. One of the Godparents asked directly to the IEs if they wanted them as Godparents.

“The gentlemen were openly confronted on many things, on what they said and on what the community replied, which besides are mostly women. Then on how they replied, and the ways, then they, ‘come on, that is, are we going to be OK, or is going to be more difficult?. [The way they posed the question], also because, in fact, it was publicly an acceptance, and there was also a public recognition that there had been tension there” (ColciCase-IT13, 2019, p. 8).

The association realised the importance of having access to external knowledge to strengthen their process after receiving the laboratory results. Thus, they decided to find their own Godparents without the support of Consorcio or COLCIENCIAS' team (C5-IT5, 2019; APACRA, 2017; C5-IT3, 2019; ColciCase-IT13, 2019). **Box 2** highlights some of the elements about this tension between IEs and the Godparents at the end of this section.

The tension around the Godparents' role went beyond the implementation process (C5-IT5, 2019). In a closing encounter in Bogotá with all the 20 associations that benefited from the award, the IEs set their position.

“That closing day, we realised that everyone arrived with the Godparents and all the flowers for the Godparents, and we [were like] ‘what Godparents?’ and I stood there at the front and said... I was the last one who spoke there at the end. I said, ‘no, here the real research in the field is done by the farmers and the real information is owned by the farmers and all of you doctors, so that you can access that information, you have to go [and roll-up your sleeves] like us” (C5-IT3, 2019, p. 14).

5.2.3.5. *Spaces*

This inclusive innovation initiative had three different spaces of interaction and development. The first one is the **physical dimension**. It is described in detail in **Chapter 3** as part of the dominant setting of this case. The second type of space in this case was the **contextual space**. This space was composed of two layers similar to Case 2. Thus, while the first layer was identical to Case 2's because the same rules applied to both cases at national level. The second layer was different. In this case, APACRA's association was placed in a territory with large farming and agricultural traditions

(APACRA, 2015b). It was constituted by peasants (ColciCase-IT13, 2019). Three additional features in this contextual space were identified. First, the small participation of families in this association (APACRA, 2015b). There were only 14 families. The second feature was the essential role of women in this initiative (APACRA, 2015b). Finally, in contrast to the last feature, this municipality had a strong male-dominated culture.

The last space considered in this public call was the **virtual space**. Part of the process, mainly the administrative activities between APACRA and COLCIENCIAS' team, was developed virtually (C5-IT3, 2019). Besides, some of the activities, like the *voting period*, required a robust virtual component considering that the voting was virtual on the ACC award webpage (C5-IT3, 2019).

5.2.3.6. *Knowledge*

Two elements shaped the knowledge dimension. The first element is the types of knowledge included in the InInIn development. In this case, three types were identified. The first type of knowledge came from the *community*, and it was based on the association's agroecological knowledge. The second type of knowledge was *scientific*, and it emerged from the Godparents. Finally, the third type of knowledge was *managerial*. It came from two sources. The first source were the procedures required from the ACC award, and the second one was the regulatory requirements by national regulatory bodies. The second element that shaped this dimension is the practices linked with the three types of knowledge mentioned.

i. Types of knowledge

This case shows three types of knowledge. The first type emerged from the community and their agroecological practices, which were appropriate from training provided by the NGO "Semillas de Agua". The second type of knowledge came from the Godparents and was linked with academic and scientific knowledge. Finally, the type of knowledge from the administrative procedures of the ACC award was identified. However, this prior knowledge was not as relevant as the two first types of knowledge.

Community knowledge

IEs introduced their community as a research group with the skills to assess their farms' soil, "understand the insects' behaviour, some plants properties, the moon's influence on the farming process, the market behaviour and more" (APACRA, 2015b, p. 2). In this line, IEs explained the experience postulated to the ACC award due to a research process. That research was about using non-traditional farm products, nurturing people, and identifying the processes to transform those products (APACRA, 2015b). In this research, women performed the central role (APACRA, 2015b). They were in charge of identifying the possibilities in terms of recipes and processing the farming products.

The knowledge, technical and social practices of this association had their primary source in agroecology. Agroecology is the value that rules the association (Corporación Consorcio, 2017).

Scientific, academic, and technical knowledge

This type of knowledge emerged mainly from the Godparents and their role in the implementation of the inclusive innovation initiative. According to the Godparents' guidelines, the Godparents should:

“Promote the technical improvement of the strengths and the development of skills in community organisations to appropriate [themselves], share new knowledge and make use of science and technology.” (COLCIENCIAS, 2015d, p. 1).

The role of this knowledge was to improve the processes carried out by APACRA, both in the farming and in the transformation activities, to improve their quality (C5-IT4, 2019).

“Let us say that the crucial changes were the incorporation of technical knowledge to their traditional activities” (C5-IT5, 2019, p. 5).

Managerial knowledge

Managerial knowledge had two sources in this case. The first source came from the activities carried out with COLCIENCIAS' team and Consorcio. In this case, two examples can be highlighted. The first example is about the Chiva's methodology. This methodology contributed to enriching the association's planning skills and their participation in the process (C5-IT1-P1, 2019). The second example is linked with the technical support that APACRA received from the audit company, which contributed to improving their administrative and accounting procedures (C5-IT5, 2019).

The second source of managerial knowledge emerged from the regulatory process and requirements to obtain sanitary licenses. For example, APACRA had to deal with finding a laboratory to analyse their processed products, and thus provided to INVIMA the information requested to grant the sanitary licenses (APACRA, 2016c), and also the process of applying to obtain the licenses (APACRA, 2016c).

ii. Knowledge practices

In this case, knowledge practices analysis leads to the reflection on the expected results from the first layer and how things evolve in the second layer. In this vein, while the public call aimed to open spaces of mutual respect and knowledge dialogue in a sort of harmonious process, the knowledge practices identified at the local level show how tensions between actors fostered the process of knowledge sharing and learning.

First layer: Knowledge practices aimed by the public call

In this case, the results expected from the first layer are identical to those in Case 2. It is explained because Cases 2 and 3 were developed under the same public call and used the same terms of reference.

Second layer: Knowledge practices identified in the case

Interplays between the different types of knowledge identified in this case showed a different process. Thus, while the interaction between the **Community knowledge** and the **Managerial**

knowledge did not have difficulties, the relation between the **Community knowledge** and the **scientific, academic, and technical knowledge** had a significant tension.

The **smooth interaction** between the **Community knowledge** and the **Managerial knowledge** can be explained because of the APACRA's experience in applying and implementing public calls (C5-IT1-P1, 2019), and they were used to adapting to the protocols required for the owner of the public call (C5-IT3, 2019). However, a substantial element must be underlined from the interplays of these types of knowledge. The IEs realised that their path-transformative process was innovative due to the process of applying to the ACC public call. It was fostered by the terms of reference and the process of filling the application. They realised that they were undergoing several innovations in relation to the raw agroecological material transformation (C5-IT3, 2019).

The tension between **Community knowledge** and **Scientific, Academic and Technical Knowledge** was discussed in Section 5.2.3.4.iv, and some elements were depicted in **Box 2**. As a result of this tension, the associates understood that their soils' knowledge and how to take care of them went beyond their daily activities (APACRA, 2016c). They also realised the relevance of mixing their knowledge with academic knowledge to enhance and foster their innovations (APACRA, 2016c). Besides, the IEs used the results of products developed based on **scientific, academic, and technical knowledge** as part of their strategy **Knowledge for decision-making** (See **Annex 4, Table 5**). In the final report about the implementation of the inclusive innovation initiative, the IEs pointed out the following:

“Partners know and have ownership of the knowledge obtained in each task. Each partner knows the procedure for installing drip irrigation systems, realises and understands the importance of soil analysis and what amendments to make. They make biological control visible as a vital part of agroecological agriculture and of their daily work, where nature allows them to understand and investigate it.” (APACRA, 2017, p. 14).

In these interplays between the **community knowledge** and the **scientific, academic, and technological** knowledge it is crucial to remark two elements. The first one is the lessons that the Godparents gathered from the community. It means that not only the APACRA benefited from having access to external knowledge, also the Godparents were enriched by APACRA's knowledge (C5-IT4, 2019). Thus, it is possible to argue that despite the tensions between the actors, in this case, the knowledge dialogue was horizontal.

The second element is about **the practices of knowledge sharing**. In line with the association's involvement (See **section 5.2.3.2**), the dropping irrigation systems, the soil analysis and other activities that implied knowledge production, discussions or implementation were shared between all the associates in joint activities like *la Minga* (APACRA, 2017; C5-IT5, 2019). However, this knowledge sharing was made possible after the results of the soil analysis (Corporación Consorcio, 2016a). These results foster joint work and knowledge sharing between APACRA and the Godparents (COLCIENCIAS, 2018) (See **Box 2**).

Box 2. Internal Resistance to Change: Allowing external knowledge

The ACC award promoted the encounter of different types of knowledge. These encounters worked on the case of APACRA as a trigger to open the inclusion of third parties in an enclosed organisation.

“Let us say the fundamental changes were in being able to incorporate technical knowledge into what they already do traditionally. Let us say, there was resistance in this dialogue, so much so that the Godparents were told that day, “You have the knowledge, [but] we are not going to do things that we do not agree on, that is, we [must] discuss it ” and that day the Godparents told them “well, if you consider that our participation is not necessary, we are not here, that is not a problem, that is, we do not Godparent you” then there [it] was, It was necessary to reach that level, that is. They are very self-sufficient, and I think it limits them. I think, in that I consider that they limit themselves, that is, demonstrating with laboratories they saw that the soils were not as they expected. They really applied the guidelines on how to improve the soils. They really applied it, but they are very resistant, they are self-sufficient and resistant to others’ views, they believe that they can do everything, which restricts them, I think.” (C5-IT5, 2019, pp. 5-6). This situation was confirmed by another interviewee (ColciCase-IT13, 2019).

It can be argued that the ACC award pushed the organisation to be more inclusive in the sense of being open to new actors and knowledge (C5-IT5, 2019). In that sense, an **assistance pressure to change (ACC award)** contributed to making a bit more open the organisation and more conscious of the IEs about to find allies to support their vision of change. (C5-IT5, 2019; ColciCase-IT13, 2019; C5-IT3, 2019; COLCIENCIAS, 2018).

The soils analysis results triggered this substantial change in the IEs and the associates’ behaviours. The soil assessment results changed the associates’ mindset about the role and need for external knowledge. In one report, Consorcio pointed out:

“The effect caused by the results of [the] soils analysis is significant in the people of the organisation who have [adopted] very radical positions, somewhat disqualifying academic knowledge and the overvaluation of traditional knowledge, specifically concerning soil analysis. Given the evidence of the results, they recognise their value to improve the farms’ soils and [have] decided to resume the relationship with Corpoica to express this recognition.” (Corporación Consorcio, 2016a, p. 3).

Besides the change of their mindset, the APACRA’s openness to external and diverse knowledge positively impacted the organisation.

“The project has strengthened them as a group. It has allowed them [to make] interesting reflections based on the laboratory analysis of farm soils, which has led them to recognise the value of technical knowledge together with traditional knowledge.” (Corporación Consorcio, 2016a, p. 5).

The final report presented by the organisation showed the soils assessment process as smooth and with remarkable results for the organisation’s productivity (APACRA, 2017). Besides, it was highlighted how this tension fostered APACRA to find new Godparents to support their path-transformative process (C5-IT5, 2019; ColciCase-IT13, 2019). However, this peaceful process entangled a strong tension and confrontation between the IEs and their association and external actors and their knowledge.

Source: Own elaboration.

This case closes the process of describing the results from the data analysis. In particular, this chapter had the purpose of zooming-in on the InInIn. For that purpose, it was necessary to develop a complementary heuristic that allowed a better cruise of the social complexity. It was the InIn-Radar. The analysis of these three cases guided by this heuristic allows me to unfold the elements that entail each of the InIn's dimensions. Therefore, it was possible to understand better the role of actors, their interplays, practices, tensions, and needs that they were looking to address. As mentioned, Chapter four and this Chapter formed part of a complementary exercise of presenting the results from the data analysis. Based on this complementary exercise, it is possible to discuss the role of the Institutional Entrepreneurs in InInIn supported by National Entities in Local Communities. This will be the purpose of Chapter six.

CHAPTER 6

Assembling the heuristics:
An effort for navigating the
InIn in Path-transformative
pathways and the role of
Institutional Entrepreneurs

—

Chapter Three mentioned that the research question of this study represents the coordinates where I am looking to arrive. This research question seeks to answer what the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities is. I have navigated the social complexity supported by a sextant assembled by two heuristics (the Path-transformative heuristic and the InIn-Radar) to answer this research question. In turn, this sextant allowed me to go back and forth between the celestial bodies represented by the constellation of concepts discussed in Chapter two and the horizon depicted by the three cases studied in the two previous chapters.

The mentioned elements allowed me to find the coordinates to answer the research question of this study. Thus, the purpose of this Chapter is to discuss and reflect these coordinates based on an effort for combining the two heuristics to explain the role of Institutional Entrepreneurs (hereinafter IEs) in theory and in each case. In this sense, and following the abductive approach discussed in Chapter Three, this Chapter will bring a plausible explanation of the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities.

In the quest for identifying a plausible explanation about the role of IEs in Inclusive Innovation Initiatives (hereinafter InInIn) in theory and in each case, *Figure 18* shows an illustration that combines these two heuristics. Combining these two heuristics contributes to illustrating the role of InInIn as pressures that supported the IEs in their Path-transformative journeys.

a. The Path-transformative Journey

b. The InIn-Radar

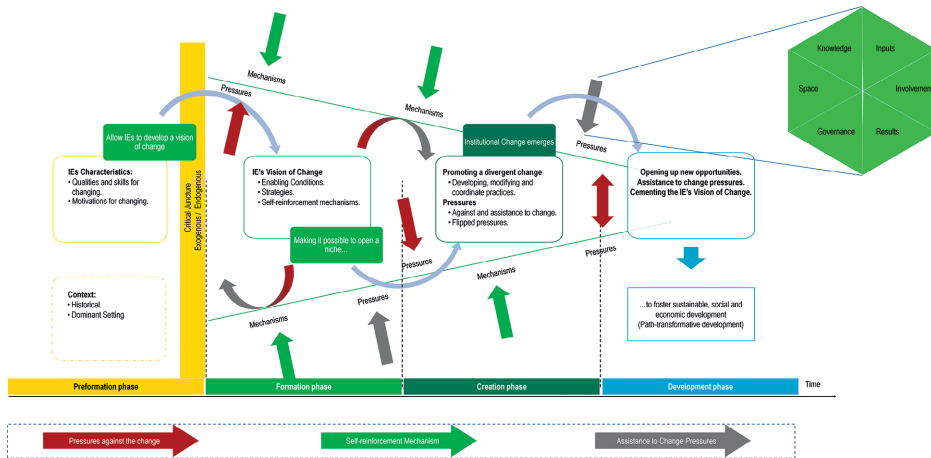


Figure 18. Heuristics Combined Effort.

Source: Own elaboration.

The identification of InInIn as external pressures that assisted the Path-transformative processes was pointed out in Chapter Four. Although different external pressures that assisted the change were identified, the InInIn were linked with the public calls ACC and IPC supported

by COLCIENCIAS. This link was done considering the definition of InInIn discussed in Chapter Two and the criteria to choose the cases presented in Chapter Three.

The finding of the role played by InInIn in the Path-transformative processes emerged from case two, and it was verified in case three. However, the role of InInIn as external pressures supporting the Path-transformative's development process was not clear enough in case one. In that case, the public call *IPC* played a twofold role. On the one hand, it supported a process intending to address the Mancilla community's needs, and on the other, it did not support the Path-transformative process fostered by the IE. These contrasts inside Case One and between that Case and Cases Two and Three open the floor for discussion and reflection on the role of IEs in InInIn.

The three cases showed that the external pressures required a channelisation process to guarantee assistance to the Path-transformative processes. This channelisation process was performed by the IEs in the three cases studied. Thus, it is possible to argue that the IEs played the role of *channelisers* in InInIn, supported by National Entities in Local Communities. That affirmation will be explored by analysing the three cases by combining the two heuristics developed in this research. The following sections will have that purpose.

6.1. Case One and the Relevance of IES in Channelising InInIn

The Path-transformative heuristic allowed me to identify, as mentioned, the twofold effect that the InInIn had (Ideas para el Cambio's public call) on this case. On the one hand, the InInIn brought a safe water solution based on harvesting rainwater and greywater systems to some community members to address their needs. Nevertheless, on the other hand, it increased the pressures against the change championed by the IE (See Table 3, Chapter Four).

A better understanding of the twofold InInIn effects noticed by the Path-transformative heuristic required a zoom-in, and the InIn-Radar provided it. Based on five of the six InIn-Radar dimensions, it is possible to discuss the Institutional Entrepreneur's role as channeliser in InInIn and the twofold InInIn effects on this case. Those dimensions are the *knowledge, inputs, governance, involvement, and results* dimensions.

The *knowledge dimension* in the InIn-Radar provides an entrance to observe how the IE channelised the Public Call from Ideas para el Cambio (InInIn) towards assisting her Path-transformative process. In the knowledge dimension, the IE shared her knowledge about her community needs and how to attend to such needs. By sharing her knowledge, the IE led the SENA's research team to adopt her idea of implementing greywater and harvesting water systems (C6-IT2-P1, 2020). The influence exerted by the IE in the SENA's research team was reflected in the proposal approved in the frame of the Public Call from Ideas para el Cambio. In this vein, the IE channelised the community need and its technical solutions as main *inputs* for the InInIn.

The role of channeliser performed by the IE was not restricted to introducing the community needs and possible technical solutions to attend to such needs in the *inputs' dimension*. The *governance dimension* provides a second entrance to understand the IE's channeliser role in InInIn. In this case, the governance structure was divided into two levels- strategic and operational levels. The first level was in charge of the surveillance of the InInIn's implementation and making critical decisions about the implementation process. The second governance level was focused on

implementing and developing the InInIn. The IE was involved in both of them. It allowed her to supervise the InInIn deployment and avoided possible deviations from her vision of change. As mentioned in Chapter Five, she was the channel to address the differences between actors and the InInIn's vision.

A third dimension that contributes to studying the IE's channeliser role in InInIn is the *Involvement dimension*. This dimension offers an IE's cross-cutting analysis of her role as channeliser along the different InInIn stages described in *Annex 5*. Based on the different InInIn stages, it is possible to realise how the IE provided information to better diagnose community needs and possible solutions. Besides providing data and contributing to accessing the community by the SENA's research team, she was involved in formulating the proposal. That way, she could guarantee the due alignment between her vision of change and the proposal submitted to the Public Call. After the InInIn kick-off, her role also was salient by supporting the InInIn's implementation and surveillance (COLCIENCIAS, 2017i).

The IE's participation in the different InInIn stages mentioned in the previous paragraph allowed her to channel the InInIn to assist her Path-transformative process. The assistance of this external pressure was channelised to address the community needs and build trust in the community and with third parties, as mentioned in the Creation Phase of this case in Chapter Four. According to the analysis from the Path-transformative heuristic, the IE was aware of the necessity of building trust as a critical feature for introducing the divergent change.

The InIn-Radar, in this case, did not capture *results* in terms of building trust. However, the *results dimension* showed effects in empowering the community, and they could be considered a proxy of trust. In this vein, three interviewees agreed that the InInIn brought pride to the community (C6-IT2-P1, 2020); boosted the community's enthusiasm to keep the techno-scientific solutions (C6-IT1, 2020); and led the community to consider that attending their needs was possible without corrupt practices (C6-IT4, 2020). The positive results pointed out were considered by the IE as part of her strategy of *showing results* to demonstrate to her community that it was possible to address their needs by working with other parties (See *Annex 4*). The elements mentioned illustrated the channelisation process made by the IE to strengthen her Path-transformative process.

Despite the IE efforts in channelising the InInIn to nurture her Path-transformative process, her performance was affected by the enabling conditions mentioned above (See Chapter Four). From the Path-transformative heuristic perspective, the IE had a social position in development. It did not contribute to having clear leadership in her community. Instead, it affected her capacity to overcome the weak *Organisational receptiveness* that featured her community.

The mentioned elements were confirmed using the InIn-Radar by looking through the *Involvement dimension*. This dimension showed five sources of problems in involving the community in the InInIn. Among them, one of those was the IE. It was due to her weak community social position and some decisions made with the SENA's research team. On the one hand, her weak social position was reflected in her opinion about the community's participation required by the Public Call. According to her, it was complex to fulfil the involvement level required for the InInIn implementation (C6-IT2-P1, 2020). This weak position was also reflected in her ability to influence the selection of the techno-scientific solution. In that situation, the SENA's research team chose an expensive techno-scientific solution for harvesting rainwater, looking to guarantee

high-quality solutions to the community. The IE was aware of the coverage problems that would arise because of the techno-scientific solution chosen. However, she did not show enough leadership to change the SENA's research team decision. As a result, InInIn achieved limited coverage - only thirteen out of sixty-eight families benefited. Finally, considering the decision made by the IE and the research team, some of them undermined the community's involvement. This was the case when leaving out the community from the Pre-kick-off phase and from the process of designing the technological solution to address their need. This decision was justified as a measure to avoid raising false expectations in case of proposal rejection of the Public Call application. However, this measure produced disengagement on the community on the one side, and on the part of the IE and the SENA's research team on the other.

To sum up, in this case, the combination of the two heuristics allows me to understand the role performed of the IE as a channeliser. This understanding is generated by two activities performed through this heuristic combination. First, it describes the activities performed by the IE to channel the InInIn towards fostering the InIn and assisting her Path-transformative process. The second activity was bringing support to identify the variables that undermine her role as channeliser, such as the enabling conditions, and to understand the impact in fostering InIn and the Path-transformative process.

6.2. Case Two and the main activities in channelising the InInIn

As argued before, in InInIn, the IEs play the role of channeliser. By channelising the InInIn, the IEs aimed to position the InInIn as an external pressure to the areas they considered strategic. This was the situation showed in case two.

In case two, the heuristics combination allows me to identify a partial match between the IE Trinity's concerns and the actions to deal with those concerns. This partial match emerges from contrasting the external and internal pressures against the change identified by the Path-transformative heuristic (See section 4.1.2.3.ii) and the elements that nurture the Inputs' dimension in the InIn-Radar (See section 5.2.2.1). This mismatch was because not all the pressures against the path-transformative process were included in the Inputs' dimension. Thus, moving from the InIn-Radar to the Path-transformative heuristic, the IE Trinity included in the InInIn proposed three primary needs to be addressed: marketing, water management and production. In turn, those needs resonate with the following internal pressures: *low productivity*, *weaknesses in production planning*, and *associates' marketing skills*. Besides, they have a link with the external pressure, *low agroecological market development*.

It can be argued that the partial match between pressures and inputs is not random. This partial match can be explained as an intentional act on the part of the IE Trinity, regarding the intentionality as a feature of IE (See Chapter Two, Section 2.2.5). Besides, the partial match regarding the concerns included as part of the Inputs' dimension reflects the strategic analysis that features IE Trinity. Therefore, it can be considered that the IE Trinity decided strategically towards the needs that the InInIn should channelise.

The IE Trinity's role as channeliser does not finish with pointing out the needs to address using the InInIn. The channelisation requires the objectives and intentions bargaining between the Entity

that supports the InInIn and the IEs. The analysis of the governance dimension in the InIn-Radar shows a tension that contributes to explaining the bargaining followed by the IE Trinity as part of the channelisation process. The tension was the expectations misalignment (See Chapter Five, Section 5.2.2.4.iv). It entailed a confrontation between the COLCIENCIAS Team's interest in fostering the social appropriation of Innovation and the IE Trinity in guaranteeing the focus on the three needs defined in the proposal. In this confrontation about the expectations, the IE Trinity worked to keep their needs as part of the InInIn and assessed what could or could not be included from the COLCIENCIAS' Team expectations. In this process, the IE Trinity's allies built along the path-transformative journey were crucial in supporting their position. The bargaining concluded with an agreement between the two parts in keeping the three needs defined by the IE Trinity and including a COLCIENCIAS' objective of the InInIn. To sum up, the bargaining process guarantees the due alignment of the InInIn objectives with the needs defined by the IE.

Regarding this point, the IE Trinity's role as channeliser shows two activities. The first one could be assumed as setting the priorities, in the sense that the IE Trinity defined the needs strategically to be attended by the InInIn. The second activity comprises processes of bargaining with the actors who support the InInIn. These processes of bargaining required a twofold IE Trinity effort. On the one hand, the IE Trinity had to guarantee that their priorities would be included in the InInIn. On the other hand, it was necessary to be aware of the inclusion of objectives that could undermine or that did not support the path-transformative process.

A third activity in the channelisation process is the surveillance of the InInIn implementation. This activity was depicted in case one, and it also emerged in case two. In this case, the IE Trinity was involved in the tentative governance and all the InInIn Stages depicted in *Annex 5*. This involvement allowed the IE Trinity to supervise from a decisional level and the implementation process, the InInIn alignment. This supervision was performed regarding the priorities settled in the first activity in the channelisation process. Besides, in this case, the IE Trinity was part of both the tentative governance and the community's governance. Therefore, it allowed the IE Trinity to build a channel between these two governance arrangements. In that sense, the IE Trinity could also guarantee the alignment between the community's expectations and the decisions made in the tentative governance.

The three activities that entail the IE's channelisation of the InInIn contribute to strengthening the Path-transformative process. The heuristic combination supports the assessment of this affirmation. This can be tracked from the Path-transformative heuristic's perspective regarding the development of practices or the alignment that supported the divergent change in the Path-transformative process. For example, one of the needs prioritised by the IE Trinity was the association's production. This need resonates with internal pressures such as *low productivity*, *weaknesses in production planning*, and *associates' marketing skills*. The Path-transformative Creation Phase showed that administrative practices (See Table 9, Chapter Four) like planning and managing were improved due to the InInIn.

The InIn-Radar also contributes to tracking the strength gained by the IE's channelisation of the InInIn in the Path-transformative process. The results dimension provides evidence of the consistency between the results achieved after implementing the InInIn. Based on them, the consistency between those results and the needs that the InInIn should address can be studied.

In this vein, an incorrect IE channelisation of the InInIn could produce results misaligned with the Path-transformative strengthening needs and, therefore, undermine or stock the Path-transformative journey.

6.3. Case Three and a systematic approach combining the two heuristics

The two cases discussed before showed the role of IEs as channelisers. In performing that role, IEs were able to channel the InInIn to strengthen the vision of change (Case One) or deal with external pressures against the change fostered by them (Case Two). The analysis of Case Three supports the mentioned findings and shows that the IEs can channelise the InInIn towards both fields simultaneously. In other words, Case Three showed how the IEs could channel the InInIn to strengthen their vision of change and cope with pressures that resist the change simultaneously. The twofold channelisation performed by the IEs in Case Three can be unfolded by combining the two heuristics developed in this research. Thus, on the one hand, the Path-transformative heuristic allows me to understand the targets that the IEs will address by channelising the InInIn, and how this contributes to the path-transformative process. On the other hand, the InIn-Radar contributes to identifying the targets and explaining how the IEs perform the channelisation processes. This distinction will be illustrated in *Figure 19*.

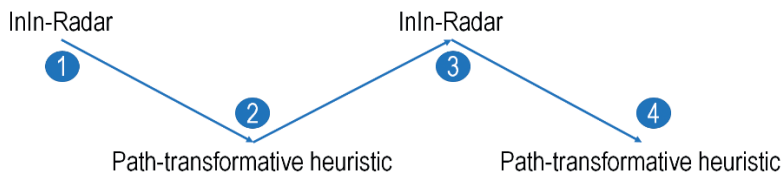


Figure 19. Heuristics interactions in describing the Role of IEs in InInIn supported by National Entities in Local Communities.

Source: Own elaboration.

Figure 19 illustrates four phases in the interactions that emerge from combining the two heuristics developed for navigating the social complexity in this research. The first phase depicts an identification process of the needs defined by the IEs to be addressed using the InInIn. In this phase, and working as a radar, the InIn-Radar allows the identification of the IEs' needs defined as critical for their community. This identification is made by checking the Inputs dimension in the InIn-Radar. In Case Three, the IE defined three needs for their community: strengthening raw material production, regulatory compliance, and fostering marketing activities.

The second phase illustrated in *Figure 19* looks for reflecting on the Path-transformative process and how the needs identified using the InIn-Radar are related to it. As mentioned in Cases One and Two, the needs were defined by the IEs to strengthen the vision of change and cope with pressures resisting the change fostered by them. In Case Three, the analysis of the needs defined as inputs in the ACC award proposal showed links with both the vision of change and the pressures

against the change. On the one hand, five dimensions featured the vision of change identified using the Path-transformative heuristic: Productive-environmental, economic, political, social and food safety provision. On the other hand, the inputs showed the IE's interest in overcoming the national regulations identified in the Creation Phase as external pressures against the change.

At this point, phases one and two in *Figure 19* allow me to identify two elements in the role of channeliser performed by the IEs. First, the link between the InInIn and the Path-transformative process. Second, the IE's strategic analysis to define the needs to be addressed by the InInIn. These elements can be assumed as the activity of setting the priorities identified in Case Two in the previous section, which contributes to explaining the channelisation process performed by the IEs.

The subsequent interaction between the two heuristics travels from the Path-transformative heuristic to the InIn-Radar. In this phase (third phase), the analysis aims to understand how the IEs go beyond setting the priorities to strengthen their defined targets in the process of channelising the InInIn. Based on Case Two, and considering the process followed in Case One, two activities were identified as crucial to channel the InInIn and strengthening the Path-transformative process. Those activities were: bargaining and surveillance. Like in the two previous cases, they contributed to channelising the InInIn.

In Case Three, the bargaining took place at the local encounter. In that InInIn stage, the main objective was defining and agreeing the priorities to be addressed by the InInIn. As mentioned in Chapter Five, it was a misalignment between the IEs and the COLCIENCIAS' team expectations in this stage. In their bargaining process, the IEs had to explain and justify the need to channel part of the financial resources from the ACC award for labelling procedures (See Chapter Five, Section 5.2.3.4.iv). These labelling procedures were part of requirements defined by the national surveillance body for medicines and food in Colombia. Therefore, from the IEs' viewpoint, addressing these procedures was part of coping with the negative pressures to change produced by the National Regulations.

However, like all the bargaining that took place, IEs had to accept some demands from the COLCIENCIAS Team to find a middle ground relating to all their needs (IEs' and COLCIENCIAS'). In accordance with this, the IEs had to include as part of the InInIn a soil assessment activity. This activity generated tension inside the tentative governance between the IEs, the Godparents were on one side and the COLCIENCIAS team was on the other. Besides the bargaining process, this tension is explained on the enclosed profile that APACRA had and which worked as a means to exert internal pressure to resist change. Finally, the bargaining process allowed both requirements to be included in the strengthening plan (COLCIENCIAS, 2016b) to be implemented as part of the InInIn.

Following the analysis suggested in the third interactions phase between the two heuristics developed in this research, the second activity contributing to channelising the InInIn was the IEs' surveillance. The understanding of this activity in Case Three requires remembering that the IE was assembled by two women from APACRA. Thus, while one of them was the project leader, the other was part of the coordination committee in the tentative governance arrangement (COLCIENCIAS, 2016b). These IEs' distribution allowed them to coordinate the community's governance with the tentative governance which was built due to the ACC award and the decision-making sphere with the project implementation process. Alongside the coordination, this IEs'

distribution in the different spheres allowed them to verify the due alignment between their needs, decisions, and actions to implement the InInIn.

The last phase in the interactions (phase four) departs from the InIn-Radar towards the Path-transformative heuristic. This last phase is similar to the first phase of the interactions between the two heuristics. The fourth-phase aims to reflect the link between activities performed by the IEs to implement the InInIn and their effects in the Path-transformative process. The reflection suggested can be done, for example, in Case Three, by checking the results' dimension. The checking of those results should reflect how they contributed to strengthening the IEs' vision of change and coping with pressures against the change. In this regard, the results of improving the Quality of life (See Chapter Five, section 5.2.3.3.v) showed that advancement had been made in this variable regarding the community and their consumers. This improvement was consistent with the third dimension of the IEs' vision of change, and food safety (See Chapter Four, section 4.1.3.2.i). Besides, the efforts in fulfilling the National Regulatory requirements by improving their equipment, infrastructure and products labelling allowed APACRA to obtain the Sanitary licenses (See Chapter Five, Table 4). That is how the IEs overcame the National Regulations' pressures against their change process (See Chapter Four, Table 12).

To sum up, the two heuristics combination can be illustrated as a set of four phases. These phases aim to provide a systematic pathway to realise the complementarity between the two heuristics and their added value to navigate the social complexity. Besides, the combination of these heuristics and their phases' representation contribute to a better understanding of the activities performed by the IEs to channel InInIn according to their strategic needs. In other words, the four phases produced by the heuristic combination can be described as follows. The first phase looks for identifying the needs that IEs defined as critical in the InInIn. The second phase aims to reflect on the consistency between the needs identified in the first phase and their reflection on the Path-transformative process. The following phase analyses the actions carried out in the frame of InInIn to materialise the priorities identified in phase one. Finally, phase four seeks to discuss the alignment between the results achieved in the InInIn and their effects in the Path-transformative process.

6.4. Reflections around the IEs' channeliser role: The What, the How and the Why

The heuristic combination made in this section allowed me to verify the role that InInIn play in Path-transformative processes and to understand better IEs' role in InInIn. Thus, in Path-transformative processes, the InInIn are external pressures that assisted or supported those processes. However, it is necessary to consider the role of actors in the assistance process provided by InInIn to avoid deterministic explanations about how those pressures affect the Path-transformative processes. In this respect, among the different actors and their roles in these initiatives, which will be discussed in Chapter Seven (Section 7.3), the IEs play a critical role in InInIn because they are channelisers of those initiatives in the frame of Path-transformative processes.

The identification of the crucial role that IEs play in InInIn, supported by National Entities, raise three questions. What is essential in the Channelisers role performed by IEs InInIn? How do IEs perform the channelisers role in InInIn? Furthermore, why do they perform this role in InInIn?

The answer to the first question suggests that the IEs' channelisers role is essential because it produces two effects in the Path-transformative processes is as follows. First, it prevents the InInIn from hampering or undermining the Path-transformative process. Second, it contributes to exploiting the InInIn positive effects. Cases One and Two offer a starting point to reflect on this first question. In this reflection, Case One is considered a proxy of a case without the IE's role of channeliser and Case Two with an IE performing that role.

On the one hand, in Case One, the IE could not set her position in choosing a techno-scientific solution and it was the SENA's research team who decided to buy an expensive system for harvesting rainwater. That decision produced a shortcoming in the community's coverage. Thirteen out of sixty-eight families were covered. On the other hand, in Case Two, the IE Trinity succeeded in keeping their need to strengthen the local sales point despite the reluctance of the COLCIENCIAS Team. In the process, the IE Trinity's allies were crucial in supporting their need. An inverse situation could suggest that a better IE's social position in Case One could have made clear her intention to increase coverage and maintain quality. Regarding Case Two, a weak IE Trinity could have excluded from the InInIn the objective of strengthening the sales point at the local market, hampering the ARAC's Path-transformative process.

The analysis based on these cases provides empirical ground to support the first answer that explains the critical role that IEs play in channelising InInIn. Thus, on the one hand, in Case One, the weak IE's role as channeliser undermined her Path-transformative process, and the InInIn became partially an internal pressure against the change. On the other hand, in Case Two, the IE Trinity channelised the InInIn towards their interests. Therefore, it was possible to exploit the positive effects of InInIn. However, this first answer must be complemented with an IEs' performance variable. In other words, the simple existence of IEs in InInIn does not assure the successful channelisation of these initiatives. Following cases one and two again, the differences in the IEs' performance unveil the IE's results that are being consolidated (Case One) compared to an IE that is well settled (Case Two).

The second question raised questions about how IEs perform their channelisers' role. A possible answer to this question suggests that **the IEs carries out three crucial activities to achieve the two effects pointed out above.** In other words, the process of channelising is produced by three critical activities developed by the IEs.

The first activity is the strategic analysis of the needs to be addressed using the InInIn. These needs emerge from the IEs' interest in strengthening their vision of change or coping with pressures that resist the change championed by them. This way, IEs decide strategically what those needs address by channelising the InInIn. The IEs' decision can include tackling one (Cases One and Case Two) or both (Case Three) simultaneously. In brief, the first activity entails setting the priorities or needs to be addressed using the InInIn.

The second activity entails a process of bargaining between the IEs' needs and the InInIn entity that supports the InInIn. The IEs use this bargaining process to ensure the alignment between the InInIn objectives and their needs. In this process, the IEs use their allies' support to strengthen their position (Case Two), and they should be open to accepting requests from the counterpart. For example, in all the cases, the COLCIENCIAS Team requested the inclusion of a Social Appropriation component, or in Case Three requested soils assessments, which was not part of

the IEs' initial plans. However, it is worth mentioning that the bargaining process in these three cases was supported by the flexibility of the public calls that constituted the InInIn. This latter point will be discussed in detail in Chapter Eight.

The last activity comprises the IEs' surveillance. While the two activities discussed allow IEs to build a plan for implementing the InInIn, it is necessary to assure correct implementation of this plan. This is the objective of the surveillance activity. IEs perform the surveillance of InInIn, making part of the governance arrangements that steer the initiative and working with their community in the implementation process. This active participation in the InInIn allows IEs to ensure coherence between decisions about the governance arrangements and how those decisions are implemented in the field.

The last question about the importance of the IEs' channelisers role in InInIn discusses why they perform this role. The answer to this question emerges from the theory in Chapter Two and the practice in the three cases studied in Chapters Four and Five. From the theoretical perspective, the IEs are driving forces in building paths (Hirsch & Gillespie, 2001) and boundary spanners (Garud & Karnøe, 2001a) that mobilise elements strategically (Garud & Karnøe, 2001b). They mobilised those elements to promote new paths and thus break the situation where they were embedded.

Regarding the practice, the IEs are individuals who, alone (Case One) or in a compound actor (Case Two and Three), showed the intention of bringing a new path for them and their communities. In achieving this action, they strategically deployed strategies and self-reinforcement mechanisms to forming, creating, and developing their Path-transformative paths. In these processes, they were building niches to introduce the divergent change that marked their new paths. To that end, they were tracing opportunities to expand and foster their vision of change and motivate others. In this context the InInIn appears as a potential opportunity or, as pointed out, as an external pressure that could assist the Path-transformative process. However, **switching the potential opportunity to a concrete fact required the IEs' role in channelising the external pressure (the InInIn), thus making real the two effects discussed above. Otherwise, their Path-transformative process could have been hampered or undermined.**

So far, the analysis presented has reflected the role of IEs in InInIn supported by National Entities in Local Communities. These reflections have provided evidence to claim their critical role as channelisers in InInIn. However, after using the heuristics as lenses and the concepts as celestial bodies navigating the social world, it is possible to return from the field to the theory with some reflections. This will be the purpose of the next Chapter.

CHAPTER 7

Going back to the theory:
Some reflections after
navigating the social
complexity in InInIn

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This research aims to understand the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities. For this purpose, an abductive approach was followed as a methodology to reflect and go back and forth between theory and data. In that sense, Chapter two presented a conceptual framework to navigate the data in chapters Four and Five. Chapter Six presented an effort for combining both heuristics to answer the research question of this study. This effort allowed me to understand and explain that Institutional Entrepreneurs perform the role of channelisers in InInIn supported by National Entities in Local Communities. Although it is not the only role performed by them in InInIn, the channeliser role emerged as being crucial to guarantee the due alignment between the InInIn and their Path-transformative processes.

As the final part of cruising the complexity that entails understanding the aim of this research, this Chapter aims to go back from the data to the conceptual realm. Thus, it will present a set of reflections following order as the same sections in Chapter Two. Based on the lessons learnt from the data analysis, I will discuss the conceptual understanding of InIn from Chapter Two. This discussion will be followed by some reflections about Path dependence and Institutional Entrepreneurship, and Agency. Finally, I will present an overall reflection considering the settings studied, the lessons learnt and their contributions from a broad perspective.

7.1. Inclusive Innovation: Five lessons from three cases in the Colombian mountains

Once finished cruising, from the conceptual realm to the fieldwork analysis in the three cases, five lessons emerged regarding the conceptual framework in Chapter Two. Those lessons talk about the InIn's dimensions enrichment, the understanding of InIn, its distinction from InInIn, and the relevance of the tentative governance arrangement to build InIn. These lessons will be discussed in detail in the following subsections.

7.1.1. Lesson One: The InIn's dimension enrichment

The first lesson entails a discussion about the dimensions that could contribute to understanding Inclusive Innovation. This lesson was anticipated in Chapter Five and can be depicted in *Figure 20*. This figure compares the understanding of InInIn based on the conceptual understanding in Chapter Two (*Figure 20.a*) and its enriched version based on the cases analysed (*Figure 20.b*). The enriched version of the six dimensions discussed in Chapter Two was named Inclusive Innovation Radar (InIn-Radar). It contributed to continuing the navigation of the social complexity after using the Path-transformative heuristic.

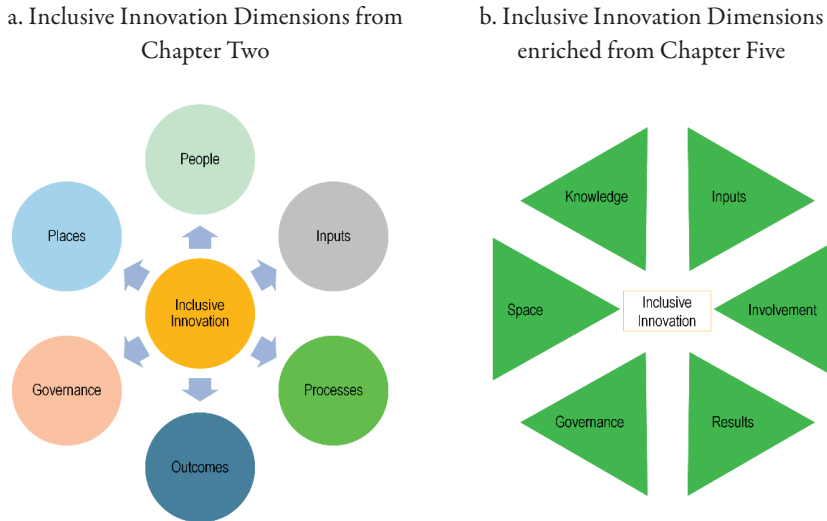


Figure 20. Comparison between InIn understandings.
Source: Own elaboration.

Figures 20.a and *20.b* suggest the same understanding of InIn as a multidimensional process defined in Chapter Two. As mentioned, *Figure 20.b* offers an enriched version regarding the dimensions discussed in Chapter Two. It emerged from applying the abductive approach, which rules this research methodologically. The main differences between *Figures 20.a* and *b* were pointed out in the first section of Chapter Five⁴¹. However, it is worth recapping these main differences.

One of the most prominent changes was the apparent elimination of the “people” dimension in *Figure 20.b*. This change is considered apparent because the InIn is understood as being an innovation stream that contributes to alleviating the people’s social condition regarding exclusion processes. This purpose is applied in the frame of the direct approach to development discussed in Chapter Two. In this context, although “People” was not explicitly an independent dimension in the enriched version, it is considered that “People” is part of all the six dimensions in *Figure 20.b*.

A second modification was the inclusion of “Involvement” instead of “Processes”. This change looks to have a better understanding of the participation of people before and throughout the development of InInIn. It also aims to capture the different roles performed by other actors, that besides the community, were part of the InInIn. In this sense, it is possible to study the actors and their roles in developing the InInIn. Besides, this modification also allowed me to reflect on this dimension’s role to build trust among the different actors who were part of the InInIn⁴². Thus, the cases supported the analysis by Patnaik & Bhowmick (2020) about the relevance of building

41 Table 1 in Chapter Five provides a detailed explanation of each concept that shapes the six InIn’s dimensions in Figure 3.b.

42 The role of different actors in InInIn will be discussed in Section 7.3.

trust between the different actors to “increase the likelihood of both adoption and collaboration” (2020, p. 11).

A new dimension included in the enriched version of InIn in *Figure 20.b* is “Knowledge”. As mentioned in Chapter Five (*Table 36*), this dimension has a twofold purpose. First, the new dimension aims to identify the types of knowledge that intervene in InIn. For example, the knowledge from Academia represented by the Godparents or the SENA’s research teams, or the local knowledge from the community. Second, this dimension looks to capture the knowledge practices that emerge from the interplays between the different types of knowledge in InIn. This dimension contributes to deepening the needs understanding that communities look for attending and how the communities’ understanding of the world is included in the InIn development.

The “Governance” dimension was deepened. For this purpose, the notions of tentative governance (Kuhlmann, Stegmaier, & Konrad, 2019) and inclusive governance (Kuhlmann & Ordóñez-Matamoros, 2017) were considered to guide the analysis of the three cases. These concepts supported the analysis of how the community interests were probed from the viewpoint of the other actors involved achieving a better understanding of them. Besides, those concepts supported the understanding of processes of mutual learning between the actors involved and how such learning allowed to co-produce alternatives (Pinzón-Camargo & Centeno, 2021; Balanzó, Nupia, & Centeno, 2020) and to cope with the community needs.

Finally, the changes in the names of some dimensions entail a better conceptualisation of each dimension. It was the case of the dimensions “Results” and “Space”. In the first case, the dimension’s name changed from “Outcomes” to “Results”, looking to enhance the understanding of the elements produced by the InIn. Besides, the scope of this dimension was enriched based on the cases studied as described in Chapter Five (*Table 36*). In the case of Space, the reflection by Rip and Joly (2012) contributed to considering that the InIn can take place in different settings, as it happened in the cases. Therefore, this comprehension of “Space” instead of “Places” allowed the capturing of virtual interplays, for example, between the Communities, the IEs, COLCIENCIAS and Consorcio para el Desarrollo Comunitario.

7.1.2. Lesson Two: The understanding of InIn

This lesson reflects on the meaning and understanding of InIn. Based on Chapter Two and the changes in the dimensions that shape InIn, it is possible to identify three critical elements to understand this concept. First, the concept’s roots. Inclusive Innovation is acknowledged as an innovation stream built under a direct approach to development. Second, its purpose. It aims to alleviate the people’s social condition of exclusion produced by the State, Society, or the Market. The final element is the six dimensions that shape or contribute to explaining the concept: Inputs, Involvement, Results, Governance, Space, and Knowledge.

Regarding the three elements mentioned as critical to understanding InIn, the three cases studied have led to two reflections. The first one can be linked with the purpose of InIn. The cases draw attention to the importance of other concerns beyond the economic variable for the communities. Although producing economic income was important, it was not as relevant as “be happy”, taking care of the environment, justice, food safety, among other concerns that were more crucial for those

communities. It is relevant to point out this situation to avoid possible bias to consider that the inclusion promoted by InIn should be understood only in economic terms.

The second element to discuss is the notion of exclusion. It has been used as a criterion to identify the InIn' target. For example, it is the case of the "Involvement" dimension in the InIn-Radar (See Chapter Five, *Table 36*). However, questions about what marginal is and under what perspective it could be considered a marginalised community emerge from the three cases. Answering these questions, besides being challenging, could produce contradictory answers. On the one hand, the communities could be considered marginal regarding a set of indicators, such as those identified in Chapter Three as criteria for selecting the cases. However, on the other hand, the analysis based on a set of indicators does not mean that the community realised themselves as marginal.

The meaning of "marginal" depends on who uses the concept and the lenses selected to look at the field. Case three provided an illustrative example to aid this reflection:

"I was born in the countryside, I grew up here in the country, and well, I cannot do anything but be a peasant. I already tried to do other things, and my [thing] is the countryside. I have already left here, I have been in the city, I have already been to another part of the country, I have already been a public official. I tried many things, and this is my [thing]. Well, since I identify myself so much with the land, with the bushes, that is [the reason for] *the resistance* and I told them from the beginning, I told them: "Look, that is what we are going to defend. We are not going to defend the 52 thousand hectares that the municipality has, no. We are going to *defend the peasant culture*. We are going to *be proud* to wear a hat" (...). The hat has to *be pride*; the poncho has to *be pride*. You do *not have to be embarrassed* to go out on a media outlet and shout [out from the top of] your lungs that *you are a peasant* because that is what happened to me, and one kind of transmits it, and people are copying it. That is key. That is, if you do not identify with what you do, then stop doing it. Why are you on the farm? You are not earning so much money? Because this is where I am happy, and to this world, one came to be happy (laughs)." (C5-IT3, 2019, p. 23).

Local communities and their IEs are fighters who are full of pride, looking for building new paths. In that sense, they might not be interested in being part of the so-called development but in including or being included in other development pathways. For example, the agroecological systems from cases Two and Three could be considered alternative development pathways where social and environmental concerns are more critical than economic values.

In this context, the notion of marginalisation as part of the definition of InIn should be reconsidered. Instead of talking about marginal communities, the notion of "concerns" could be more accurate to identify the target for InIn. Even more, if it should be taken into account that, as mentioned in Chapter Two, everyone is at different levels of exclusion and inclusion. Therefore, everyone is to a certain degree marginal. Thus, the notion of InIn should be understood as the direct use of innovation to respond directly to the demands and concerns of communities disregarding whether they emerge from the Global South or from the Global North. The six dimensions that this notion entails will guide, like a radar, processes of alternatives of co-production for addressing their needs.

7.1.3. Lesson Three: A distinction between InIn and InInIn

The third lesson is about the distinction between InIn and Inclusive Innovation Initiatives. Although the distinction could seem irrelevant, it contributes to the endeavour pointed out in Chapter Two about finding building blocks that allowed a better understanding of InIn. In this sense, while InIn reflects a conceptual level, InInIn describe what the first notion looks like in the field. From that perspective, it is possible to underline four features identified in InInIn.

The first feature of InInIn is that it can be considered, based on the three cases studied, as a policy program packed as boundary objects (Mcknight & Zietsma, 2007). The boundary objects were the public calls (Ideas for Change and ACC), which travelled softly between different socioeconomic networks (Callon, 1990) like COLCIENCIAS team, research teams and Godparents, and Local Communities. Those boundary objects triggered cooperation and co-production processes between actors to respond to the community's concerns making salient the role of innovation. It was, for example, the situation in Case Three, where the IEs and the community realised that they were innovators without being aware of it.

Besides considering InInIn as policy programs packed as boundary objects, the second feature is that they work as tool containers for the IEs. This consideration relies on the fact that, like a container, the InInIn provided the following tools to the IEs. First, self-reinforcement mechanisms like Financial investment, Learning activities, External agreements. Second, InInIn made new allies for the IEs, like the Godparents, and the strategies of those allies.

Thirdly, a crucial element in the InInIn was their flexibility. This feature was essential to foster cooperation, co-production between actors and develop accessible tools for the IEs. It allowed the possibility of setting InInIn priorities in the bargaining process between the IEs and their counterparts. As a result, this feature can be considered an enabling condition for the IEs' channelisers role. This affirmation will be discussed in more detail as part of the last lesson in this section.

Finally, it was identified, as Papaioannou suggested (2014), that InInIn are not neutral. In this vein, the two policy programs that framed the InInIn can be classified as being part of social-centred approaches to development (See Chapter Two, Section 2.1.1). This non-neutrality was also expressed in the policy intention that, in these cases, aimed to strengthen or foster the Path-transformative processes studied. The policy intentionality contrasted with the IEs' one and their effort for channelling the InInIn to address their concerns and interests. The bargaining activity discussed in Chapter Six (Section 6.2) contributes to unfolding this lack of neutrality in InInIn. The mixing of intentionality from the mentioned parts can be interpreted as the InInIn directionality. As mentioned, it could guide the strengthening or fostering of the Path-transformative process. The following lesson will discuss in detail this statement.

7.1.4. Fourth Lesson: What is the role of InIn and InInIn in Path-transformative processes

The fourth lesson discusses the role that InIn and InInIn play in the Path-transformative process. First, it will discuss the first relationship between InIn and the Path-transformative process, and second, the relationship between InInIn and these processes. In light of this, in Chapter Two, it was pointed out that InIn provides the Institutional Logic to the IEs, therefore, to the Path-transformative processes they foster. Regarding the assemble of the Path-transformative heuristic,

it was suggested that InIn was part of the Preformation phase. In that phase, it provides direction to the IEs to “imagine paths for narrowing inequality and inequity”.

However, using the Path-transformative heuristic in the analysis of the cases showed a limitation to unfold and explain the role of InIn as an Institutional Logic in the Path-transformative processes. This limitation relied on the Path-transformative heuristic’s capability to describe the InIn dimensions discussed in Chapter Two. Thus, it was necessary to develop a second heuristic, the InIn-Radar, to support the analysis of InIn as an Institutional Logic in a Path-transformative process. This decision of building a second heuristic was pointed out both in the methodology chapter (Chapter Three) and in the results chapters (Chapters Four and Five).

This Path-transformative heuristic’s limitation could suggest that it was a useless research strategy. However, on the contrary, as discussed in Chapter Six, it was the combination of the two heuristics that allowed me to understand what the role of IEs in InInIn is, supported by National Entities in Local Communities. Regarding the Path-transformative heuristic, it made three main contributions to the analysis of the cases. First, it allowed a better study of the Institutional Entrepreneurs’ role in fostering path-transformative endeavours over a broad range of time. Second, it provided an in-depth understanding of their context, features, challenges, strategies, and self-reinforcement mechanisms to foster their vision of change and introduce a divergent change. Finally, the study of the Path-transformative processes provided the possibility to understand the link between these processes and Inclusive Innovation Initiatives. In this sense, as mentioned before, Inclusive Innovation Initiatives were external pressures that assisted the process of change in these three cases.

Going back to the role of InIn as Institutional Logic for IEs in their Path-transformative processes and acknowledging the mentioned Path-transformative heuristic limitation, it is possible to make the following reflection. The three cases studied showed the aim of addressing situations of inequality and inequity in their communities through innovations, both organisational and technological. As part of the organisational innovation, the trial period for accepting a new member in ARAC or the revolving fund implemented by the IEs and their community in Case Three can be mentioned. Regarding the technological innovations, it is possible to pinpoint, as an example, the harvesting rainwater systems from Case One or the agroecological techniques in Cases Two and Three.

The intentionality of the IEs in the three cases could be understood, under the researcher’s lenses, as examples of InIn as Institutional Logic. However, looking at the actors’ interpretation of their Path-transformative processes and their motivations, they did not explicitly consider following the InIn’s Institutional Logic. This distinction between the researcher and the actors’ interpretations talks with Opola et al. (2020) in two ways. The first one talks with the actors in the field, and realises the different narratives they can use to express the notion of InIn. It confirms the Opola et al. analysis. The second way is about a conversation with the researcher looking to identify the different narratives that the actors in the field have. In this case, and as I stated in Chapter Two (See Section 2.1.3), acknowledging different narratives around InIn does not mean setting aside the need of finding building blocks that permit a better understanding of InIn. This way, finding building blocks will contribute to identifying which narratives can be accepted or rejected as part of InIn, and toward how to study such narratives.

Finally, looking at the role that InInIn played in the Path-transformative process, understanding them as external pressures that can assist the change means that, like real pressure, they have directionality. This directionality originated from the policy intention of the two programs⁴³ in the cases studied, and it comprised two aspects. The first aspect made salient, for the IEs and their communities, the role of Innovation to pay heed to their concerns. The second one pointed out the importance of having new sources of knowledge and working with other actors⁴⁴.

The two aspects included in the InInIn's directionality were in some cases reinforced and in others triggered. Thus, in Cases One and Two, the IEs were aware of the relevance of innovation to cope directly with community concerns. In those cases, IEs looked for having access to complementary knowledge, such as the knowledge from Academia, to strengthen their Path-transformative processes and pay heed to their concerns. In these cases, the role played by InInIn reinforced the directionality of IEs had had in relation to innovation.

In other cases, like in Case Three, the InInIn triggered the InIn's Institutional Logic. In this case, the IEs and the community were not aware of the role of innovation to address their concerns despite their innovative practices. In this context, the InInIn raised the IEs' awareness of their innovative capability (See Chapter Five, Section 5.2.3.6.ii). Besides, the InInIn also made the IEs aware of the relevance of working with Academia and incentivised them to look for their own Godparents to support their Path-transformative process.

The analysis of the role played by the InInIn confirms its lack of neutrality as mentioned in the previous section. Thus, while from the policy's perspective, the programs that entail the InInIn had a clear directionality, the IEs channelised the same initiatives to fit their purposes, in other words, towards their directionality. Thus, the InInIn showed a kind of duality by working on two purposes, or intentionalities, simultaneously. This duality could be reinterpreted as the mixing of the intentions of the two parts involved and the basis for forging the InIn directionality. This was made possible because of the programmes' flexibility and the tentative governance built by the actors involved in them. The last lesson will discuss in detail the importance of tentative governance in developing the InInIn.

7.1.5. Fifth Lesson: The relevance of the Tentative system of Governance for Building the InIn

The last lesson draws attention to the relevance of the tentative governance arrangement discussed in building the InIn. As discussed in the First Lesson, one of the dimensions enriched based on the three cases analysed was *Governance*. This enrichment led to the consideration of the notions of tentative (Kuhlmann, Stegmaier, & Konrad, 2019) and inclusive governance (Kuhlmann & Ordóñez-Matamoros, 2017). Those notions contributed to explaining the space of mutual learning and discussion to co-produce the alternatives that focused on the community's concerns.

The construction of the tentative governance framework emerged in the three cases from alliances and agreements between actors not necessarily familiar with each other but involved in

43 Chapter Three describes the objectives and features of the two programs, Ideas para el Cambio and A Ciencia Cierta. Those elements are considered as the programs' intentionality.

44 This statement will be discussed in Section 7.3.

the InInIn. In turn, those alliances and agreements were possible due to the attraction that the terms of reference produced in actors. Thus, the public calls' terms of reference fostered a process of collibration (Jessop, 2012) between the expectations and concerns for each part involved. Therefore, the public calls' terms of reference worked as an axis for the InInIn development. In this process of collibration, the flexibility that allowed the terms of reference was critical. This flexibility meant the possibility for the IEs and their communities, the COLCIENCIAS team, and the Research Team or the Godparents to learn, discuss and agree a plan for coping with the community's concerns.

It is possible to mention Case Two as an example of the processes of learning, discussion, and agreement that the tentative governance arrangement gave to the actors. In that case, the terms of reference guided the development of the Local Encounter as a stage to discuss the IEs plan for addressing their concerns. **Box 1** in Chapter Five describes an example of discussions and bargaining between the parts to agree on the concerns to be attended by the InInIn. In turn, those discussions enabled processes of mutual learning, for example, about the meaning of STI (See Chapter Five, Section 5.2.2.4.iv).

Thus, as mentioned in lesson three, the flexibility that the InInIn provided was crucial to enable different kinds of interplays between the actors involved. In other words, this flexibility provided an arena to increase the inclusion of these initiatives by including the concerns of the community, the COLCIENCIAS team, the Godparents and the research team. This inclusion was made possible through processes of bargaining and surveillance and all the organisational structures⁴⁵ to steer the project built by the actors involved.

To sum up, the tentative governance was crucial in building the InInIn and fostering the directionality of InIn. This tentative governance was possible due to collibration that was produced by the InInIn Public Call's terms of reference. This process of collibration had two elements. On the one hand, it generated enough attraction for the actors involved to affirm their commitment to support the InInIn. Furthermore, on the other hand, it had enough flexibility to allow a process of discussion, bargaining and surveillance where the actors could see that their concerns were included.

7.2. Path dependence and Path creation: Broadening the concepts

In Chapter Two, Path dependence was identified as the second conceptual source in this research. It was considered to explain the context and processes where InInIn were developed. However, the necessity of having a broad understanding of Path dependence for that purpose was highlighted. This broad understanding means that, as mentioned in Chapter Two, "this theory entails a never-ending process of path dependence, path destruction and path creation (Hirsch & Gillespie, 2001; Martin & Sunley, 2006)".

Following this broad understanding of path dependence allowed me to achieve the purpose expected from using this conceptual source. Thus, the mixing of Path dependence and Path creation as the first layer in building the Path-transformative heuristic provided a threefold contribution in this research. First, it supported the explanation of the IEs trajectories development, and second, it showed how the IEs were building their Path-transformative processes. Finally, in combination

⁴⁵ See the governance dimension in each of the three cases described in Chapter Five.

with the InIn-Radar, and as mentioned in Chapter Six (Section 6.3), it allowed me to identify two situations. On the one hand, the concerns that IEs wanted to address by channelising the InInIn, and on the other hand, how addressing those concerns contributed to the Path-transformative processes.

From a conceptual perspective, the data analysis, besides showing the usefulness of Path dependence and Path creation in the three contributions mentioned, led to the following two reflections. The first suggests rethinking the main concepts to understand Path Creation and adding new ones. In Chapter Two, Table 5, a reinterpretation of the main concepts of a path-dependence situation in the frame of Path Creation was suggested. However, after the data analysis in Chapters Four and Five, I consider it necessary to expand Table 5 from Chapter Two and introduce the following concepts: Actors' Strategies, Vision of Change, and Practices Development.

The concepts that I suggest to include as part of the main concepts of Path Creation emerged from the interplays between Path Dependence and Path Creation, and Institutional Entrepreneurship. Those interplays were developed from the data analysis in Chapters Four and Five. They aim to enrich the list of critical concepts that should be considered to reflect on processes of Path Creation. The inclusion of these concepts is illustrated in *Table 40*.

Table 40. Main concepts to take into account in a Path Creation Process

Concept	Definition
Critical Juncture	These events can be both exogenous but also created by actors. In the case of exogenous events, they can be used by the actors to support their actions.
Increasing returns	Like Critical Junctures, the increasing returns can be produced and used strategically by the actors. They also emerge from "contingencies" that the actors can manage to reinforce their path creation process.
Actors Strategies	It is a set of actions and behaviours of IEs to support their vision of change and the introduction of the divergent change or to consolidate their Path-transformative process.
Vision of Change	It is the set of narratives that combine the past, present, and future to support mobilising skills and strategies from the IEs and their allies ⁴⁶ .
Practices development	They include old practices aligned with the new path's institutional logic and new practices. They are part of the Niche that the IEs build by implementing their skills and strategies.
Lock-in	It is a state of temporary stabilisation that allows both positive and negative outcomes based on the process of critical revision and mindful deviation done by the IEs.

Source: Own elaboration based on Table 5, Chapter Two.

The second reflection emerges around Path Dependence and Path Creation models from Sydow, Schreyögg, & Koch (2005) and Martin (2010). Those models were used in Chapter Two to design the first layer in the Path-transformative heuristic. According to all those models, Path Dependence

⁴⁶ This definition is broadly developed in Chapter Two, Section 2.2.6.

and Path Creation processes seem to work linearly over time. This understanding is supported by the idea that Path Dependence is a non-ergodic process⁴⁷. However, once the agency is included in understanding Path Dependence and Path Creation, it is necessary to reconsider its linearity. This consideration does not reject the idea that Path Dependence and Path Creation are non-ergodic processes but suggests a different illustration of the processes.

The inclusion of IEs as sources of agency in Path Dependence and Path Creation suggests that they look to advance the phases that shape specific paths. In this research, this intention of IEs of moving forward happens across the Path-transformative heuristic's phases. This movement between phases can be simplified when the IEs decide to move from point *A* (Phase One) to point *B* (Phase Two). The movement between *A* and *B* allows the consideration of three situations regarding the IEs' decisions and actions. The first situation is that the decisions and actions allow the IEs to move from point *A* to point *B*. The second situation is that despite their decisions and actions, the IEs do not move from *A* to *B*. The final situation is similar to the previous one, but the IEs' decisions and actions produce a setback from point *A* to a previous one.

Thus, the IEs' actions and decisions could advance, become stuck, or worsen the required situations to move from one point to another. This acknowledgement of the effect of the IEs actions and decisions can be applied to the Path-transformative heuristic perspective. In that frame, it means that IEs can foster their communities to move from the Preformation phase to the Formation phase (Phases advancing). However, it also means that IEs could become stuck in the same phase or a return between phases, for example, moving from the Creation phase to the Formation phase. As mentioned, these three alternatives of the possible effects of decisions and actions by the IEs do not reject the non-ergodic processes but acknowledge the effects of considering the IEs as a source of agency.

The consideration of the Path-transformative process as a set of phases brings modularity to explain the effects of the IEs' actions and decisions in the development of the process. In this way, it is possible to capture the back and forth processes that the IEs have to face in building their Path-transformative processes. Case One is an example of the situation described. As mentioned, in that case, after several years of IE's work, the process seems to be in a Formation phase instead of moving forward from its Creation Phase (See Chapter Four, Section 4.1.1.4).

Figure 21 depicts the idea of modularity in the development of the phases fostered by the IEs. In this figure, instead of the Development phase emerging after the Creation phase, as illustrated in *Figure 10*, the phase that emerges is the Formation Phase. In this sense, each phase in the Path-transformative heuristic is considered a module that can be repeated over time infinite times depending on the IEs' actions and decisions. It is worth pointing out that the IEs' actions and decisions comprise those to foster their vision of change or build their niches and shield or channel external and internal sources of change.

In this vein, Path-transformative phases can be understood as modules that researchers can re-use to understand the IEs' situation regarding the path-transformative process. These Path-

⁴⁷ As mentioned in Chapter Two, a non-ergodic describes a situation that relies on its past decisions (Henning, Stam, & Wenting, 2013, p. 1350), and where it is not possible to return or reverse the actions done to build such a situation (Levi, 1997; Bassanini & Dosi, 2001).

transformative phases' feature makes two contributions. First, it shows the back and forth processes that happen across the Path-transformative processes. Second, it supports the study of the actions and decisions that IEs and their allies make to continue building their paths.

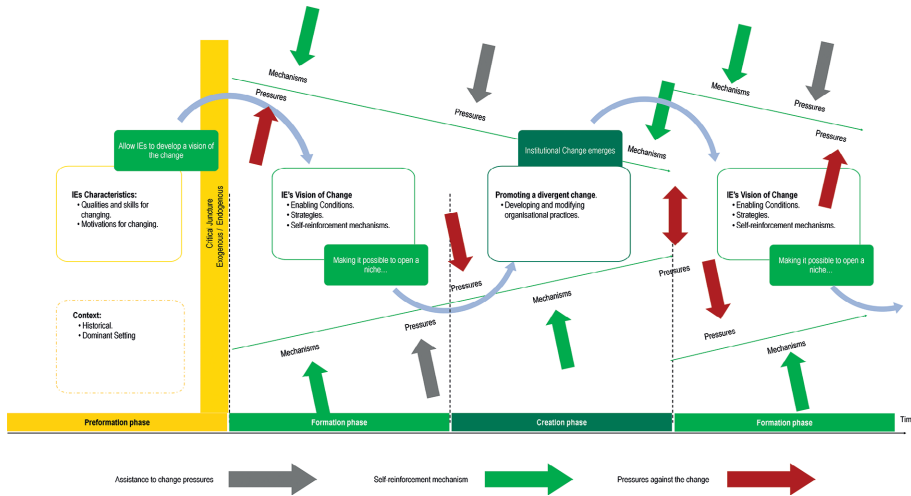


Figure 21. Modularity in the Path-transformative heuristic.

Source: Own elaboration.

To sum up, the Path-transformative process is not linear. Although it evolves over time, the IEs' actions and decisions regarding their objectives, the pressures, both positive and negative, and the interplays with other actors can foster, stop, or setback the process. Considering the modularity of the phases in the Path-transformative process contributes to understanding these three situations and how they affect the IEs processes of building Path-transformative processes.

7.3. IEs and agency: Four contributions using Institutional Entrepreneurship Theory

Institutional Entrepreneurship was chosen as one of the three sets of celestial bodies to guide social complexity navigation in this research. Using this conceptual branch contributed to arriving at the analysis and understanding of InInIn and Path-transformative processes adding the lenses of the agency. The effort in adding the lenses of agency to this research resulted four main contributions. First, it contributed to the endeavour of advancing in the study of actors in transformative changes which has been pointed out as being insufficient by different scholars (Farla, Markard, Raven, & Coenen, 2012; De Haan & Rotmans, 2018). Second, it contributed to revealing that agency is distributed and relational (Garud & Karnøe, 2001b; Garud & Karnøe, 2003; Cabero Tapia, 2019), as was pointed out in Chapter Two. Third, it contributed to the necessity of more study of the IEs in emerging fields (Battilana, Leca, & Boxenbaum, 2009). Finally, it opened a space

to reflect on the links between agency and social capital and concepts like Regional Innovation Systems. These four contributions will be discussed below.

7.3.1. Contributing to Filling the Gap in Studying Actors in Transformative Changes

One of the main contributions of this research is to support the gap filling of the lack of study of the actors in transformative changes (Farla, Markard, Raven, & Coenen, 2012; De Haan & Rotmans, 2018). This support was possible due to the consideration of Institutional Entrepreneurship as one of the three theoretical pillars in this research. Thus, Institutional Entrepreneurship allowed me to unveil and understand the role of IEs in three different scenarios. First, IEs' channeliser role in InInIn, as described in Chapter Five and discussed in Chapter Six. Second, the IEs' role in building paths, as discussed in Chapter Four. Finally, the relationship between the Path-transformative processes, InIn, and InInIn, as discussed in Chapter Six.

The analysis of IEs' role in building paths can be summarised taking into account the four phases of the Path-transformative heuristic were enriching as described in Chapter Four (See Section 4.2). Thus, besides allowing the IEs' description of their qualities, skills and motivations, the first phase in the IEs' work comprises two activities. First, it requires an IEs' process of critical revision and mindful deviation that allow them to identify the concerns and needs that will be attended to by building alternative Path-transformative processes. Second, the IEs will trigger a *Critical Juncture* that will work as a frame to boost their *vision of change* to address the identified concerns and needs. In triggering the *Critical Juncture*, they will launch different strategies to create their own opportunities to share their vision of change and find allies. This process does not deny the existence of windows of opportunity that could be used by the IEs but highlight the IEs intentionality in using those windows to support their goals. This acknowledgement of the IEs intentionality looks to avoid deterministic explanations in building Path-transformative processes.

The second and third phases in the Path-transformative heuristic capture the IEs' strategies and the self-reinforcement mechanisms implemented by them with two purposes in mind. First, to foster IEs' vision of change, and second, to build a niche and promote a divergent change by developing and modifying organisational practices. Besides, in these phases, the threefold IEs role was identified in relation to internal and external pressures to their Path-transformative process. First, the IEs role in channelising the assistance to change pressures, like InInIn. Second, their work in shielding their Path-transformative process from pressures against the change. The third role of IEs was linked to their capability in flipping the pressures against the change into assistance to change pressures.

The final phase in the Path-transformative heuristic shows two interesting elements in the IEs role in building transformative pathways. The first one is the set of IEs' strategies and self-reinforcement mechanisms to open new opportunities to foster sustainable, social and economic development. Therefore, in this last phase, the IEs look for cementing their vision of change and strengthening their Path-transformative pathways. The second element that draws attention in this last phase is the re-emergence of the IEs' processes of critical revision and mindful deviation. Cases Two and Three provide examples of these re-emergence processes. In Case Two (See Chapter Four, Section 4.1.2.4.iv), one of the constituents of IEs' Trinity showed his interest in moving the ARAC towards reflecting on their role in impacting Colombia's rural sector (C4-IT10, 2020). This IE's aims can

be considered as a new stage in the ARAC's Path-transformative process. In Case Three, one of the two women who shaped the IEs suggested the need of moving APACRA towards a self-sufficient stage. It means that it does not depend on public funding to grow as an organisation (See Chapter Four, Section 4.1.3.4).

The re-emergence of these IEs' critical revision and mindful deviation processes confirms that building path-transformative pathways are a never-ending process of path dependence, path destruction and path creation, as mentioned in section 7.2. Thus, it is also possible to argue that the Path-transformative process is built based on a constant assessment completed by the IEs. It allows them to fine tune their strategies, self-reinforce mechanisms and find allies to promote and cement their vision of change.

7.3.2. In Path-transformative processes and InInIn, the agency is distributed and relational

Following the caveat in Chapter Two, Section 2.2.5, IEs must not be seen as heroes working alone. In this vein, this research also contributed to identifying roles that actors involved in the Path-transformative processes and in InInIn performed. Realising the other actors' roles confirms the idea that in Path-transformative processes and in InInIn, the agency is distributed and relational, as mentioned in Chapter Two, Section 2.2.5. This agency's features emerged from the interplays between the actors that allowed the configuration of bricolage processes. This bricolage process will be discussed later in this section.

In Path-transformative processes, other actors besides the IEs played two roles. On the one hand, some actors who intervened are considered IEs' allies. However, on the other hand, not all actors work as allies. It was also possible to identify actors who performed the role of opponents to the IEs' work. It is the second role of actors identified in Path-transformative processes. For example, it was the situation of one of the ARAC's members in Case Two. That member's actions were hindering the ARAC's participation in the InInIn (See Chapter Five, Section 5.2.2.4.iv).

Regarding the role of other actors as IEs' allies in the Path-transformative processes, examples emerge in the three cases. For example, in Case One, the IE was looking for increasing the joint work between the peasants and Academia as part of her vision of change. In Case Two, the strong ties between the Universidad Uniminuto researchers and the community was an asset for the IE Trinity to support the bargaining process with the COLCIENCIAS team. Finally, in Case Three, one of Cajamarca's majors gave an opportunity to the APACRA organisation to open their first sales point in the main square of Cajamarca.

The role of other actors was also identified in InInIn. This perspective provided more fine-grained in analysing the other actors. It was because InInIn is the setting where the research question of this work is placed. In this regard, the participation of different actors in InInIn could be divided into five groups: (i) the Institutional Entrepreneurs; (ii) the communities or organisations; (iii) the COLCIENCIAS team; (iv) COLCIENCIAS' supporters; (v) the Academia (Godparents or research teams). Those actors played different roles, and in the IEs case, besides being channelisers, additional roles were identified. *Table 41* shows a summary of the roles identified in the three cases studied. This summary was built based on *Annex 7* from Chapter Five, and the cases studied.

Table 41. Actors' roles identified in the three cases studied

Roles Identified	Actors				
	Institutional Entrepreneurs	Communities or Organisations	COLCIENCIAS Team	COLCIENCIAS Supporters	Academia (Research Team, Godparents)
Channeliser	C1/C2/C3				
Leader	C1/C2/C3				
Verifier	C1		C1/C2/C3	C2/C3	
Conciliator	C1		C2	C2/C3	C1/C2
Adviser	C1		C3	C2/C3	C1/C2/C3
Trust Builder	C1				C1
Technological designer					C1
Project executor		C1/C2/C3			C1
Knowledge receptor		C1			
Game maker			C1/C2/C3		
Gatekeeper	C2/C3			C1	
Ally			C2/C3	C2/C3	C2
Trainer				C1/C2/C3	C1/C2/C3
Shield	C3				
Finances manager				C1	

Source: Own elaboration.

Note: The letter "C" and the number distinguish the case where the role was identified.

In the frame of InInIn, it is possible to describe the bricolage processes that emerged from the different actors involved in those initiatives. As mentioned in Chapter Two, this bricolage entails more than enabling industrial development. The bricolage processes in these three cases helped generate results⁴⁸ regarding environmental sustainability, socioeconomic development, empowerment and quality of life for the IEs and their communities. Regarding *Table 41*, the bricolage process is described broadly in *Box 3*.

Box 3. A General Description of the Bricolage process in InInIn

The COLCIENCIAS's team was the *game maker* of InInIn. They defined the general rules to develop the InInIn by the public calls. Besides, they provided the funding and technical support to IEs and their communities, and in that sense, became the IEs' allies in some cases. The IEs were the leaders who gatekept their vision of change in their Path-transformative processes and channelised the InInIn towards their community concerns and needs. Besides, they shared their field of knowledge with the other actors involved in the InInIn. As discussed in Chapter Six, the channelisation processes included bargaining. In that bargaining process, the COLCIENCIAS's supporters contributed to supporting the conciliation of interests between the parties. Those supporters shared their knowledge, experience and methodologies in working with local communities. For example, they supported methodologically the building of the InInIn implementation plan in cases Two and Three using the "Chiva" methodology.

Altogether with their support as conciliators, the COLCIENCIAS's supporters also contributed in three additional ways. First, they verified the accomplishment of the agreed goals with the IEs and their communities. Second, they provided technical support to the InInIn implementation process, and finally, they delivered training activities of social appropriation of STI to the community.

Another actor involved in the InInIn was the Academia. The COLCIENCIAS' team invited them to support and advise the IEs and their communities in the InInIn development. The Research team represented the Academia in Case One and the figure of Godparents (volunteer researchers and professors) in cases Two and Three. Academia was also a conciliator between the COLCIENCIAS' team and the IEs, and between the IEs and their communities. They became IEs' allies and trainers that supported the IEs Path-transformative processes. Finally, the Communities were the beneficiaries of the InInIn and active actors in supporting the execution of the initiatives.

In the process of bricolage Cases Two and Three were distinctive in relation to the "human touch" of the COLCIENCIAS Team and their Supporters. This "human touch" was acknowledged by the community in Case Two in the following terms:

"Exercises like this show that in addition to resources, the human value of those who manage and supervise them is very important." (ARAC, 2017g, p. 27). An interviewee confirmed this perception (C4-IT6, 2019).

In Case Three, there was a similar acknowledgement to the one in Case Two:

"It is a process [in] that one says, 'ok, Colciencias likes [doing] research, but it lacks the social [aspect], and no'. It is a beautiful process where the social [aspect] is very important for them, and one would think that it is not, but it is that." (C5-IT1-P1, 2019, p. 27).

Source: Own elaboration.

48 See Chapter Five, Section Result in each case.

Box 3 depicts in general terms the bricolage processes that emerged from the InInIn actors' interplays. However, it is worth acknowledging that actors' interplays not only create the results in terms of socioeconomic development or quality of life, among others mentioned. Those interplays also affected and probably changed other actors' perceptions and understandings of the world. Cases Two and Three provide examples of the effects that the bricolage produced in other actors besides the IEs and their communities. In case Two, the tensions produced by the misalignment between the IEs and the COLCIENCIAS' team opened a discussion about the meaning of Science, Technology, and Innovation (STI). Each part set out their understanding of STI and based on the discussion, the COLCIENCIAS' team understanding of STI was broadened (See Chapter Five, Section 5.2.2.4.iv). In Case Three, one of the Godparents acknowledged their enrichment from working with the communities in the InInIn (See Chapter Five, Section 5.2.3.6.ii).

7.3.3. Looking at the role of IEs in emerging fields

The third contribution from this research emerges from the analysis of the IEs role in InInIn, supported by National Entities in Local Communities in Colombia. This contribution resonates with the claim by Battilana, Leca & Boxenbaum (2009) mentioned in Chapter Two about the necessity for more study of the IEs in emerging fields. As mentioned in that Chapter, the IEs have been studied extensively in different realms, like industrial and urban fields (See Chapter Two, Section 2.2.5). However, little is known about the role of these actors in settings like rural areas in the Colombia Andean mountains. In light of this, learning from studying IEs in the mentioned setting can be discussed in the frame of the Path-transformative process and in InInIn.

The analysis showed typical features in IEs performance regarding the Path-transformative process that they led in their territories. These typical features are referred to those identified in the Model of the Process of Institutional Entrepreneurship suggested by Battilana, Leca & Boxenbaum (2009). Thus, field characteristics and the IEs' social position were crucial variables in studying the role of IEs. For example, Case One was an interesting case to reflect on the effects in the Path-transformative process of a weak IE's social position. Likewise, the three cases studied unfolded the strategies IEs implemented to foster their vision of change, mobilising allies behind their vision.

However, the assemble with the path dependence layer and the lessons from the cases studied allowed me to suggest the addition of elements that enrich that Model. The conceptual enrichment of that Model is illustrated in **Figure 22**. In that figure, the main additions are signalled in boxes with borders in dashes. Other enrichments are settled inside the initial categories in the Model.

The first enrichment in the Model of the Process of Institutional Entrepreneurship emerged from analysing the enabling conditions in the three cases studied. Those cases showed the importance of the communities' *organisational receptiveness* as an enabling condition for the IEs Divergent Change Implementation. As mentioned in Chapter Four, this enabling condition "describes the willingness of the community or organisation to cooperate and work with third-party actors. Thus, the higher the receptiveness, the easier the Institutional Entrepreneur work and the other way around".

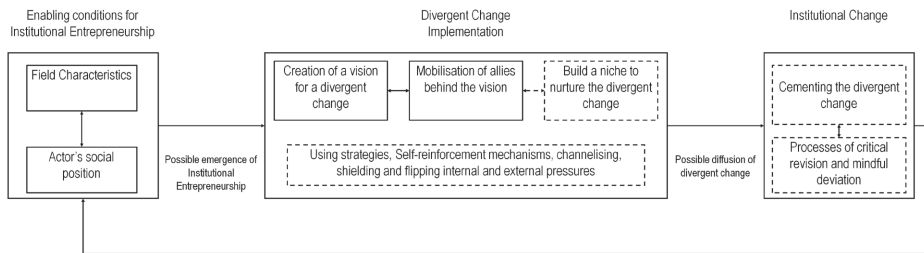


Figure 22. Model of the Process of Institutional Entrepreneurship Enriched.

Source: Own elaboration based on Battilana, Leca, & Boxenbaum (2009, p. 87).

The analysis of the *organisational receptiveness* led to considering its link, as the cases showed, with processes of building trust. These processes emerge in two contexts. First, in the Path-transformative processes between the Institutional Entrepreneurship and their communities. Second, in InInIn between the IEs and their communities, the COLCIENCIAS' Team, the Academia, and the COLCIENCIAS' supporters. In this respect, building trust between the actors in the different processes was essential to boost *organisational receptiveness*, enabling the IEs' work and the bricolage processes mentioned in the previous section.

A final reflection regarding *organisational receptiveness* is the possible role of the “human touch” in building trust. As it was pointed out in **Box 3**, the communities acknowledged this feature as a valuable characteristic of the COLCIENCIAS' team and its supporters. Accordingly, it could be considered that qualities like empathy from those actors or those from the IEs described in Chapter Four (**Table 32**) like Modesty or Knowledge sharing⁴⁹ could be essential assets in building trust and boosting *organisational receptiveness*.

However, the study of those qualities and their effect in building enabling conditions for Institutional Entrepreneurs work was an area of analysis that emerged as a consequence of looking for understanding the role of IEs in InInIn supported by National Entities in Local Communities. In this vein, further research is necessary in this field to bring fine-grained in this topic. The research in this field could be valuable for complementing other studies that, although not focused on InIn, aim to understand the role of variables as emotions in innovative processes (Zietsma & Toubiana, 2019).

The second enrichment in the Model of the Process of Institutional Entrepreneurship takes place in the Divergent Change Implementation stage. This enrichment can be described in two parts. The first part entails making explicit the IEs' strategies and including the concept of self-reinforcement mechanisms from the path-dependence theory (Pierson, 2000). Besides, this first part includes the roles of channelising, shielding, and flipping that IEs can have to handle and manage internal and external pressures.

49 The **knowledge sharing quality** was salient in the IEs profiles both in cases 2 and 3. This quality can be considered important to produce cohesion, build trust, spread the vision of change, and foster the path-transformative process.

The second part of the enrichment of the Divergent Change Implementation stage is linked with the inclusion of the process of building niches. This inclusion aims to shed more light to understand how IEs build niches to nurture their divergent changes. This process is considered a step before the possible diffusion of divergent change and the achievement of an Institutional Change. This enrichment makes room for further research from the niche management research literature on building niches from the IEs perspective.

The final enrichment to the Model of the Process of Institutional Entrepreneurship is focused on the Institutional Change stage. While in the original Model, Institutional Change was represented by a box, I would include two elements in that box. Those elements are *Cementing the divergent change* and the *Process of critical revision and mindful deviation*. The first element aims to consider those elements identified in the Path-transformative heuristic' Development phase. Adding this element also entails the idea from path dependence theory that it is a never-ending process of path dependence, path destruction and path creation. Thus, all the IEs' endeavours to build new pathways required actions to reinforce and cement those pathways to achieve Institutional Change.

The second element included in the Institutional Change box are the processes of critical revision and mindful deviation. Those processes were included to acknowledge that IEs are actors who can reflect on their fostered process. As a result, IEs can assess whether the Institutional Change achieved is aligned with their vision of change or if it is necessary to foster a new process. The inclusion of these processes also contributes to pointing out that Path dependence is a never-ending process. Besides, this inclusion also gives more meaning to the arrow pointing from the *Institutional Change* box towards the *Enabling Conditions* box at the beginning of the Model.

7.3.4. IEs, agency and social capital

The contributions pointed out in this section, and the previous ones, have allowed the discussion of the importance of agency in InInIn and in building Path-transformative processes. Also, the study of the three cases confirmed that agency is distributed and relational and contributed to explaining the bricolage processes that emerged from the actors' interplays. Looking at those elements from a distance, they look like celestial bodies shining in the sky and helping to guide the navigation. In this frame, it is possible to connect them as dots shaping a constellation. This constellation resonates with the notion of *social capital*.

The above elements, bricolage, tentative governance, the Path-transformative process and the InInIn, have a common element from the agency perspective. This element is the actors' *involvement*. As mentioned in Section 7.1.1, *involvement* as a dimension in the InIn-Radar aims to capture the people's participation before and through the InInIn, and the roles performed by different actors. Also, considering the actors' involvement allowed me to reflect on the process of building trust among them. However, *involvement* cannot be taken for granted as a spontaneous feature of the agency of InIn. The actors' *involvement* requires certain preconditions to emerge. At this point, *social capital* emerges as a helpful notion to connect the dots.

The notion of social capital is discussed in detail by Ostrom & Than (2003). They suggest that this notion comprises "trust, reciprocity rules, civil networks of participation, rules and laws" (2003, p. 171). The three cases studied in this research allow me to discuss and make explicit the crucial role of social capital in its constituent elements in InInIn and in building Path-transformative processes.

For example, Case one was characterised by community mistrust, the lack of civic participation or involvement in the InInIn, and other elements that worked as internal pressures against the IE's work (See Chapter Four, *Table 20*). By contrast, and supported by the analysis of Marín Bareño (2021), in Case Two, the existence of social capital was crucial to enabling the ARAC's development^{50,51}.

Social Capital can be considered as an enabling condition to support the emergence of other factors that support the IEs' work. It was pointed out tacitly in the previous section. That section claimed that trust and its building among actors were necessary "to boost *organisational receptiveness*, enabling the IEs' work and the bricolage processes". In particular, social capital is crucial to connect or build social networks that assemble the human capital⁵² that intervene in the bricolage processes. It is also essential to build the tentative governance, considering that it emerged "from alliances and agreements between actors not necessarily familiar between them but involved in the InInIn". In summary, without social capital it would not have been possible to make fruitful alliances to steer the InInIn and trigger the InIn.

In this context and considering that InInIn are tool containers (See Section 7.1.3), these initiatives provided tools to IEs to strengthen or heal the social capital required to support their Path-transformative process. Case Three depicts the first situation. In that case, the InInIn provide the IEs conditions for trusting external actors and thus, allowed them to get their Godparent based on a rule of reciprocity. In this sense, they found new allies and strengthen their social network. Case One showed an IE looking for strategies to heal or rebuild her community social capital. It was damaged by false promises and abuse from third parties. In that case, IE considered the InInIn as a way to build trust between the community. In both cases, InInIn provided conditions to IEs to deal with social exclusion in the sense that they contributed to restoring the breakup of the social fabric, as discussed in Chapter Two.

However, considering the crucial role of social capital in IEs' work of building their Path-transformative processes and in InInIn entails a further reflection around the concept of *Regional Innovation Systems*. This notion and its analysis are out of the scope of this study. However, it deserves a short reflection that could be expanded in a further study. To this end, it is worth mentioning that *Regional Innovation Systems* could be understood as the "set of networks between public and private actors that interact and give feedback within a specific territory, harnessing their own infrastructure for the purposes of adapting, generating and disseminating knowledge and innovations" (Buesa, Martínez, Heijs, & Baumert, 2002, p. 16).

50 Marín Bareño explored in her master's thesis the role that social capital played in "the development of the ARAC's innovation process" (2021, p. 14). One of her findings was that "the Social Capital is the amalgam which allows actors to collaborate and develop innovative processes as a collective action and towards a shared interest" (2021, p. 31).

51 Dr Gonzalo-Ordoñez supervised Marín Bareño's Master's thesis. I supported her research process by providing information about the ARAC's case, discussing with her my understanding of the case, and commenting on her thesis manuscript drafts. I want to underline the mutual benefit of this cooperation in our research processes.

52 *Human capital* can be defined as an individual attribute referred to as "knowledge and skills acquired that the individual takes to an activity" (Ostrom & Tahn, 2003, p. 170).

The *Regional Innovation Systems* performance can be conditioned to different factors such as “the level and the quality of interactions and exchanges between its different actors” (Pino & Ortega, 2018, p. 11). Other authors highlight the relevance of “governance frameworks that account for the specificities of the context” (Ordóñez-Matamoros, Díaz, Centeno, & Guevara, 2021, p. 4), trust, cooperation, clear rules, and actors involvement (Ordóñez-Matamoros, Díaz, Centeno, & Guevara, 2021). Although it is not explicit, it is possible to infer a strong relationship between the mentioned factors and the social capital.

In this vein, the Path-transformative processes led by IEs and their allies in a relational and distributed agency provide fertile soil for developing or strengthening the *Regional Innovation Systems*. It is possible due to healing and strengthening the social capital carried out by the IEs in combination with the InInIn. The fertile soil that prepares the IEs and other actors involved in InInIn entails, for example, actions to:

- build trust between actors (Case One);
- define rules to set the interplays between the actors like in the articles of the associations (Case Two and Three);
- participate in fighting against external pressures that can affect the organisation and other communities (Case Three).

The preparation of this fertile soil improves the human capital of each actor involved in building the Path-transformative process and InInIn. In turn, this human capital improvement becomes a valuable asset for the Regional Innovation Systems.

To sum up, the study of IEs in InInIn contributes to a better understanding of their role in healing and strengthening social capital. In turn, it was possible to reflect how the Path-transformative process and InInIn set fertile conditions to improve the Regional Innovation Systems. However, further research is required to explain the relationships between IEs, their allies, and social capital. Also, those between IEs, social capital and Regional Innovation Systems.

Before moving to the last Chapter of this research, it is worth looking back and contemplating the whole landscape navigated. Such contemplation leads to a reflection on how specific the lessons and conclusions raised to the Colombian contexts are. This reflection will be discussed in the next section of this Chapter.

7.4. From the Global South to the Global North: Finding common routes to navigate

In this Chapter, I share reflections and theoretical considerations based on the three cases studied placed in the *Global South*. Those reflections and theoretical considerations aim to expand the theoretical and practical understanding of the role of Institutional Entrepreneurs in InInIn, supported by National Entities in Local Communities. However, it could be argued that the specificity of the settings studied and, therefore, the associate findings and conclusions could be applied only in similar places in the *Global South*.

Understanding the contribution of this research beyond the *Global South* requires a short discussion about this concept. This discussion is not an in-depth analysis of the mentioned concept; that would be out of the scope of this research. Instead, it aims to illustrate how to build bridges connecting insights from the *South to the North* and back. In this regard, I will highlight two crucial elements about understanding the *Global South* and its scope.

The first element to highlight about *Global South* and *Global North* concepts is its usefulness to classify and make conceptual borders to encapsulate certain variables that describe different social contexts. However, as Borges suggested in his essay *The Analytical Language of John Wilkins*, any classification is arbitrary and conjectural (Borges, 1964). Therefore, the concept of the *Global South* is still disputed (Schneider, 2017). Drawing on the work by Schneider (2017), it is possible to identify three understandings of this concept.

The first understanding of the *Global South* is linked with a geographical notion of this concept. For example, according to Dados & Connell (2012), it is a concept that, like others such as *Third World Developing Countries*, among others, denotes areas out of the *First World* or regions like Europe and North America. This way to frame the *South* and the *North* based on a geographical position shows a disadvantage. As discussed further down, this disadvantage entails a lack of acknowledgment that those in the *North* also have to deal with similar concerns to those in the *South*.

The second understanding suggests the concept of the *Global South* as a flexible metaphor that depicts the power relationships “between a supposed powerful North and a deprived and dependent South” (2017, p. 21). This understanding resonates again with notions of *developing* and *developed* countries and leads to a connection with a geographical set of coordinates. However, Dados & Connell (2012) raised criticisms about this metaphorical understanding. They suggested this notion embodies “an entire history of colonialism, neo-imperialism, and differential economic and social change through which large inequalities in living standards, life expectancy, and access to resources are maintained” (2012, p. 13).

Finally, the notion of the *Global South* has been claimed as a *global subaltern* (Schneider, 2017). This reading of the concept is a way to build ties between communities disregarding their geographical location, but based on their social condition as subalterns (Lopez, 2007) or “exploited and specially oppressed in neoliberal globalization processes” (Kloß, 2017, p. 7). In other words, this understanding of the *Global South* refers to “those that are out of the benefits of the market” due to indirect approaches to development (See Chapter Two).

The second element to highlight is the bridge that the above understanding of *Global South*, even as a reflexive metaphor, can open to foster the “dialogue between scholars and activists from different parts of the world” (Schneider, 2017, p. 30). In this framework, the concern raised at the beginning of this section could make sense if the *Global South* is understood as a set of geographical coordinates. Thus, if the *Global South* is considered as a geographical classification or category, definitely the lessons and theoretical considerations of this research could be locked to the borders of those coordinates.

Understanding the *Global South* as a *global subaltern* allows one to consider the existence of *Global Souths* within *Global Norths* (Lopez, 2007; Kloß, 2017; Schneider, 2017). This consideration, in turn, leads to acknowledging that geographical regions, where it is expected to find the *Global*

Norths, are also affected by situations of exclusion, inequality, poverty and other social concerns. For example, Europe is facing problems of inequality (Müller, et al., 2021), and people in the *Norths* with high skills are prone to suffer exclusion from phenomena like the so-called *Fourth Industrial Revolution* (Kovacs, 2018).

In this respect, the lessons and theoretical considerations raised in the Colombian context are not locked within geographical borders. Instead, the findings and conclusions aim to expand the *Global North's* understanding of their and our *Global Souths* in their literature, policy, and practice. Thus, the research's findings and conclusions aim to contribute to the dialogue between scholars worldwide about the *Global Souths*, the *Souths* within the *Global Norths*, the *Global Norths*, and the *Norths* within the *Global Souths*.

To sum up, this research sheds light to the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities. Those communities could be settled in other *Global Souths* or the *Souths* within the *Global Norths*. Those communities could have different kinds of concerns, but they can share the need of finding alternatives to build path-transformative pathways. Thus, understanding the role of actors like the Institutional Entrepreneurs in Inclusive Innovation Initiatives, a better conceptualisation of Inclusive Innovation, among other lessons and theoretical considerations from this research, should be considered building blocks to navigate the social complexity back and forth between *global subalterns*.

7.5. A summary of this navigation

This Chapter aims to return from the data analysis presented in Chapters Four, Five and Six, to the Conceptual realm set up in Chapter Two. The navigation towards the conceptual framework followed the order defined in Chapter Two and has led to the following three research contributions. First, five lessons were learned that contributed to deepening the conceptual understanding of Inclusive Innovation. Second, this navigation led to discussing the critical concepts of path dependence and path creation processes. Besides, it allowed the inclusion of the notion of modularity to explain the role of Institutional Entrepreneurs in those processes. Finally, regarding Institutional Entrepreneurship, this navigation generated four contributions. First, it increased the study of actors in Transformative Changes. Second, it supported the confirmation that in those processes, the agency is distributed and relational. Third, it expanded the understanding of Institutional Entrepreneurship based on the study of three cases from the Colombian Andean Mountains. Finally, it contributed to understanding the role that a distributed and relational agency has in relationship with the concept of social capital. Also, it contributed to reflecting how the social capital healed or strengthened by IEs in combination with InInIn provides a fertile soil for the development of Regional Innovation Systems. The last section of this Chapter discusses the scope of the lessons and theoretical considerations raised in relation to the Colombian contexts.

Despite the contributions of this research pointed out above, this research had some limitations that should be mentioned. Besides, it leads to identifying some further research opportunities and some policy suggestions. The last Chapter of this study will discuss these elements in detail.

CHAPTER 8

Limitations, further research opportunities and policy recommendations

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This is the last chapter in this process of navigating the social complexity to understand the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in Local Communities. According to the abductive approach discussed in Chapter Three this Chapter is placed in the empirical realm. Although some authors (Kovács & Spens, 2005) suggest that the abductive approach should finish with the presentation of a plausible explanation (Chapter Six) and theoretical reflections (Chapter Seven), I consider that it is crucial to return to the empirical realm. In this research, this return means drawing attention to some limitations, further research opportunities and policy suggestions based on the learning lessons from this navigation.

In this vein, the purpose of this Chapter is to present two sets of considerations. The first set will be focused on the limitations and research opportunities that arose from studying the role of IEs in InInIn, supported by National Entities in Local Communities. The second set of considerations will be the policy recommendations derived from this research. Although the two sets of considerations in this last Chapter will mark the final port in this process of navigating the social complexity, I am confident that they will become a starting point for further research exercises.

8.1. Research limitations and opportunities

A better understanding and use of the reflections and contributions from this research requires considering the limitations that it entails and the opportunities that such limitations open for further research. For that purpose, this section will cover general limitations and opportunities that emerged from this research, and those linked to InIn and InInIn, Path-transformative processes and the IEs features.

8.1.1. General limitations

First, I acknowledge that this research was built on a multiple case study, and it that does not claim generalisations. Along the same lines, the three cases cannot be considered a representative sample of the programs *Ideas para el Cambio* or *A Ciencia Cierta*, an assessment of those programs or their policy results. Thus, although this research provides a set of conceptual reflections and contributions, further research is necessary. It is needed to continue exploring the role of Institutional Entrepreneurs, and building blocks about Inclusive Innovation and Inclusive Innovation Initiatives in settings like those that provide the Global South. As Pansera & Owen affirm, we have to be aware that, for example, in Inclusive Innovation, “Much of this extant literature, however, remains theoretical and is not informed by the reporting of practices on the ground” (2018, p. 25). The same happens with the study of Institutional Entrepreneurship following the claims of Battilana, Leca, & Boxenbaum (2009).

The second limitation, or in this case a caveat, in this research is linked with transitions theory. With this caveat, I want to point out that this research does not aim to explain a transitions process (Geels, 2011). However, if I consider this theory as a field to locate my research, it could be settled in the space between the predevelopment and the take-off phases in a transition process (Rotmans, Kemp, & Van Asselt, 2001). In this frame, this research can contribute to understanding the process of shifting between the mentioned phases from an actors' perspective, or in other words, making salient the role of agency in this process.

8.1.2. InIn and InInIn

The study of InIn and InInIn in this research drew attention to some limitations that can be understood as starting points for further analysis. First, a limitation was pointed out in Chapter Five regarding the limits that the InIn-Radar has in this research. As mentioned in that Chapter, the InIn-Radar heuristic was built to identify if one of the six InIn dimensions is present in a specific situation. However, there is a lack of instruments to measure Inclusive Innovation (Rennkamp, 2011), and it represents a challenge both in the academic and practical realms. This limitation brings to the fore a promising research field that could contribute to enriching the discussions and finding complementary alternatives to the innovation mainstream. Besides, overcoming this limitation also will contribute to addressing difficulties that actors from the innovation mainstream have had to acknowledge other non-conventional sources of knowledge (Smith, Stirling, & Berkhout, 2005).

Secondly, in the same line of bringing more elements to increase the discussion about InIn, it is worth considering the possibility of exploring and building a set of InInIn typologies. Those typologies could be built considering the *supporter*, and the *place or actors* benefited. For example, this research was focused on those InInIn supported by National Entities (*supporter*) in Local Communities (*place or actors*). In this regard, and if the five sources pointed out in Chapter Two to foster InIn⁵³ are also considered in InInIn, it is possible to have at least five different types of InInIn. Now, if we distinguish places like urban or rural, the number of InInIn types rises to ten. This exercise of exploring and building a set of InInIn typologies can address the concern of Foster & Heeks (2013) about a lack of fieldwork to understand this phenomenon systematically.

Thirdly, an exciting and complementary research field emerges from the conceptual understanding of InIn developed in this study. As mentioned in Chapter 7, InIn “should be understood as the direct use of innovation to directly address the demands and concerns of communities”. In this understanding of InIn, the notion of *concerns* was considered instead of the idea of *marginality* (See Chapter 7, Section 7.1.2). This change expands the scope in terms of the communities and their locations to explore and correct the bias towards communities placed in the Global South. Thus, it is promising to study InIn and InInIn regarding the demands and concerns of the communities without bias towards conditions of marginality. These studies will complement the InInIn typologies mentioned in the previous paragraph. Besides, it will offer the possibility to understand better the Global Souths inside the Global Norths.

Finally, the reflection in the last Chapter about the relationship between IEs, Agency and Social capital leads to considering the role of InInIn in healing or building social capital. Ostrom & Than (2003) suggest that social capital can be built directly and indirectly. However, as they also mention, it is a hard endeavour that requires a deep understanding of the local context where it will be built. In this process, public entities could play a critical role in fostering this endeavour or even block it (2003). In this research, the study of three cases suggests that InInIn could perform a critical role to support the process of healing and building social capital. A systematic study of this field from the perspective of InInIn could produce a twofold contribution. On the one hand, it could better

53 According to Chapter Two, InIn can be fostered by five sources: the private sector, non-profit organisations, governments, multilateral organisations and self-organised communities.

to understand the notion of social capital and the variables that can intervene in their development. On the other, it could bring policy insights to design strategies to recover social capital.

8.1.3. Path-transformative process

The Path-transformative processes described in this research offer four lines of enquiry. The first is linked with the Path-transformative heuristic. In this line, this heuristic can be considered research lenses that show a promissory use in other types of settings and situations. Some attempts have been made looking for testing the analytical capacity of this heuristic in unfolding situations like the role of IEs in innovation policies with transformative potential in the Global South (Ordóñez-Matamoros, Centeno, Andrade-Sastoque, & Pinzón-Camargo, 2021) or path dependence processes in the role assigned to innovation in the case of Colombia (Pinzón-Camargo & Ordóñez-Matamoros, 2021).

In these processes of applying the Path-transformative heuristic to other settings, like the realm of policymakers at the national level, new questions emerge. For example, by looking at the actors studied in the policy realm questions appear about the advantages, drawbacks, differences and complementarities between using the Institutional Entrepreneurship and Policy Entrepreneurship theories (Mintrom & Norman, 2009; Mintrom, 2020). From a conceptual level, questions like whether Institutional and Policy entrepreneurs are different agents of change or if the second ones are a subcategory of the first ones also appear. Further study is required to verify the flexibility of the Path-transformative heuristic in other realms and understand the role those other actors can play, besides the roles performed by IEs and their allies.

The second line of inquiry that emerges after studying the Path-transformative process is linked with the analysis of Institutional Entrepreneurs in building niches. This line of inquiry will give fine-grained understanding in more detail the processes, strategies and mechanisms fostered by the IEs to build their niches and introduce the divergent change. Thus, it could be advisable to combine Niche management (Kemp, Rip, & Schot, 2001) and the Institutional Entrepreneurship theories to address this objective.

The third line of study emerges in the frame of the role of IEs of InInIn channelisers. In performing this role, the IEs also showed their capabilities to shield their Path-transformative processes from negative external sources of change or flip those negative sources into positive ones. From the multilevel perspective approach, these IEs capabilities lead to the reflection (Geels, 2002; Geels, 2011) on the changes that from the landscape can pressure the regimes. This reflection suggests, on the one hand acknowledging that those pressures could affect positively or negatively the niche level, and on the other, thinking about the role that IEs play in managing those pressures.

However, understanding in detail the effects and the role of IEs in managing those pressures was not sufficiently studied in this research. Therefore, further research is necessary to understand in detail the capabilities and processes that IEs deploy to flip and shield their niches from external sources of change. This reflection also applies to those internal pressures against the change identified in the cases studied in this research.

Finally, and before moving to the following point, the last line of inquiry appears from the caveat in Chapter Two about the role of IEs. This caveat suggests that IEs should not be seen as heroes working alone. Instead of that, as this research confirmed, the agency is distributed and relational.

Thus, IEs could be crucial agents in managing internal and external pressures, but they will rely on other actors, alliances, and strategies. As was discussed in Chapter Seven (See Section 7.3.4), these elements resonate with the concept of social capital. However, as mentioned in the same Chapter, further research is necessary to understand and explain the possible relationships between IEs, their allies, their role, and the notion of social capital. This line of inquiry will be helpful to study other concepts like Regional Innovation Systems, considering that Path-transformative processes offer a fertile soil to develop these systems. Besides, it will be complementary with the last line of inquiry mentioned in the previous section.

8.1.4. IEs features

The final set of research opportunities that emerged from this research looks to understand better the IEs' profiles, features, and qualities. For example, as mentioned in Chapter Seven (Section 7.3.2), building trust was essential to boost the organisational receptiveness, enabling the IEs' work and the bricolage processes. In that process of building trust, the "human touch" was crucial to support agreements and foster empathy. The study of qualities like trust, empathy, and the "human touch" could contribute on two fronts, among others identified in the three cases. First, to understand how those qualities affect the IEs' assemble, mainly when they are compound agents. Second, to identify the reasons and motivations of IEs and other actors' actions.

A second research field entails studying IEs, InInIn, and Path-transformative processes based on a gender approach. This could help to navigate the social complexity that those processes entail and deepen the study of this research object. In a retrospective exercise, it is possible to identify at least three roles that women performed and could be a starting point for further analysis. The first role to consider is their position as women peasants in the Path-transformative process (Cases One, Two and Three). The second role is their background (solid technical, professional, and academic knowledge) in assembling the IEs (Cases One and Three) that lead the Path-transformative process and the InInIn. Finally, one could study women's particular role in addressing strong male-dominated cultures like those in the Colombian Andean mountains and other territories in the country and the region.

8.2. Policy recommendations

Policy recommendations constitute the second and last set of considerations that this Chapter aims to present. These recommendations arise from some lessons learnt and reflections generated by this research and my personal experience as a policy adviser in Colombia. In this vein, the policy recommendations that I will present below will address the policy instruments, programs, and systems. I suggest working on these three elements to contribute to building more sustainable, social, economic, and inclusive development. An important caveat is to consider the social and institutional context where these policy recommendations take place. I introduce this caveat not as a limitation to the following set of policy recommendations but as a crucial requirement to scale (Müller, et al., 2021) in institutional and geographical settings outside the Colombian and the Global South contexts. Therefore, these recommendations can support interesting reflections in

other spaces but require a critical assessment before being adopted in other social worlds, both in the Global Souths and Norths.

8.2.1. Policy instruments: Learning from the Public Calls

The first element to address in this policy recommendation sheds light on the role of the public calls. As mentioned in Chapter Seven, these public calls had two features. First, they worked as boundary objects and tool containers. Second, those public calls bring enough flexibility to allow bricolage processes between the actors (See Chapter Seven, *Box 3*).

In their role of boundary objects, the public calls showed clarity and simplicity in their message. As a result, they were able to address different communities or actors, promoting a dialogue of knowledge between the call's participants. This recommendation suggests considering all the possible stakeholders in the Public Calls' design. This way, it could be possible to include their opinions, and therefore, their engagement in the public call implementation could increase, improving processes of dialogue of knowledge. Currently, in most cases, at least in Colombia, public calls' design is restricted to actors in the policy realm, excluding potential beneficiaries and third parties that could contribute to the design and implementations process. To sum up, policymakers should consider these public calls experiences as a case study to identifying the elements and learning lessons that contribute to delivering the policy message between different actors.

These Public Calls exhibited a second feature, their flexibility to allow processes of bricolage. This feature was discussed in different sections in Chapter Seven and draw attention to acknowledge the expectations of the parts involved in the Public Calls. On the one hand, the policymakers are looking for defining the rules of the game about the policy objectives that they set. On the other hand, there are the actors, in these cases, the IEs and their communities, looking to find alternatives to trigger, support, or deepen their ideas, dreams, or pathways.

Commonly, Public Calls show a bias towards the first set of expectations, and it is consequent considering that they are designed and implemented by the same actors, emerging as top-down instruments. However, this bias could undermine the involvement and participation of IEs, communities, or public call beneficiaries and other actors who can support policy implementation. Therefore, policymakers should learn from *A Ciencia Cierta* and *Ideas para el Cambio* the process of mixing the two sets of expectations mentioned, in other words, to mix a top-down with a bottom-up approach. The mixing of these two approaches will contribute to opening the floor to bricolage processes where the concerns of the different actors could have a place.

Encouraging the flexibility in the public calls for defining rules and allow spaces for bargaining and discussion represents a considerable challenge not only for countries in the Global South like Colombia, but also in the Global North. This challenge relies mainly on the corruption problems that have led the governmental practices to narrow the room for discretion in the policy implementation process. These practices that consider diminishing the negotiation space between the actors who intervene in public calls will contribute to assigning the public resources correctly and safely. However, this assumption produces the exclusion of the actors' concerns and interests and assumes that the best way to address a challenge is to avoid and prohibit practices.

In contrast to the approach presented in the last paragraph, a recent study by Granados Herrera (2021) about the program of Payment for Environmental Services (PES) made, among others,

two relevant suggestions to deal with corruption practices. Firstly, she emphasises the importance of opening channels to foster feedback between all the actors involved in the programme. This advice is similar to the activities and processes followed in developing the *A Ciencia Cierta* and *Ideas para el Cambio* programmes. However, a systematic analysis is advisable to improve those practices in the Colombian case. Secondly, Granados Herrera highlights the importance to learn from informality. In her research, informality is understood as informal rules that emerge from the daily work between the actors implementing the programmes. In this vein, informality is not linked “only in its negative expression (e.g. corruption), but as a fundamental cross-cutting aspect of the implementation of PES” (Granados Herrera, 2021, p. 327). In this frame, studying and understanding informal rules that guide the implementation of the programmes will provide useful lessons to improve the programmes. Those lessons can emerge from good-informal practices and “to identify contested/controversial aspects of the programme, in order to raise awareness of the critical and resistant responses of different actors, especially those with little or not power” (Granados Herrera, 2021, p. 328).

A second feature of the public calls was its performance as tool containers. In performing this role, the public calls created tools to support the IEs on healing or strengthening social capital, as discussed in Chapter Seven (Section 7.3.4). Taking into account this feature, and acknowledging that further research is necessary to understand this link between InInIn and social capital (See Sections 8.1.2 and 8.1.3), it is advisable to continue supporting this kind of public calls. This could support a strategy based on a direct approach to development. This strategy should be considered complementary and not exclusive from the traditional role assigned to innovation as a driver for industrial productivity. Thus, supporting and scaling these public calls have a twofold benefit. On the one hand, it will continue bringing the tools to IEs and their allies to strengthen their Path-transformative processes. On the other hand, supporting the Path-transformative process will produce the conditions for blooming Regional Innovation Systems and also fighting against corruption by healing or strengthening the social capital in those territories.

To sum up the policy recommendations based on the public calls as policy instruments, I can point out the following four pieces of advice for policymakers:

1. First, public calls should be designed to allow the policy objectives to cut across different communities and actors with the potential interest in accessing the calls.
2. Second, Public Calls should trigger mixing top-down and bottom-up approaches. That way, it will be possible to produce a real inclusion of the actors’ concerns and interests and trigger bricolage processes between them.
3. Third, fighting against corruption should find alternatives that allow at least four types of actions. First, to co-produce between the actors in public calls mutual alternatives to attend their concerns and interests. Second, actions to guarantee the correct investment of the public resources. Third, study and design channels to improve feedback between the actors involved in the public call to increase transparency. Last but not least, learning from informal practices built from the daily implementation of the public calls.
4. Finally, public calls from *A Ciencia Cierta* and *Ideas Para el Cambio* should receive more technical, administrative, and financial support to improve them and continue their implementation.

Those programs could be seen as complementary strategies to productive development policies (also known as Industrial Policies), providing tools to healing or strengthening the social capital necessary to build Regional Innovation Systems and fight against corruption.

8.2.2. Policy programs: Scaling up based on a policy mix and identifying good practices

The second element to discuss in this section of policy recommendations is oriented towards the policy programs and the challenge of scaling them up. In this challenge, three factors should be considered. First, the apparently unique set of conditions that each case or community seems to have. Second, the multiplicity of results that InInIn produced in the cases studied. Finally, organisational practices and procedures followed in those cases. These three factors will be discussed below.

Scaling up the programs *A Ciencia Cierta* and *Ideas para el Cambio* is a challenge, even more, if the participants resemble a unique set of conditions. However, this first challenge to scaling up these programs can be overcome by an in-depth understanding of the community concerns and interests. In this vein, the previous advice about the policy instruments is crucial and complementary. Based on that advice, it could be possible to open the floor to make contact with the IEs and their communities and understand their concerns and interests. In a sense, all the communities are unique, and the challenge is to understand them regarding their concerns, interests, visions of the future and expectations. This understanding of the communities will be possible if the policy programs include instruments or devices designed to, as mentioned, open a knowledge dialogue between the participants to learn and share between them. In turn, these dialogues between participants should lead to co-producing alternatives to address the communities and policymakers' concerns. In sum, as similar initiatives have acknowledged, “[t]he specific social context is decisive for how a co-creation activity must be designed in order to achieve successful and diverse participation in innovation activities” (Müller, et al., 2021, p. 7),

The second factor to consider for scaling up these programs is keeping and nurturing the multiplicity of results produced by these InInIn. Chapter Five showed that InInIn could foster different kinds of results aligned with the IEs and their communities' concerns and interests and with the COLCIENCIAS' team expectations. In particular, cases Two and Three showed that results of environmental sustainability, empowerment or quality of life do not prevent the achievement of goals in terms of productivity. This diversity of results suggests that, for example, in cases Two and Three, InInIn could work as complementary devices to increase productivity from an alternative approach to the industrial and innovation mainstream policies. This approach is considered an alternative because the main and only goal is not increasing productivity but addressing others' concerns where productivity could be another target. In turn, this complementarity resonates with the concept of policy mixes. In this vein, it is necessary to acknowledge the necessity and convenience of finding support in other policy realms to mix different approaches, instruments, and efforts to produce a transformative impact (Kern, Rogge, & Howlett, 2019).

Thus, it is relevant to consider a policy mix approach to keep and nurture the multiplicity of results produced by these InInIn. It is worth mentioning that following this approach will also strengthen the role that public calls have as tools containers. In this respect, a policy mix approach

will provide more accurate tools and strategies to the IEs and their communities, increasing their possibilities of fostering their Path-transformative processes.

The last factor to consider to overcome the challenge of scaling up these programs is referred to in the organisational practices and procedures followed in the cases studied. These two elements, organisational practices, and procedures, lead to a reflection on the roles of other actors, apart from the IEs'. *Table 41* illustrates a valuable starting point to reflect on those roles. For example, in the three cases studied, the COLCIENCIAS supporters' role as conciliators was central. They opened and managed the floor to allow the knowledge dialogue between the IEs and their communities and the COLCIENCIAS' team. In this sense, without these actors, instruments like the public calls could have been useless or may not have deployed all their potential in the best case scenario. In this frame, this last piece of advice shed light on assessing and identifying in more detail the roles played by actors from a national perspective and their best practices. This advice can be complemented taking into account the advice from a large project that studied processes of co-creation in the European Union (Müller, et al., 2021). The project emphasised the relevance of including social scientists in the co-creation projects to better understand the social context and successfully support a transfer process of knowledge between the parties involved.

In summary, to address the challenge of scaling up the *Ideas para el Cambio* and *A Ciencia Cierta* programs three actions should be considered:

1. It is necessary to keep instruments and devices that support a better knowledge of the communities, their concerns, and interests, and open a floor to have knowledge dialogues between the actors involved. That way, it will be possible to co-produce inclusive alternatives to attend to communities and policymakers' concerns, expectations, and visions of the future.
2. Instruments like the Public Calls should be strengthened based on policy mixes. This strengthening of the instruments will contribute to keeping and nurturing the multiplicity of results that InInIn can achieve. Besides scaling up these programs, it is worth considering the InInIn as an alternative but complementary device for traditional industrial and innovation policy programs.
3. It is necessary to assess and identify good practices and rooms for improving these programs from actors' perspectives and roles.

These last activities will contribute to a better understanding of the interplays between policy instruments, programs, and agency. In turn, this understanding will be crucial to scaling up the programs.

8.2.3. The System perspective: Towards inclusive, sustainable, economic, and social development innovation systems

The final set of policy recommendations aims to address the system level. So far, I have suggested some points regarding policy instruments and programs. Improving the policy instruments and even scaling up the programs will increase the communities that benefit in countries placed in the Global South or in the souths inside the Global North. In the particular case of Colombia, those

recommendations could imply a significant advancement considering the inequality, poverty and misery that feature the country and that were exacerbated due to the pandemic.

However, InIn unveils the need for reflecting on the formal and informal rules of the game and their links with “broader macro-political, institutional and economic factors” (Dawley, Mackinnon, Cumbers, & Pike, 2015, p. 269), both in sub-national scale, and national and supra-scale (Essletzbichler, 2012). This reflection leads to rethinking the idea of National Innovation Systems in developing countries moving towards a “human development innovation system” (Cozzens S. E., 2008, p. 3), or as I have suggested, an inclusive, sustainable, economic, and social development innovation system.

The building or reshaping of the Innovation Systems to make them more inclusive spaces and achieve sustainable, economic, and social goals entails four considerations. The first points out the necessity of opening spaces to facilitate the participation of actors such as the IEs and their communities and include their concerns and necessities. So far, Innovation Systems, like the Colombian one, rely mainly on the idea that the critical actors to consider are the Government, Academia, and Industry. However, those actors have an understanding of innovation policies aligned with the innovation mainstream. They do not leave room for considering alternative approaches like the one that InInIn comprises. Therefore, it is mandatory to open the floor for new or underestimated actors, like IEs and their local communities, along with their concerns and interest. It will nurture the system’s capability to address the social complexity and build a directionality that acknowledges and accepts different approaches from those defined by the mainstream.

The second consideration points out that the process of including new actors in the Innovation Systems should be symmetrical regarding the sub-national and national scales. In this sense, the inclusion of actors should be considered in local or regional innovation systems and their mirror at the national level. This symmetry is required if we acknowledge that InIn are not all top-down or bottom-up (George, McGahan, & Prabhu, 2012). It means that better coordination between those levels demands actors to channel their concerns and interests from the local to the national level and back. Besides, such inclusion should be real in the sense of giving a voice and vote to those actors, avoiding their invitation as nominal participants.

The third consideration integrates the two previous ones to suggest the necessity of reshaping the governance structures that guide the innovation systems. In addressing this necessity, in the three cases studied in this research lessons were learnt about the process of building tentative governances. Those tentative governances provided spaces for mutual learning between non-related actors and probing and co-producing alternatives to cope with their concerns and interests. Those lessons will be helpful to move the innovation systems from first-order learning⁵⁴ to second-order learning (Rip A., 1992; Kuhlmann, Shapira, & Smits, 2010). This movement towards second-order learning will allow the inclusion of new actors, like those mentioned in the first recommendation in this final section, new interplays, and the co-production of innovative alternatives to attending concerns,

54 According to Pinzón-Camargo & Ordóñez-Matamoros (2021), Colombia is an example of an Innovation System stuck in first-order learning.

interests, and visions of the future. That way, the Innovation Systems will have an alternative directionality to navigate the social complexity.

Finally, as Ordóñez-Matamoros, Díaz, Centeno, & Guevara (2021) suggest, the challenges that affect the National or Regional Innovation Systems demand addressing systemic failures. One of those systemic failures is the interaction failure (Woolthuis, Lankhuizen, & Gilsing, 2005). This failure depicts a lack of social capital required to support trust, cooperation and mutual learning between actors not necessarily familiar with each other. In this vein, the pieces of advice stated in this section could be useless without a dedicated strategy for healing and strengthening social capital. Thus, it is necessary to open regional and national spaces to design and implement a regional InInIn strategy as a precondition to advance in building inclusive, sustainable, economic, and social development innovation systems. For this purpose, the pieces of advice in the two previous sections emerge as complementary to this strategy.

As a summary, from the Systems Perspective, it will be advisable to consider the following actions:

1. It is necessary to open spaces that allow effective participation of new actors or underestimated ones. The effective participation of those actors will generate alternative viewpoints, solutions and, in general, social, and human capital to address societal challenges.
2. The inclusion of new or underestimated actors should be symmetrical. It means that they should have room for participating at the local or regional level and at the national level, where critical decisions are often taken.
3. Including new or underestimated actors and allowing their effective participation requires reshaping the governance structures that guide the innovation systems. These structures' reshaping could consider lessons from the concept of tentative governance to foster processes of second-order learning.
4. Based on the advice from the previous sections, it is necessary to design and implement a regional InInIn strategy. This action is a precondition to heal or strengthen the social capital required to reshape the innovation systems' governance and advance in building inclusive, sustainable, economic, and social development innovation systems.

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Annex 1. Institutional Entrepreneurs' Complementary Features

Table 1 illustrates the variety of skills, strategies and enabling conditions that different scholars have identified as features that shape the Institutional Entrepreneurs' notion. This table shows other elements that the IE can use to support a process of institutional change and, therefore, building paths.

Table 1. Illustration of some Institutional Entrepreneurs' skills, strategies and enabling conditions

Feature	Elements	Authors that mentioned these aspects
Skills	Empathy and legitimacy.	Fligstein (1997), Leca, Battilana & Boxenbaum (2008).
	Building boundary objects.	Mcknight & Zietsma (2007).
	Abstracting from the concerns, cooperation, linking actions to their characteristics, mobilise allies.	Fligstein (1997), Leca, Battilana, & Boxenbaum (2008).
	Displaying social acuity or perceptiveness, defining problems, building teams, and leading by example.	Mintrom & Norman (2009).
Strategies	Direct authority; agenda-setting; taking what the system gives; framing action; wheeling and annealing; brokering; asking for more, settling for less; maintaining ambiguity; aggregating interests; trying five things to get one; convincing people one holds more cards than one does; making others think they are in control; networking to outliers who have no coalitions or isolating difficulties outliers particularly; recognising Luke's third face of power.	Fligstein (1997).
	Make use of discursive frames.	Munir & Phillips (2005), Leca, Battilana, & Boxenbaum (2008), Tracey, Philips, & Jarvis (2011), Brouwer & Huitema (2018).
	Cooperation, collective action, and interest groups; political tactics; framing; theorisation and professionalisation.	Pacheco, York, Dean, & Sarasvathy (2010).
	Political process, alter or creation capacity of meaning systems, legitimacy.	Tracey, Philips, & Jarvis (2011).
	"...agency, interests, legitimacy, strategy, and power in the analysis of regional innovation systems" (Sotarauta & Pulkkien, 2011, p. 100).	Sotarauta & Pulkkien (2011).
Enabling conditions	Attention – and support – seeking strategies; Linking strategies; Relational management strategies; and Arena strategies.	Brouwer & Huitema (2018).
	External pressures (functional, political, social pressures); power and legitimacy (obtain societal support); characteristics of the institutional entrepreneur (background, experience, and social capital of individuals); changes in demand and supply; technological change; cultural aspects; transaction costs.	Pacheco, York, Dean, & Sarasvathy (2010).

Source: Own elaboration.

Institutional Entrepreneurs give different uses to their skills and strategies. Two examples can be their ability to build boundary objects and to make discursive frames. Regarding the first case, the Institutional Entrepreneurs' ability to create boundary objects allow them to obtain legitimacy, and acquire learning and knowledge diffusion across boundaries (Mcknight & Zietsma, 2007). Boundary objects should be created accurately to travel softly between different kinds of socio-

economic networks (Callon, 1990). This feature of boundary objects is essential in the process of policy implementation (Chandran, 2016). In the building process of boundary, they have to achieve a high level of irreversibilisation or normalisation (Callon, 1990) to guarantee that their meaning will remain identical, even if they have to navigate different networks.

Considering the second example of the different uses that Institutional Entrepreneurs give to their skills and strategies, it is possible to highlight the process of making discursive frames. This process is considered by various scholars a fundamental Institutional Entrepreneurs' skill (See **Table 1** in this Annex). For example, in the case of the Birth of the 'Kodak Moment' studied by Munir & Phillips (2005), they examined diverse discursive strategies "(...) each concerned with giving a particular meaning to the roll-film camera design and the kind of photography that it enabled" (p. 1672). The discursive process is fundamental to disseminate the messages that Institutional Entrepreneurs want to set for legitimating their new organisational form (Tracey, Philips, & Jarvis, 2011).

Annex 2. Qualities and Skills identified in the Institutional Entrepreneurs

Table 1. Case 2: Institutional Entrepreneur (IE) Trinity's Qualities

Quality	IE	Description
Curiosity	IE ₁	<ul style="list-style-type: none"> ✓ He was acknowledged as a curious person. For instance, he began to study about organic farming techniques and others called agroecological. Based on this study, he contacted the Universidad Míquito de Dios' professors (C4-IT5, 2019). ✓ He studied the indigenous farming practices to understand their logic and, based on that, he began to sow following mandalas patterns (General-Presentation, 2019).
	IE ₂	<ul style="list-style-type: none"> ✓ He is identified like a person who is searching permanently (C4-IT8, 2019; C4-IT6, 2019), and asking other people for advice (C4-IT10, 2020). ✓ He realises himself as a peasant with the objective of claiming the peasant dignity (Rojas Carrillo, 2017; C4-IT7, 2019).
	IE ₃	<ul style="list-style-type: none"> ✓ He was looking for the benefit of all the community members (Rojas Carrillo, 2017). ✓ He was always ready to listen to any person (Puentes E., 2017; C4-IT5, 2019) or to help them (General-Presentation, 2019). ✓ Some interviewees affirmed that his empathy came from his modesty expressed, for example in using his name in diminutive (C4-IT5, 2019), and the kindness to talk with the people (C4-IT8, 2019; C4-IT10, 2020).
Empathy	IE ₁	<ul style="list-style-type: none"> ✓ The empathy in this actor can be identified in his understanding of the association as a family (C4-IT6, 2019), and in his aim of fostering good relationships between the people (C4-IT6, 2019) by conciliating the interests between them (C4-IT11, 2020).
	IE ₃	<ul style="list-style-type: none"> ✓ He showed his concern and admiration for the labour done by the peasants and his respect for them. These elements contribute to boosting his empathy with peasants (C4-IT10, 2020).
Knowledge Sharing	IE ₁	<ul style="list-style-type: none"> ✓ He was always ready to share his knowledge and lifestyle with any one (Puentes E., 2017; C4-IT3, 2019; C4-IT4, 2019; C4-IT7, 2019; C4-IT8, 2019) (C4-IT10, 2020; C4-IT6, 2019; ColciCase-IT13, 2019), or other organisations (MinCiencias, 2018). This knowledge sharing goes beyond to sharing ideas, and including accompaniment and advisement, to whoever may need it (C4-IT5, 2019).
	IE ₃	<ul style="list-style-type: none"> ✓ This quality was fostered by his interest in learning and teaching (Rojas Carrillo, 2017; Posada S., 2017). ✓ He contributed by sharing his knowledge to the association about organic farming (C4-IT10, 2020).
Modesty	IE ₁	<ul style="list-style-type: none"> ✓ He considered himself equal in terms of relevance to the other associated members (C4-IT3, 2019; C4-IT11, 2020). ✓ He allowed anyone to use his name in diminutive form (C4-IT5, 2019), making it easier for others to access to him.
	IE ₃	<ul style="list-style-type: none"> ✓ The community members acknowledged his modesty (C4-IT11, 2020; C4-IT6, 2019; Posada S., 2017). ✓ It is reflected in his intention to learn from others and share with them (C4-IT6, 2019).
Persistence	IE ₁	<ul style="list-style-type: none"> ✓ He was considered the founder of the association (Vergara Gutiérrez, 2018; Rojas Carrillo, 2017; C4-IT3, 2019; C4-IT5, 2019; C4-IT9, 2020). Since the beginning of the association, he has been working on introduce and keep the agroecological practices (C4-IT5, 2019). ✓ He motivates other members to keep involved in the organisation and maintain the path (C4-IT6, 2019).
	IE ₃	<ul style="list-style-type: none"> ✓ He was considered a consistent person (C4-IT6, 2019; C4-IT8, 2019; C4-IT10, 2020). He has stood by his principles since before the association began (C4-IT10, 2020). ✓ He looked for guaranteeing that the association kept their founding principles (C4-IT10, 2020).
Resilience	IE ₁	<ul style="list-style-type: none"> ✓ He was considered a warrior (C4-IT6, 2019) after overcoming a personal episode (C4-IT7, 2019), and finding an alternative way to continue his path (Rojas Carrillo, 2017; C4-IT7, 2019; General-Presentation, 2019; C4-IT3, 2019; C4-IT6, 2019).
	IE ₃	<ul style="list-style-type: none"> ✓ He looked for guaranteeing that the association kept their founding principles (C4-IT10, 2020).

Source: Own elaboration.

Table 2. Case 2: IE Trinity's Skills

Skill	IE	Description
Flexibility	IE ₁	<ul style="list-style-type: none"> ✓ He was able to perform different roles in the Community, like chair of the organisation (Rojas Carrillo, 2017; C4-IT10, 2020; C4-IT7, 2019), technological godparent (MinCiencias, 2018; C4-IT7, 2019), speaker in conferences (C4-IT9, 2020; C4-IT6, 2019; Vergara Gutiérrez, 2018), workshop facilitator (ARAC, 2017g), technical adviser (C4-IT5, 2019), academic adviser (C4-IT5, 2019), researcher (C4-IT5, 2019), and networker with people from different backgrounds (C4-IT3, 2019; C4-IT4, 2019; C4-IT8, 2019; C4-IT6, 2019; Vergara Gutiérrez, 2018) ✓ He was always ready to offer support where necessary to boost the association (Rojas Carrillo, 2017).
	IE ₄	<ul style="list-style-type: none"> ✓ He realised the need to find allies to boost his organic farming initiative (Posada S., 2017). ✓ He began to find market alternatives to sell his products, jointly with other community members (General-Presentation, 2019). ✓ He identified the events where he was invited as suitable spaces to spread the news about the ARAC's nomination to ACC and asking the attendants for their voting support (C4-IT2, 2019).
	Opportunities tracking	<ul style="list-style-type: none"> ✓ He identified in IE₁' initiative of organic farming an opportunity to accomplish his expectations in Subachoque (C4-IT11, 2020; C4-IT6, 2019). ✓ He was aware of looking for projects for the association (C4-IT8, 2019), and external support or allies (C4-IT8, 2019).
Recursive Talent	IE ₃	<ul style="list-style-type: none"> ✓ He was characterised as a person who was looking for opportunities to foster his motivations (C4-IT6, 2019; C4-IT8, 2019; C4-IT10, 2020). ✓ This actor was looking for allies both in social and commercial terms (C4-IT10, 2020; C4-IT9, 2020), even before arriving in Subachoque (C4-IT6, 2019). ✓ He identified an opportunity to think about the organisation in the long term through the association formalisation process (C4-IT10, 2020).
	IE1	<ul style="list-style-type: none"> ✓ He began with the idea of organic farming using the materials that he had at hand (Vergara Gutiérrez, 2018; Posada S., 2017; General-Presentation, 2019). ✓ He put his knowledge to the disposal of other organisations (MinCiencias, 2018). ✓ He designed a sow with a honeycomb pattern to avoid damages to the crops when people were visiting them (General-Presentation, 2019). ✓ He printed flyers inviting people to vote in the ACC national conquest (C4-IT2, 2019).
	IE ₂	<ul style="list-style-type: none"> ✓ He used to ask for solutions or to find who could solve the questions or problems in the association (C4-IT8, 2019).
Strategic Analysis	IE ₃	<ul style="list-style-type: none"> ✓ Like IE₃, in this case, IE₃ used to look for advice to solve mainly technical issues (C4-IT8, 2019; C4-IT10, 2020). ✓ He was the last to speak in a conversation. He waited and listened with patience until the last intervention to express his point of view, and find solutions that would generate the less low amount of problems (C4-IT3, 2019).
	IE ₁	<ul style="list-style-type: none"> ✓ He identified the best alternatives to improve the farming practices looking at other knowledge sources like indigenous knowledge (General-Presentation, 2019), and studying the nature (General-Presentation, 2019). ✓ He identified the necessity to find allies to strengthen his organic farming ideas (Posada S., 2017), and to work on a common project to achieve that purpose (General-Presentation, 2019).
	IE ₂	<ul style="list-style-type: none"> ✓ He was identified as a conciliator into the community. He used to listen to the arguments from the parts to find a mutually convenient solution for them (C4-IT11, 2020).
IE ₃	<ul style="list-style-type: none"> ✓ He identified the processes launched between IE₁ and IE₂ as an interesting opportunity for accomplishing his interests (C4-IT10, 2020). ✓ He used the meetings as a space to discuss organic production with all the association members (C4-IT10, 2020). ✓ He understood the offer of help from the Municipality and its requirement of becoming a formal association as an opportunity to explore how that change could be beneficial for the association (C4-IT10, 2020), and for thinking about the association in the long term (C4-IT10, 2020). 	

Table 2. Continued

Skill	IE	Description
Transformative learning		<ul style="list-style-type: none"> ✓ He was ready to show how to make things different (C4-IT5, 2019; General-Presentation, 2019), not only regarding the farming processes (General-Presentation, 2019) but also considering the independence from the market (General-Presentation, 2019). ✓ He was consistent with the lessons from his personal episode to begin a different farming process (C4-IT3, 2019; C4-IT7, 2019; C4-IT5, 2019) and to share this experience with others (General-Presentation, 2019; C4-IT3, 2019). ✓ His experiences because of sharing his knowledge led to him evolving from being a shy individual to becoming a leader and speaker in different stages (C4-IT6, 2019; C4-IT10, 2020; C4-IT11, 2020). ACC contributed in this process (C4-IT3, 2019; C4-IT11, 2020).
	IE ₁	<ul style="list-style-type: none"> ✓ He had the aim of learning from others and find out alternatives to work together based on that learnings (C4-IT6, 2019).
	IE ₂	<ul style="list-style-type: none"> ✓ Based on his experience of living in Bogotá D.C., he decided to move with his family to find a place for a new life (C4-IT6, 2019).

Source: Own elaboration.

Table 3. Case 3. Institutional Entrepreneurs Qualities

Quality	IE	Description
Curiosity	IE ₁	<ul style="list-style-type: none"> ✓ She was acknowledged as a person with an excellent receptiveness to change (APACRA, 2016c), who tried to perform different roles and live in different places before confirming her interest in staying in the Cajamarca countryside (C5-IT3, 2019). ✓ Her curiosity led to her awareness not only of the farming practices but also of Cajamarca's history and the situation of the country (Marcus Téllez, 2017a). ✓ She acknowledged her interest in searching (C5-IT3, 2019), and her shared interest with IE₂ in "designing things, talking, launching projects, developing things, inventing things" (C5-IT3, 2019, p. 17). ✓ Her curiosity led her to understand possible dangers from the mining process approved by the National Government (C5-IT3, 2019).
	IE ₂	<ul style="list-style-type: none"> ✓ Curiosity in IE₂ is depicted by her interest in learning and developing new skills to achieve her goals. It was the case of her decision to be part of the training school from "Semillas de Agua" (C5-IT1-P1, 2019), or to fund the collective group "La Colmena". This group has the objective of claiming the role of Cajamarca's peasant women in social networks (Arreta Caballero, 2020). ✓ Her curiosity led her to encourage APACRA's women to find alternative recipes to exploit local products (C5-IT1-P1, 2019) like the Chachafruto, Pumpkin, Carrots, among others. ✓ Like in the IE₁, because of IE₂'s curiosity, she was aware of risks and dangers that could emerge from the mining process approved by the National Government in Cajamarca (C5-IT1-P1, 2019). ✓ Her curiosity moved her to find new opportunities for APACRA, like public calls for applications (C5-IT1-P1, 2019; C5-IT3, 2019).
	IE ₁	<ul style="list-style-type: none"> ✓ She is acknowledged as being a polite (APACRA, 2016c) and accessible person (APACRA, 2016c; C5-IT1-P2, 2019; C5-IT3, 2019), who identified with her community (C5-IT3, 2019). ✓ She shows a concern for the peasant situation in her municipality (APACRA, 2015c), mainly for the peasants women (C5-IT3, 2019) and contributes in doing activities to tribute them (APACRA, 2015c).
	IE ₂	<ul style="list-style-type: none"> ✓ She supports and fosters activities to acknowledge the inner features of her municipality (APACRA, 2015c), to empower the peasants of the municipality (Marcus Téllez, 2017b), claim the role of peasant women (C5-IT1-P1, 2019), and protect the environment in her municipality (C5-IT1-P1, 2019).

Table 3. Continued

Quality	IE	Description
	IE ₁	<ul style="list-style-type: none"> ✓ She tried to protect her community and claim the role of the peasants (Mateus Téllez, 2017a; La Liga Contra el Silencio, 2020), by joining demonstrations or creating performances (APACRA, 2015c; C5-IT1-P1, 2019). For example, it was the case of her role as leader in the process against the mining project in Cajamarca (C5-IT3, 2019; Cortés, Acevedo, & Baéz, 2019). ✓ She was acknowledged by her community as being a fighter (APACRA, 2015c; C5-IT1-P2, 2019), and by external actors (ColciCase-IT13, 2019).
Fighter	IE ₂	<ul style="list-style-type: none"> ✓ According to a newspaper, “she has spent her life protecting her land” (Arreta Caballero, 2020) and resisted the introduction of multinationals (Mateus Téllez, 2017b) by using agroecology (C5-IT1-P1, 2019). ✓ She was acknowledged by her community as being a fighter (APACRA, 2015c), and by external actors (ColciCase-IT13, 2019). ✓ She worked hard to achieve the objectives of her organisation, sometimes by being obstinate (C5-IT1-P1, 2019). This last feature is shared with IE₁ (Mateus Téllez, 2017a).
Knowledge sharing	IE ₁ , IE ₂	<ul style="list-style-type: none"> ✓ Both of them are described as being generous people who shared their knowledge (C5-IT5, 2019).
Modesty	IE ₁	<ul style="list-style-type: none"> ✓ She introduced herself in a friendly manner to other people (APACRA, 2016c), maintaining a low profile (APACRA, 2016c), as a traditional farmer of the region (APACRA, 2015c).
	IE ₁	<ul style="list-style-type: none"> ✓ She described how the process in APACRA has been a matter “of stand, but above all to insist” (Mateus Téllez, 2017a), like in the case of applying three times to the same public call for applications until the proposal was accepted (C5-IT3, 2019). ✓ She described herself as a person who despite adversity would continue the process of protecting her territory (C5-IT3, 2019).
Persistence	IE ₂	<ul style="list-style-type: none"> ✓ She showed how over time she had stood against multinationals which managed agrochemical products and mining projects (Mateus Téllez, 2017b). ✓ The process of involving the APACRA’s families had taken approximately 12 years (C5-IT1-P1, 2019), and introducing new products like the pumpkin yogurt had taken time too (C5-IT1-P1, 2019), or open the sales point in the Tolima’s University (C5-IT1-P1, 2019). ✓ In general, she acknowledged that one of the main lessons pushing the path-transformative process was the “persevere to achieve, it the most” (C5-IT1-P1, 2019, p. 20).
	IE ₁	<ul style="list-style-type: none"> ✓ She continued her agroecological practices despite working and living in an environment characterised by using agrochemical products (APACRA, 2016c) and threatened by mining projects (APACRA, 2015c; Mateus Téllez, 2017b). ✓ She explained how, although the first project that APACRA submitted for resources was rejected, this rejection was channelled to foster the building of the first APACRA sales point (APACRA, 2016c). ✓ She explained how her love for her homeland allowed her to overcome fears generated by the country’s public order situation (C5-IT3, 2019).
Resilience	IE ₂	<ul style="list-style-type: none"> ✓ She had tried to curb the use of extractive hazards by showing the people other alternatives which could take care of the environment and the people’s health (Mateus Téllez, 2017a; Arreta Caballero, 2020). ✓ To stop the Cajamarca’s mining project, she worked on informing to the people about the possible hazards from that project (C5-IT1-P1, 2019). She got involve in demonstrations and fostered others (C5-IT1-P1, 2019) and supported legal action to stop the mining project (C5-IT1-P1, 2019), even putting in risk their lives (C5-IT1-P1, 2019). ✓ IE₁ and IE₂ had to cope with internal conflict that was experienced in the country. One of the APACRA’s associates was killed and his family had to move to a different place in the municipality (C5-IT1-P1, 2019). ✓ She explained how APACRA had to overcome the regulatory challenges to get the food licenses by the regulatory authority (National Institute for Food and Drug Surveillance, INVIMA by its acronym in Spanish) (C5-IT1-P1, 2019).

Source: Own elaboration.

Table 4. Case 3: Institutional Entrepreneurs Skills

Skill	IE	Description
Flexibility	IE ₁	✓ She had the possibility of performing several roles: technical guide explaining the agroecological farming processes to external actors (APACRA, 2017); technical analyst (APACRA, 2017); interviewee (Hernández Bonilla, 2017; Mateus Téllez, 2017a); organisation treasurer (APACRA, 2015c); chair of the association (C5-IT3, 2019); organisation's peasant or leader (C5-IT1-P2, 2019; C5-IT3, 2019; C5-IT5, 2019); public servant (C5-IT1-P2, 2019); and pollster (C5-IT3, 2019).
	IE ₂	✓ Like the IE ₁ , IE ₂ showed flexibility in the roles which she performed. Thus, she was able to attend an interview (Mateus Téllez, 2017a); work in her farm and employee at the Municipality's Technical Assistance Unit (UMATA by its acronym in Spanish) (La Liga Contra el Silencio, 2020). She was also a fighter to claim the gender equality (Jiménez Jiménez, 2020; C5-IT1-P1, 2019; C5-IT5, 2019).
	IE ₁	✓ She saw in the association an opportunity to overcome the barriers to sell the agroecological products (C5-IT3, 2019), but also showed her concern to find new sale alternatives (C5-IT3, 2019).
	IE ₁	✓ She had been involved in supporting the application to public calls for applications (APACRA, 2016c; C5-IT3, 2019). ✓ She acknowledged herself and to the IE ₂ as persons with interest in looking for opportunities for the organisation (C5-IT3, 2019).
Opportunities tracking	IE ₂	✓ She showed her intention to look for new opportunities of improving both from an economic and organisational perspective after the public call for funding applications from A Ciencia Cierta (APACRA, 2017). ✓ In claiming gender equality, IE ₂ looked for new alternatives of income for women in the association (Cortés, Acevedo, & Baéz, 2019; Jiménez Jiménez, 2020; C5-IT3, 2019). In that process she was involved in applying for public calls to get funding (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019) for developing the products transformation facilities (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019) and fulfilling the legal regulations. ✓ IE ₂ boosted the opening of sales point to strengthen the organisation income (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019), and developing skills for increasing the organisation's diffusion in social networks (C5-IT1-P1, 2019; C5-IT5, 2019).
	IE ₁	✓ Together with IE ₂ , they implemented a strategy to obtain the necessary votes for the National voting period, and to win the A Ciencia Cierta prize. This strategy consisted of renting a place in an internet café to have access to internet and to a computer to register the votes, while the other IE was looking for potential voters in the street (C5-IT3, 2019). Also, this strategy implied having a temporal place at their sales point at the University of Tolima to collect votes (C5-IT1-P1, 2019).
	IE ₁	✓ The area where she had her crops was in a 75-grade hill. In this setting, she implemented a system of terrace cultivation (C5-IT3, 2019). ✓ She supported the use of the kitchens of associates to experiment and develop new products (APACRA, 2015b) based on the organic crops of the association (APACRA, 2016c).
	IE ₂	✓ Despite that, the crops used by the Organisation were not sufficiently valued in the market (Cortés, Acevedo, & Baéz, 2019), they were the main source of raw material to get innovative processed products (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019). ✓ Together with IE ₁ , they fostered a festival to revitalize the municipality's culture and their typical traditions. Based on that, they organised "el carro" festival. It looked to claim the role of peasants, the municipality's agricultural tradition, and the role of old cars (Aro Carpati's car mode 70s (APACRA, 2015c)) to connect the people and their products between the municipality's villages (APACRA, 2015c). ✓ They used local material to build their first sales point (C5-IT1-P1, 2019). Besides, they developed an advertising campaign to introduce and encourage the consumption of their products in the second sales point that they opened (C5-IT1-P1, 2019). ✓ She took courses with the Foundation for Press Freedom (FLIP) to learn how to make videos and short documentaries about her organisation and her community. This course was useful to save money regarding publicity of the organisation activities and spread the organisation vision through social networks (C5-IT1-P1, 2019).

Table 4. Continued

Skill	IE	Description
		<ul style="list-style-type: none"> ✓ She used to analyse the necessity of chemical products to diminish their use when growing her crops (APACRA, 2016c). It was before the creation of APACRA. ✓ They (IE₁ and IE₂) represented APACRA as an organisation in the committee established to deal with the mining project fostered by the National government in Cajamarca. It was the alternative to participate and support the processes to stop the Cajamarca mining project (C5-IT1-P1, 2019). ✓ Promoting the rotatory fund was an idea to produce income to foster, in principle, the individual activities of each person involved in the fund. Afterward, it became the organisation's source of financial support (C5-IT3, 2019). ✓ They showed others how to reflect on the commercial strategy to foster product sales (C5-IT3, 2019). ✓ They realised the importance of getting Godparents in the ACC award frame as a valuable asset to support their path-transformative process (C5-IT5, 2019; ColeiCase-IT13, 2019).
Strategic Analysis		<ul style="list-style-type: none"> ✓ The strategic analysis was visible in different ways: <ul style="list-style-type: none"> ○ In the frame of the ACC award: <ul style="list-style-type: none"> • They managed the project implementation by assigning roles and duties according to the participant's profiles (APACRA, 2016c). • They adapted the project plan according to the regulatory requirements. In this way, they were expecting to obtain better results for the organisation (APACRA, 2016c; APACRA, 2017). ○ The decision of using crops without enough appreciation or exotic crops in the market was the result of an analysis of the market possibilities for these crops (Cortés, Acevedo, & Baéz, 2019). A similar analysis was followed to define the place to open the first (C5-IT1-P1, 2019) and second sales point (C5-IT1-P1, 2019). ○ The strategic analysis was evident in her way to define production and transformation responsibilities according to the members' profiles of APACRA (Cortés, Acevedo, & Baéz, 2019). ○ In the process of prioritisation relevant actions to defined production and commercial strategy were took. It contributed to showing the use of other strategic analysis (Cortés, Acevedo, & Baéz, 2019). ○ Each year, she developed a commercial balance of the association to be discussed with the APACRA's associates. This balance was also used as a decision tool for planning activities in the incoming year (Cortés, Acevedo, & Baéz, 2019). ○ She identified that using a financial analysis of the production cost as a frame it was possible to engage men in the activities that associated women to APACRA were doing (C5-IT1-P1, 2019). ○ They (IE₁ and IE₂) discussed and agreed with other APACRA's members the organisational plans in the frame of monthly follow-up meetings (C5-IT1-P1, 2019). ○ She realised the importance of showing results as a strategy to increase the organisation's visibility and the relevance of their vision (C5-IT1-P1, 2019).
Transformative learning	<p>IE₁</p> <p>IE₂</p>	<ul style="list-style-type: none"> ✓ The workshop offered by the NGO "Semillas de Agua" guided a process of transformation from traditional practices from the green revolution towards agroecological practices (APACRA, 2016c; C5-IT1-P1, 2019; C5-IT3, 2019). This transformation applied for both IE₁ and IE₂. ✓ The process to deal with the "La Colosa" Mining project fostered both IEs to work with other actors in their municipality and across the country, from different fields. <ul style="list-style-type: none"> ✓ IE₂ was the first in staying in contact with the NGO "Semillas de Agua. Because of such contact, she triggered her transformation from green revolution practices towards agroecological practices (C5-IT1-P1, 2019). ○ "Because agroecology is a system where everything involves, we involve everything from, [sic] from the small microorganism, the tiny one, to the soil that we consider before entering agroecology, I thought that was land, I mean, I had another concept, that it is dirt [sic], right, then from there, from looking at the soil as a living organism to the final consumer closing a cycle" (C5-IT1-P1, 2019, p. 35).

Source: Own elaboration.

Annex 3. Case 2: Personal and Common Conditions in Shaping the IE Trinity's Social Position

In case two, the analysis of the conditions of each of the three persons who constituted the IE's Trinity shows common conditions shared between different combinations of them. **Table 1** shows two conditions shared between some of the people from IE's trinity. The first one was between IE₁ and IE₃. They were acknowledged as leaders in the association. The second shared condition was between IE₁ and IE₃; they were acknowledged as sources of knowledge and practices linked with the agroecological processes.

Table 1. Conditions shared by the two of the persons in the IE's trinity

Social Position condition	IE's shared features	
Leader	IE ₁ : An ARAC's leaders (Sembrando Confianza: Cooperativa agraria, 2020; C4-IT6, 2019; C4-IT8, 2019; C4-IT10, 2020).	IE ₃ : An ARAC's leaders (C4-IT8, 2019).
Source of knowledge and agroecological practices	IE ₁ : <ul style="list-style-type: none"> o A source of knowledge (ARAC, 2017g; General-Presentation, 2019; C4-IT5, 2019; C4-IT6, 2019; C4-IT7, 2019; C4-IT8, 2019; C4-IT9, 2020; C4-IT11, 2020; ColciCase-IT13, 2019). o The source of the idea of clean farming without chemical products (Rojas Carrillo, 2017; Vergara Gutiérrez, 2018; C4-IT3, 2019) because of his personal episode (Rojas Carrillo, 2017; General-Presentation, 2019; C4-IT5, 2019; C4-IT6, 2019; C4-IT8, 2019; C4-IT9, 2020). 	IE ₃ : <ul style="list-style-type: none"> o A source of knowledge (C4-IT9, 2020). o A person who abides by agroecological principles (C4-IT6, 2019; C4-IT8, 2019).

Source: Own elaboration.

Table 2. depicts some conditions characterised particularly by IE₂ and IE₃. Thus, while IE₂ was acknowledged as a conciliator, linked with the organisation's managerial side, IE₃ was considered the association's principles gatekeeper.

Table 2. Particular Social positions of the persons in the IE's trinity

IE	Social Position Condition	Description
IE ₂	Conciliator	A person in charge of the ARAC's public relations (C4-IT8, 2019; C4-IT9, 2020) A person who likes promoting good relationships between the people (C4-IT6, 2019; C4-IT10, 2020), and mediates between them (C4-IT10, 2020; C4-IT11, 2020).
	Manager	<ul style="list-style-type: none"> o A person more closely linked to the managerial process of the association (C4-IT8, 2019). o A person who assumes the duties assigned (C4-IT5, 2019)
IE ₃	Gatekeeper	A gatekeeper of the agroecological principles in the association (C4-IT10, 2020).

Source: Own elaboration.

Annex 4. Strategies and Self-reinforcement mechanisms implemented in the cases

Table 1. Case 1: IE's strategies identified

Strategy	Definition	Example
Community acknowledgement	IEs use this strategy to improve their position in the community.	In this case, she received acknowledgement by the community through doing different activities over the years to show that her vision was worth it (C6-IT2-P1, 2020). One of these actions was to settle down in the village (C6-IT2-P1, 2020) and deal with the same problems that the community was having (C6-IT2-P1, 2020) by looking for solutions for them.
Anchor	This strategy is oriented toward including results and activities done by the IEs in documents. These documents could belong to the same organisation or external parties. The documents would be used subsequently as a source of validation to support the IEs' vision.	In this case, this strategy was identified only once in an intervention made by the Universidad UniAgraria. In that intervention, she used the Ideas para el Cambio's project to show her interest in becoming part of research initiatives (UNIAGRARIA, 2017, Min. 21-52).
Discursive capability	They have developed skills to communicate their vision, ideas, and projects across different communities (farmers, politicians, researchers, policymakers, among others).	In this case, the IE used this strategy to persuade other actors, like her community members, with a researcher, or with a person from the municipality's aqueduct (C6-IT3, 2020). For example, she used to ask community members "how much is a pola (beer) for you and how much is a meter of water, a cubic meter of drinking water, yes?" (C6-IT2-P1, 2020, p. 5), to make salient the low importance that some members gave to investing in better pipelines.
Looking for allies	IEs triggered this strategy to find third parties who could help them to support their vision of change. This strategy has been well studied by the literature.	The IE made of her community an ally (C6-IT2-P1, 2020) to foster her vision of change. Afterwards, based on the strategy <i>showing results</i> , she began to involve the academia as ally. Some of the academia allies were universities like Universidad de Cundinamarca, Uniagraria, and public entities such as the SENA and the CAR (C6-IT2-P1, 2020). These alliances were useful for putting in contact the IE and the researchers, for instance, it was an ally who put the SENA's research team with the IE in the Ideas para el Cambio's project: "1: And how did you get to her? / 2: By the university. / 1: Ah, ok. / 2: It was already the university that supported us as with the different leaders of the villages, and we arrived to IE [sic]" (C6-IT3, 2020, p. 3).
Making materials	This strategy looks at developing materials to show results and strengthen other actions.	She transformed her farm into an experimental farm (C6-IT2-P1, 2020), she implemented a system of wastewater treatment in her house (UNIAGRARIA, 2017, Min. 11.20), and a system of solar panels (UNIAGRARIA, 2017, Min. 21.03).
Conciliation	In this process, an actor looks for find a balance between the interests, expectations, or intentions from different parts, which conflict with each other.	The IE was in charge of building bridges between the SENA's research team and the community (C6-IT3, 2020). In this process, she helped in gathering the community to talk with the SENA's research team, and for instance, to explain to them limitations about the project coverage (C6-IT1, 2020). She also supported the resolution of misunderstandings and differences between the SENA's research team and the community (C6-IT3, 2020).

Table 1. Continued

Strategy	Definition	Example
<p>Motivating others by example</p>	<p>Doing something to show the others that it is possible to do it. This strategy is named by Mintrom & Norman (2009) as leading by example, and this strategy is used by policy entrepreneurs "to build momentum for change" (p. 653).</p>	<p>The IE's actions showed her community that it was possible to overcome the challenges that they were facing. For example, she worked to improve the village public transport service (C6-IT2-P1, 2020), and fostered productive projects (C6-IT2-P1, 2020). It was also the case of Ideas para el Cambio's project. In that project, she wanted to "demonstrate to the community that if we join, and we make [sic] some little basic things, we can develop projects, we can join to make proposals [sic], that others come here to invest in us, yes, in our basic needs" (C6-IT2-P1, 2020, p. 14). According to the IE, it worked because after the project, there were more people at the village meetings; "it made that the people reacted a bit more [sic]" (C6-IT2-P1, 2020, p. 19).</p>
<p>Networking</p>	<p>This strategy could involve both the process of creation and of consolidation of networks of allies to support the vision of change.</p>	<p>The IE at Mancilla, besides developing ties with her community, she drew support from different universities such as Universidad de Cundinamarca, Uniagraria, and different programs from the SENA and CAR (C6-IT2-P1, 2020). This was achieved by portraying village Mancilla as a suitable place to do professional practices and receive support in such activities (C6-IT2-P1, 2020). It allowed for the making of strategic alliances with them to their profit but also for the community's benefit (C6-IT2-P1, 2020).</p>
<p>Organisational involvement</p>	<p>Actions performed to increase the level of commitment and participation from other members of the project and stakeholders.</p>	<p>The IE was acknowledged by being an active person in her community making new activities (C6-IT1, 2020), and looking for motivating the people to buy-in her objectives (C6-IT1, 2020). According to one interviewee her interest in involving her community was clear: "She manages many little things that she wants to involve people, so she did the communal gardens; she does activities in her park. So she kind of tries to involve people in those activities. So that is why we found her, on the part of the president of the community action board. [sic]" (C6-IT1, 2020, p. 18).</p>
<p>Showing results</p>	<p>It is the process of justifying their actions by achieving concrete goals that could be measured and share with the stakeholders.</p>	<p>Despite the difficulties arising from the people's scepticism, showing results by the IE, forced some members of the community to think about the IE's activities and proposals (C6-IT2-P1, 2020). Some of the results championed by her were: developing the experimental farm; recovering native vegetation in her farm (C6-IT2-P1, 2020); building the "environment museum" (C6-IT2-P1, 2020; UNIAGRARIA, 2017); opening the possibility for the academia and public entities to come to Mancilla to do research activities, (C6-IT2-P1, 2020); organising the village aqueduct (C6-IT2-P1, 2020); and leading the Ideas para el Cambio's project (C6-IT2-P1, 2020).</p>

Source: Own elaboration.

Table 2. Case 1: Self-reinforcement mechanism implemented

Mechanism	Example of their use
Financial investments	From the program Ideas para el Cambio, COP 99.400.000 (COLCIENCIAS, 2017i) COP 10.608.000 from the SENA, and COP 4.032.000 from the Mancilla community (COLCIENCIAS, 2017i) were invested in the harvesting rainwater project implemented together with the SENA's research team.
Institutional density	In this case, it relates to the fulfillment of the legal requirements by the aqueduct board like the chamber of commerce register (C6-IT2-P1, 2020).
Learning activities	In this case, learning activities could be divided into two groups, the first one was linked with the learning activities performed by the IE, and the second, those implemented through the Ideas para el Cambio's project.
Strategic alliances	These alliances involved the agreements with the Universities, research centres and public entities that arrived in Mancilla looking for a place to do research (C6-IT2-P1, 2020).

Source: Own elaboration.

Table 3. Case 2: IE's strategies identified

Strategy	Definition	Description from the case
Anchor	This strategy is oriented toward including results and activities done by the IEs in documents. These documents could belong to the same organisation or external parties. The documents would be used subsequently as a source of validation to support the IE's vision.	<ul style="list-style-type: none"> ARAC experience was tracked through several documents, all of them had a positive record of ARAC. The documents are: Books (Acevedo-Osorio & Angarita Leiton, 2013), scientific articles (Vaca Uribe & Acevedo-Osorio, 2016; Acevedo-Osorio, Angarita Leiton, León Durán, & Franco Quiroga, 2017), thesis (Rojas Carrillo, 2017; Vela M., 2017; Vergara Gutiérrez, 2018), and official documents (COLCIENCIAS, 2018).
Bargaining	This code focuses on the processes of negotiation undertaken by the IEs.	<ul style="list-style-type: none"> This strategy was implemented at the <i>Local Encounter</i> stage between one of IE's trinity constituencies and the COLCIENCIAS's team. They were discussing the content and objectives to be funded with the ACC award (COLCIENCIAS, 2016a; C4-IT5, 2019; C4-IT6, 2019; C4-IT7, 2019). An interviewee suggested that the building of ARAC has been a constant process of negotiation between the constituencies (C4-IT11, 2020).
Discursive capability	They developed skills to communicate their vision, ideas, and projects across different communities (farmers, politicians, researchers, policymakers, among others).	<ul style="list-style-type: none"> This strategy was implemented by IE₁ and IE₂. In the first case, IE₁ used this strategy to spread his idea of organic farming to the community in his village (Rojas Carrillo, 2017; C4-IT11, 2020), and to spread the ARAC's freedom in different spaces (Vergara Gutiérrez, 2018). This strategy was fuelled by his versatile approach (see Annex 2, Table 2), and his attempts to be humorous in his speeches (General-Presentation, 2019) and metaphors, like referring to his orchard as an <i>office</i>, and explaining that his <i>office</i> became part of a pilot <i>office</i> to explain the ARAC activities (General-Presentation, 2019). In the second case, IE₂ was the speaker from the association in the Local encounter stage (C4-IT6, 2019). He used the Chjiva methodology followed in that stage (see Chapter Five) to frame the association's disappointment with the COLCIENCIAS team (C4-IT5, 2019). This strategy was aligned with his own self-definition of being a person who enjoys talking (C4-IT6, 2019) and his self-acknowledgement of being the person in charge of ARAC public relations (C4-IT8, 2019; C4-IT9, 2020; C4-IT10, 2020).

Table 3. Continued

Strategy	Definition	Description from the case
Spreading the vision	<ul style="list-style-type: none"> This strategy depicted the activities developed by IEs to introduce and keep the vision of change in other organisations. 	<ul style="list-style-type: none"> To spread the vision of change, IE's trinity, besides discursive and anchoring strategies, fostered workshops to explain the benefits of healthy food (ARAC, 2017g), launched the ARAC's website (ARAC, 2017g), adjusted the sale point at the local market (ARAC, 2017g; C4-IT7, 2019), made use of social networks (ARAC, 2017g). Further, they met with other associations (ARAC, 2017g; C4-IT3, 2019), students, and professors (General-Presentation, 2019; C4-IT3, 2019) to share their experience. Finally, they were featured on national TV channels and newspapers (ARAC, 2015).
Encounter spaces	<ul style="list-style-type: none"> This strategy looks for providing spaces of discussion, participation, and deliberation whereby the organisation members became involved in the path-transformative process. This strategy could be considered a subcategory of the organisational involvement's strategy. 	<ul style="list-style-type: none"> IE's trinity fostered <i>periodical meetings</i> (see Table 4, institutional density). This space had a threefold importance. First, it was the base to build the organisation (C4-IT9, 2020; C4-IT5, 2019; C4-IT8, 2019; C4-IT10, 2020; General-Presentation, 2019; C4-IT6, 2019). Second, it was crucial to allowing neo-peasants to get along with peasants (C4-IT8, 2019), to raise or reinforce topics in the association, for example, fair trade (C4-IT10, 2020), and to introduce new members or guests (C4-IT5, 2019; C4-IT9, 2020). Finally, it provided the conditions to check the alignment of the associates with the organisational values and practices (General-Presentation, 2019; C4-IT5, 2019). For example, in those meetings, IE₃ drew attention to the ARAC's practices and values (C4-IT10, 2020).
Knowledge for decision making	<ul style="list-style-type: none"> This code focused entirely on the activities of the IEs to foster knowledge production, research and analysis, to aid decision making and support their vision of change. 	<ul style="list-style-type: none"> IE's trinity fostered activities to develop indicators and produce information for decision-making (COLCIENCIAS, 2017f). It was the case of the research studies done together with UniMinuto's professors (ARAC, 2015; General-Presentation, 2019; C4-IT8, 2019), or the soil analysis carried out on 20 farms within the framework of ACC award (ARAC, 2017g). The information produced in these activities enabled the improvement of productivity and of the market process (ARAC, 2015) and the beginning of new projects (ARAC, 2015).
Looking for allies	<ul style="list-style-type: none"> IEs triggered this strategy to find third parties who could help them to support their vision of change. This strategy has been well study by the literature. 	<ul style="list-style-type: none"> The work of the three people in the IE's trinity looking for allies (ARAC, 2015; C4-IT3, 2019; C4-IT5, 2019; C4-IT6, 2019; C4-IT8, 2019; C4-IT9, 2020) resulted in three types of allies: commercial, knowledge, and vision-spreading allies. The activities and actions to form these allies are depicted in the networking strategy. Commercial allies: They were those who contributed to selling the ARAC's production. It was the case of "La Canasta" (Acevedo-Osorio & Angarita Letron, 2013; ARAC, 2017g; ARAC, 2015; Jiménez S., 2017; General-Presentation, 2019; C4-IT3, 2019; C4-IT6, 2019; C4-IT10, 2020). ARAC's made an agreement with this organisation in 2011 (Rojas Carrillo, 2017), and became in an essential ally for them (C4-IT10, 2020; C4-IT3, 2019). Another ally was the organisation "Sembrando Confianza" (Vergara Gutiérrez, 2018; General-Presentation, 2019; C4-IT3, 2019), and the foundation "Mikuna" (Vergara Gutiérrez, 2018), and restaurants (COLCIENCIAS, 2018; COLCIENCIAS, 2017f; ARAC, 2017f; C4-IT7, 2019). It is important to highlight that some commercial allies were also knowledge ones. Knowledge allies: The second type of ARAC's allies are those who shared their knowledge to improve the ARAC's performance and those who provided technical support to the association. In the first case, the universities were a cornerstone ally (General-Presentation, 2019). Among the universities, UniMinuto and its professors were one of ARAC's key allies (ARAC, 2015; General-Presentation, 2019; C4-IT2, 2019; C4-IT5, 2019; C4-IT6, 2019). Their support contributed to improving ARAC's agroecological knowledge and providing back up to ARAC in another processes (ARAC, 2015; C4-IT5, 2019). It was the case of the <i>Local Encounter</i> within the framework of the ACC award (COLCIENCIAS, 2016a), or inviting ARAC to trade fairs (C4-IT8, 2019). They had other Universities who performed the role of allies as well (ARAC, 2017g; C4-IT3, 2019). Another ally was the students' groups <i>Abya Yala</i> from the Universidad Nacional. They contributed by defining the ARAC's strategic plan to formalise it (C4-IT10, 2020; C4-IT3, 2019; Colectivo Agrario Abya Yala, 2012; C4-IT5, 2019; C4-IT6, 2019). In the second case, the municipality of Subachoque provided support to ARAC (See Chapter Four, section 4.1.2.2.ii., external pressures). Vision-spreading allies: This is the last type of allies. Their role was to learn from ARAC and contribute to spreading the IE trinity's vision. Examples of these allies are universities, schools (COLCIENCIAS, 2018), and public entities such as the Regional Autonomous Corporation (CAR by its acronym in Spanish) with whom ARAC has an agreement (C4-IT3, 2019), and the municipality (Rojas Carrillo, 2017).

Table 3. Continued

Strategy	Definition	Description from the case
Making materials	This strategy looks at developing materials to show results and strengthen other actions.	<ul style="list-style-type: none"> Besides the elements reported in Chapter Five and the <i>anchor strategy</i>, the IE, developed different crop patterns, such as honeycombs or mandalas. A press report about a call for applications for funding published in a national newspaper where ARAC was involved, used a picture of the mandala shape planting on the front page (RECON, 2019b). Also, the mandala was mentioned in social networks (Metadovivocol, 2019).
Conciliation	In this process, an actor looks for find a balance between the interests, expectations, or intentions from different parts, which conflict with each other.	<p>Although the association had a dispute settlement system (see Table 4, institutional density), IE, was widely recognised for his social role as conciliator (See Annex 3) (Posada S., 2017; C4-IT6, 2019; C4-IT10, 2020; C4-IT11, 2020). This conciliation took place between ARAC members and between them and external actors (C4-IT5, 2019). He used his sense of humour (Puentes E., 2017) as an ice breaker between the parts in a discussion (C4-IT11, 2020) as well as his oral communication skills (Posada S., 2017; C4-IT6, 2019). He first listened calmly to the different parts to map all their expectations, and afterwards, he tried to find a balance between those expectations (C4-IT11, 2020).</p> <p>This strategy influenced both ARAC's associates and external actors.</p> <ul style="list-style-type: none"> To ARAC's associates: <ul style="list-style-type: none"> IE, 's participation in several events has shown to ARAC's associates that participating in those events is possible for any of them (Vergara Gutiérrez, 2018). However, mainly, he has been an example for the peasants. IE, 's lifestyle change has shown to ARAC's associates that it is possible to modify the farming and living practices in the countryside (C4-IT3, 2019; C4-IT7, 2019; C4-IT9, 2020; C4-IT6, 2019). To other actors: <ul style="list-style-type: none"> ARAC's work has been considered an example of alternative farming (Vergara Gutiérrez, 2018) within the municipality (Vergara Gutiérrez, 2018; C4-IT7, 2019) but also at the national level (Vergara Gutiérrez, 2018; C4-IT3, 2019). The ACC award contributed to reinforcement of the understanding of ARAC as an example within the municipality (Rojas Carrillo, 2017; Vela M., 2017). To ARAC's associates and external associates: <ul style="list-style-type: none"> IE demonstrated that other ways of sowing are possible (Vergara Gutiérrez, 2018; General-Presentation, 2019; C4-IT3, 2019; C4-IT5, 2019). To that purpose, his patch formed part of a pilot patch to share practices and ways of farming (General-Presentation, 2019; C4-IT3, 2019), not only with ARAC's associates but with anybody interested in learning about that process (C4-IT3, 2019; C4-IT5, 2019). <p>As a strategy, the networking process is aligned with the three types of ARAC allies. In this vein, IE's trinity and ARAC members became involved in different activities and enabled others to do networking. For example, they attended national and international events (Rojas Carrillo, 2017; ARAC, 2017g), trade fairs (C4-IT9, 2020; Vergara Gutiérrez, 2018; Agencia de Desarrollo Rural, 2019; ARAC, 2015; General-Presentation, 2019), and visited other organisations (ARAC, 2017e; C4-IT9, 2020). They organised workshops and events to share their experience and knowledge (ARAC, 2017g; ARAC, 2017b; Lozada, 2017; ARAC, 2015; C4-IT6, 2019). Finally, they used social networks (ARAC, 2017g; C4-IT11, 2020) for the same purpose. The networking process was supported by external agreements (See Chapter Four, Table 7), and the networks introduced by some of the ARAC's associates, like those from IE, (C4-IT9, 2020; C4-IT10, 2020).</p>
Motivating by example	Doing something to show the others that it is possible to do it. This strategy is named by Mintrom & Norman (2009) as 'leading by example, and this strategy is used by policy entrepreneurs "to build momentum for change" (p. 653).	<ul style="list-style-type: none"> ARAC's work has been considered an example of alternative farming (Vergara Gutiérrez, 2018) within the municipality (Vergara Gutiérrez, 2018; C4-IT7, 2019) but also at the national level (Vergara Gutiérrez, 2018; C4-IT3, 2019). The ACC award contributed to reinforcement of the understanding of ARAC as an example within the municipality (Rojas Carrillo, 2017; Vela M., 2017).
Networking	This strategy could involve both the process of creation and of consolidation of networks of allies to support the vision of change.	<p>As a strategy, the networking process is aligned with the three types of ARAC allies. In this vein, IE's trinity and ARAC members became involved in different activities and enabled others to do networking. For example, they attended national and international events (Rojas Carrillo, 2017; ARAC, 2017g), trade fairs (C4-IT9, 2020; Vergara Gutiérrez, 2018; Agencia de Desarrollo Rural, 2019; ARAC, 2015; General-Presentation, 2019), and visited other organisations (ARAC, 2017e; C4-IT9, 2020). They organised workshops and events to share their experience and knowledge (ARAC, 2017g; ARAC, 2017b; Lozada, 2017; ARAC, 2015; C4-IT6, 2019). Finally, they used social networks (ARAC, 2017g; C4-IT11, 2020) for the same purpose. The networking process was supported by external agreements (See Chapter Four, Table 7), and the networks introduced by some of the ARAC's associates, like those from IE, (C4-IT9, 2020; C4-IT10, 2020).</p>

Table 3. Continued

Strategy	Definition	Description from the case
Organisational Involvement	Actions performed to increase the level of commitment and participation from other members of the project and stakeholders.	<p>The commitment and interest of ARAC members to participate in activities organised by their leaders are visible (Acevedo-Osorio & Angarita Leiton, 2013; General-Presentation, 2019). The organisational involvement can be explained by the implementation of the following activities:</p> <ul style="list-style-type: none"> • Fostering Participation. Democratic participation has contributed in the ARAC associates' involvement (Rojas Carrillo, 2017; Vergara Gutiérrez, 2018; ARAC, 2015; C4-IT3, 2019; C4-IT7, 2019). This participation allowed for taking into account the ARAC associates' needs (ARAC, 2017g). This participation was supported by the encounter space strategy, which has a threefold purpose: <ul style="list-style-type: none"> o First, it fostered periodical meetings which provided a space for ARAC associates to share their advances, make trade arrangements, (Rojas Carrillo, 2017), and learn from each other (Rojas Carrillo, 2017; General-Presentation, 2019). Also, they had the opportunity to participate in decision-making processes (Vergara Gutiérrez, 2018; ARAC, 2015; C4-IT7, 2019). o Second, it provided a floor to rotate responsibilities and roles among ARAC associates (Vergara Gutiérrez, 2018; Rojas Carrillo, 2017; La Canasta, 2020; Vela M., 2017; ARAC, 2015; General-Presentation, 2019; C4-IT5, 2019). They were distributed equally (Rojas Carrillo, 2017; Vergara Gutiérrez, 2018). o Finally, it offered the possibility for ARAC associates to get together. It reinforced the trust between them (C4-IT3, 2019; C4-IT6, 2019), increased a feeling of friendship which led to considering ARAC their family (Rojas Carrillo, 2017; Vergara Gutiérrez, 2018; C4-IT11, 2020; C4-IT6, 2019), and promoting solidarity (General-Presentation, 2019). • Trading activities and infrastructure improvement. A collaborative process of trading (Rojas Carrillo, 2017; General-Presentation, 2019), and the improvement of the sales point at the local market (C4-IT10, 2020; Vela M., 2017) enabled through the associates' involvement. • Self-reinforcement mechanisms and other strategies. In the first case, the learning activities reinforced the ARAC's involvement (see Table 4, learning activities). In the second case, the strategy Showing results boosted the associates' involvement (See below) (C4-IT7, 2019). • Defining formal rules. Articles of association contributed to reinforcing associates' involvement (ARAC, 2014; C4-IT11, 2020).

Table 3. Continued

Strategy	Definition	Description from the case
		<ul style="list-style-type: none"> <li>• Implementing a trial period: The main ARAC practice to protect the organisation was in the form of a trial period of three months for people who wanted to join the association (General-Presentation, 2019; C4-IT4, 2019; ARAC, 2014; MinCiencias, 2016b). This period allowed for the potential new member to unit with other ARAC associates, become familiarise with the values of the organisation, and assess if they wanted to become permanent members of the association (General-Presentation, 2019; C4-IT8, 2019). From the association's perspective, this period was also an opportunity to assess if the potential candidate was a good fit for the association (C4-IT4, 2019; C4-IT5, 2019; C4-IT10, 2020).
	<p>This strategy is a process of avoiding or neutralising actors who can affect organisation development.</p>	<ul style="list-style-type: none"> <li>• Fostering mutual evaluation: ARAC has a system of periodical farms monitoring visits to guarantee the fulfillment of agroecological practices (General-Presentation, 2019; C4-IT11, 2020).
Shielding		<ul style="list-style-type: none"> <li>• Developing informal and formal rules: IE, explained an informal rule in a presentation. There, he stated that ARAC could not accept products to be sold from people who did not belong to the association (General-Presentation, 2019). The articles of association are an example of formal rules which can be used for shielding purposes.
		<ul style="list-style-type: none"> <li>• Producing getting out condition clauses: ARAC associates produced getting-out condition clauses for people who failed to contribute or damaged the association (C4-IT5, 2019). For example, they allowed negative actors to participate in the discussions but ignored them in the making-decisions process (Chapter Five).
		<ul style="list-style-type: none"> <li>• Support from other strategies: Strategies like the counter space strategy also supported the shielding strategy by checking the associates' adherence to the organisational principles and values.
Showing results	<p>It is the process of justifying their actions by achieving concrete goals that could be measured and share with the stakeholders.</p>	<p>IE's trinity and the associates have supported ARAC's results based on the <i>material strategy</i>. For example, they present the research process and the research book published by UniMinuro's professors (Acevedo-Osorio & Angarita Leiton, 2013) as proof of having achieved their goals. In the same vein, and aligned to the <i>spreading the vision strategy</i>, the IE's trinity and the associates produced or took part videos to show and disseminate their results. Those videos were distributed via social networks or videos platforms (ARAC, 2017c; CAR, 2018; UniMinuro, 2016; ADR, 2020). Similarly, IE₁ (Rojas Carrillo, 2017) and the organisation in general highlighted the recognition of ARAC and their allies (municipalities, universities) (Vergara Gutiérrez, 2018; C4-IT3, 2019) and external actors (Vela M., 2017; C4-IT6, 2019) as prove of ARAC achievements. Another example of showing results was the growing number of associates over the years (ARAC, 2015; Vergara Gutiérrez, 2018; C4-IT3, 2019; C4-IT11, 2020). Finally, they presented the ACC award as an endorsement of their process (Rojas Carrillo, 2017; Vergara Gutiérrez, 2018; C4-IT3, 2019; C4-IT6, 2019; C4-IT11, 2020).</p>

Source: Own elaboration.

Table 4. Case 2: Self-reinforcement mechanism implemented

Mechanism	Example of their use
External agreements	<ul style="list-style-type: none"> • The application to the ACC public call for applications for funding meant an agreement between ARAC and COLCIENCIAS. ARAC promised to fulfill the agreement (COLCIENCIAS, 2016a; COLCIENCIAS, 2016f). • ARAC has two main types of external agreements: <ul style="list-style-type: none"> o The first type is focused on commercial activities with other associations to sell its products (Rojas Carrillo, 2017). Some examples of those associations are “La Canasra” (Rojas Carrillo, 2017; General-Presentation, 2019; C4-IT3, 2019; La Canasta, 2020; C4-IT6, 2019), and a French organisation (C4-IT3, 2019; Sembrando Conianza: Cooperativa agraria, 2020; Vergara Gutiérrez, 2018). o The second type of external agreements was to share their agroecological practices and do joint research. They had around ten agreements with universities and a public entity for such purpose (C4-IT3, 2019). Among those agreements, it is salient the joint work with professors from UniMinuto and the UniMinuto in general (General-Presentation, 2019) since 2012 (Acevedo-Osorio & Angarita Leiton, 2013). It has required ARAC’s commitment to work in the two projects implemented (ARAC, 2015; C4-IT8, 2019). • The help offered from a politician that afterwards became the mayor of the municipality to support them fostered ARAC’s formalisation process.
Financial investments	<ul style="list-style-type: none"> • ACC public call for applications awarded communities COP \$50 million to strengthen their experience (COLCIENCIAS, 2015c). • The money received from the ACC award was invested in improving the physical and equipment conditions of ARAC’s sales point at the local market place (Rojas Carrillo, 2017; C4-IT9, 2020), in irrigation systems, inputs and equipment and communications (C4-IT9, 2020) • The association has two sources of income to support their aims. First, they defined an individual member monthly fee of COP \$10,000 to be invested in the ARAC financial support (ARAC, 2014; General-Presentation, 2019). Second, they gave a 15% discount from the members sales (General-Presentation, 2019). • Besides the resources received from the ACC award, the ARAC’s members invested their own personal skills (C4-IT2, 2019) and the organisation invested economic resources to fulfill the agreement made with COLCIENCIAS (ARAC, 2016a; ARAC, 2017b). These resources reached the amount of COP \$24,965,000 (ARAC, 2016b; COLCIENCIAS, 2017f).
Institutional density	<ul style="list-style-type: none"> • Formalization process: The ARAC became a formal organisation in 2013 fulfilling legal requirements (Rojas Carrillo, 2017; Vergara Gutiérrez, 2018; ARAC, 2017; ARAC, n.d.; ARAC, 2015). It meant the definition of the articles of association (ARAC, 2014), a chamber of commerce registration, (Vergara Gutiérrez, 2018) and annual payments (Vergara Gutiérrez, 2018), an administrative organisation (General-Presentation, 2019), among other requirements (C4-IT9, 2020). • Periodical meetings: ARAC’s members began with a weekly meeting to discuss commercial, productive, and social issues (Vergara Gutiérrez, 2018; ARAC, 2015; C4-IT6, 2019; C4-IT9, 2020; C4-IT10, 2020). They receive mutual feedback (Vergara Gutiérrez, 2018; C4-IT5, 2019; C4-IT6, 2019; C4-IT7, 2019), and assign roles to each member of the association to take forward different activities (ARAC, 2015). Afterwards, the frequency of the meetings changed from weekly to bi-monthly - one meeting every 15 days (General-Presentation, 2019; C4-IT8, 2019; C4-IT9, 2020). • Articles of association: The ARAC articles of association were the result of a process of reflecting about the association and settling its principles, vision, and goals (C4-IT10, 2020). These articles of association defined the rules for each of its members (ARAC, 2014). Two elements are highlighted from the articles of association. First, they defined a trial period for new associates (See Table 3, shielding). Second, they included an agroecology manifesto (ARAC, 2014). It provided a guide regarding the agroecological practices for the association. • Technical guidance: The work with the UniMinuto’s professors before winning the ACC award helped the association to define nine indicators to improve the agroecological performance of their farms. These indicators have become their technical guide (ARAC, 2015; C4-IT8, 2019). • Quality system: The ARAC association implemented the Participatory Guarantee System (PGS⁵⁵). It is a quality model system to assure that their products are produced following agroecological principles and practices (ARAC, 2015). • Dispute settlement: The association defined a protocol of dispute settlement between the members (C4-IT5, 2019). The association board managed it (C4-IT2, 2019; C4-IT9, 2020) in the periodical meetings (C4-IT9, 2020).

55 For more information see Moura e Castro, Katto-Andrighetto, Kirchner, & Flores Rojas (2019).

Table 4. Continued

Mechanism	Example of their use
	<ul style="list-style-type: none"> • From ACC: Two sources of learning activities were identified. <ul style="list-style-type: none"> ◦ The first one emerged from COLCIENCIAS' team. Some expected activities were: a training process of social appropriation of knowledge for the association leaders (COLCIENCIAS, 2015e); technical assistance and training sessions for the association delivered by godparents (COLCIENCIAS, 2015 d); processes of assistance and strengthening the community administrative capabilities (COLCIENCIAS, 2018). Finally, a workshop on communication basic tools (COLCIENCIAS, 2018). ◦ The second one came from association activities. Thus, training sessions and workshops were delivered along the strengthening phase of ARAC's experience (COLCIENCIAS, 2017f). In some cases, ARAC members led the training sessions and workshops (ARAC, 2016a; ARAC, 2016b; ARAC, 2017g). In other cases, they hired experts (COLCIENCIAS, 2017f; ARAC, 2016b) or they attended courses offered by others entities (COLCIENCIAS, 2017f; ARAC, 2017g). These activities covered different topics like harvesting (ARAC, 2017g) and post-harvesting (ARAC, 2017g), use of equipment (ARAC, 2017g), healthy nutrition (ARAC, 2017g). • From research activities: The work between UniMimuto's professors before the ACC award was done based on a process of participative research methodology (Vaca Uribe & Acevedo-Osorio, 2016; C4-IT5, 2019). In that process ARAC members had training sessions to improve their production practices (ARAC, 2015; C4-IT5, 2019; C4-IT8, 2019). • From external actors: They attended training sessions offered by external actors (Corporación Consorcio, 2017; General-Presentation, 2019). • From the Association: New candidates joining the association have to pass a trial period of three months. During that time, they had to attend training sessions to learn about the association and their practices (General-Presentation, 2019).
Learning activities	<ul style="list-style-type: none"> • Application to public calls for funding for the association (C4-IT5, 2019). It was the case of ACC, and the call from a non-profit organisation from Colombia called RECON (RECON, 2019a).

Source: Own elaboration.

Table 5. Case 3: IEs' strategies identified

Strategy	Definition	Description from the case
Anchor	<p>This strategy is oriented toward including results and activities done by the IEs in documents. These documents could belong to the same organisation or external parties. The documents would be used subsequently as a source of validation to support the IEs' vision.</p>	<p>The APACRAC experience was anchored in several documents (news articles in newspapers, academic theses, books chapters, and videos). Those documents presented technical results on their agroecological practices (Cortés, Acevedo, & Baéz, 2019; Hernández Bonilla, 2017), their organisational developments (APACRA, 2015a; APACRA, 2015c; Consorcio-dit, 2017), and their role as gatekeepers of their agricultural tradition (Carranza Rojas & Acevedo-Osorio, 2018; Giraldo Castaño, 2018; Mateus Téllez, 2017b).</p>

Table 5. Continued

Strategy	Definition	Description from the case
Bargaining	This code focused on processes of negotiation led by the IEs.	<ul style="list-style-type: none"> • Bargaining as an IE strategy was visible in three situations. The first was to get a spot in the Tolima University to open the second sales point and to become a member of the board of the university (C5-IT1-P1, 2019; C5-IT3, 2019). The second is the discussion in the ACC award frame with the COLCIENCIAS' team to finance some activities including making the products' label (C5-IT1-P1, 2019), or doing activities like the soil analysis (C5-IT5, 2019). In the case of the products' labels, the IE pointed out the importance of talking with the COLCIENCIAS' team providing convincing arguments (C5-IT1-P1, 2019). Finally, the bargaining is in the internal negotiations between the APACRA's associates. For example, in the framework of discussions about the attendance at the meetings and the associates' commitment (C5-IT1-P2, 2019). • This strategy was identified in the process of delivering their messages and intentions regarding different audiences. <ul style="list-style-type: none"> o Public Entities: The technical proposal submitted to the ACC award shows a process or argumentation around the innovativeness of the products and activities performed by APACRA (APACRA, 2015b; C5-IT3, 2019), and their capability to obtain the necessary votes to get the award (C5-IT3, 2019). It was also the case of the proposal presented to Tolima University (C5-IT3, 2019). Another example of the discursive capability is depicted by the arguments in the bargaining process of the product's label explained above (C5-IT1-P1, 2019). o Other associates: The IEs had to develop discourses to involve and reinforce the associates' participation in their vision of change. Sometimes IEs appealed for support for their arguments in the organisation rules (C5-IT1-P1, 2019), mainly supporting women's participation in the APACRA's activities (C5-IT1-P1, 2019). In the last case, most of those discourses were based on managing narratives: <ul style="list-style-type: none"> “Come on, look at it so cool, that I do not know what did this do to him, does it work for him [<i>sic</i>]?” and he looked at the lady's erita because it was working. Suddenly the costs were, I did have them and the costs I told them: “look if this one if his wife has 20 products in this era and you do not buy those products in the market, right? If she were to buy a pound of carrots, one of onion, other of peas, a pound of, a bunch of coriander, how much does that cost? So I made the costs ta, ta, a weekly that costs 20,000 and annually, how much does it cost?”. Moreover, this is a way for them to look at what it was, women also contributed, Yes [<i>sic</i>]?” (C5-IT1-P1, 2019, p. 6). o Consumers: They did marketing campaigns to draw potential consumers (C5-IT1-P1, 2019), or framed discourses to show to benefits of having a healthy diet. “An awareness process was carried out with students, teachers and Tolima University administrators and the inhabitants of the sector of Galán where a point of sale of the association is located. This process was on why to include healthy, healthy and innovative products in the diet, from the origin. Results were people buying the products and therefore, new customers,<i>[sic]</i>” (APACRA, 2017, p. 15). o Local organisations: They could share their vision of change based on their experience with communities in their region (APACRA, 2017; Giraldo Castaño, 2018). o None defined audiences: It was the case of interviews to newspapers or videos where the IEs shared their experience showing both the results, and their practices (Hernández Bonilla, 2017; Mateus Téllez, 2017a; APACRA, 2015c; Mateus Téllez, 2017b; Consorcio-dit, 2017; C5-IT1-P1, 2019), and their fighting spirit (Mateus Téllez, 2017a; La Liga Contra el Silencio, 2020; APACRA, 2015c; Mateus Téllez, 2017b; C5-IT3, 2019): <ul style="list-style-type: none"> “That was the public consultation's success, if you see, which was said was that “water yes, mine no, gold no”. That water costs more than gold and people were getting into the head that water it costs more than gold and that water is more important than gold, and that you cannot eat gold, and that you are going to make a ton of gold if you cannot eat it, and that is why it was the thing of the resistance [<i>sic</i>]” (C5-IT3, 2019, p. 9).

Table 5. Continued

Strategy	Definition	Description from the case
Spreading the vision	<p>This strategy depicts the activities developed by IEs to introduce and keep the vision of change in other organisations.</p>	<ul style="list-style-type: none"> Some activities were described regarding the strategy of looking for allies to increase allies. These activities can be divided into three groups. The first one was focused on knowledge interchanges with organisations, partners and neighbours in the region (APACRA, 2017; Programa Oportunidades Rurales, 2010; C5-IT1-P1, 2019; C5-IT5, 2019; ColeCase-IT13, 2019; Consorcio-dit, 2017; C5-IT3, 2019). “We share some talks [<i>sic</i>] at the Cielo Baéz farm where they invite us to have a socialization and exchange of words. We also learned that the way to change our quality of life is not to work with chemicals, but there are other ways to work launching about organic products [<i>sic</i>]” (Consorcio-dit, 2017, Min: 05,57). The second set of activities was around consumers awareness campaigns (APACRA, 2017; COLCIENCIAS, 2017e; Programa Oportunidades Rurales, 2010; C5-IT1-P1, 2019). In this case, the sales point at Tolima University was crucial in spreading the vision of change (Cortés, Acevedo, & Baéz, 2019; C5-IT1-P1, 2019). Finally, it was identified those activities where the IEs got involved in demonstrations against the “La Colosa” mining project (C5-IT1-P1, 2019; Cortés, Acevedo, & Baéz, 2019; Giraldo Castaño, 2018). An example of these demonstrations was “El Carrao” fair (APACRA, 2015c). As a result of this set of activities, awareness of agroecology’s relevance increased, and two new organisations emerged in this field (C5-IT1-P1, 2019). These three groups of activities were mediums to spread the IE’s vision of change. Besides the above activities, APACRA delivered training to other organisations (Corporación Consorcio, 2017), and regarding <i>the material strategy</i>, they also used videos to spread their vision both externally and internally (APACRA, 2017; C5-IT1-P1, 2019).
Encounter spaces	<ul style="list-style-type: none"> This strategy looks for providing spaces for discussion, participation, deliberation whereby the organisation members became involved in the path-transformative process. This strategy could be considered a subcategory of the organisational involvement’s strategy. 	<ul style="list-style-type: none"> IEs use periodical meetings for three purposes, besides working as a self-reinforcement mechanism (See Table 6, Institutional density). First, to provide information and assign responsibilities between the APACRA’s associates (Corporación Consorcio, 2017; C5-IT1-P1, 2019; C5-IT3, 2019). Second, to make joint decisions (C5-IT1-P1, 2019). Finally, to express feelings and solve differences between the associates (C5-IT1-P1, 2019). IEs use <i>mingas</i>, encounters and workshops to produce, apply and transfer knowledge between the associates (Corporación Consorcio, 2017; APACRA, 2017; COLCIENCIAS, 2018). IEs also foster social integration spaces to tighten the links between the associates (Programa Oportunidades Rurales, 2010; C5-IT1-P2, 2019).
Knowledge for decision making	<p>This code focused entirely on the activities of the IEs to foster knowledge production, research and analysis, to aid decision making and support their vision of change.</p>	<ul style="list-style-type: none"> The production and use of knowledge for decision making was a strategy tracked through two situations. The first situation was in the frame of the ACC award. In that frame, four studies were conducted. A study “of innovative trends in agri-food marketing, brands, packaging and points of sale and a supply and demand project for five products of the organisation” (Corporación Consorcio, 2017, p. 124; COLCIENCIAS, 2015f; APACRA, 2017; COLCIENCIAS, 2017e; C5-IT4, 2019). The third study was a soil analysis to check the APACRA’s farms soil situation (COLCIENCIAS, 2015g; COLCIENCIAS, 2015f; APACRA, 2017), and the fourth had the purpose of improving the biological management to the Chachafuto’s plants (COLCIENCIAS, 2015g; APACRA, 2017). The second situation refers to the decision-making process to manage the APACRA’s production decisions (Cortés, Acevedo, & Baéz, 2019; Programa Oportunidades Rurales, 2010). In this case, several work committees inside APACRA produced reports in the periodic meetings and based on those reports, decisions are taken (C5-IT1-P1, 2019).

Table 5. Continued

Strategy	Definition	Description from the case
Looking for allies	IEs triggered this strategy to find third parties who could help them to support their vision of change. This strategy has been well studied by the literature.	<ul style="list-style-type: none"> • This strategy was essential for fostering and supporting their vision of change. Two types of allies were identified. The first kind of allies was oriented toward bringing technical and financial support to the activities carried out by the IEs in the organisation (Cortés, Acevedo, & Baéz, 2019). Examples of these allies were University of Tolima, Tolima governorship, CORPOICA, NGOs at and out of Cajamarca (Corporación Consorcio, 2017; APACRA, 2016c; Cortés, Acevedo, & Baéz, 2019; Programa Oportunidades Rurales, 2010; C5-IT1-P1, 2019; C5-IT3, 2019; C5-IT4, 2019), the Ministry of Agriculture (Programa Oportunidades Rurales, 2010), COLCIENCIAS with the ACC award (APACRA, 2017). The Centro de Productividad del Tolima (COLCIENCIA, 2018). The second type of allies supported the claims and “fights” to preserve the IEs’ vision of change (Cortés, Acevedo, & Baéz, 2019). This type of allies can include consumers. It was the case of the committees dealing with the mining project “La Colosa” (Carranza Rojas & Acevedo-Osorio, 2018; Giraldo Castaño, 2018; C5-IT1-P1, 2019; C5-IT3, 2019): “In alliance with other local organisations, APACRA was able to acquire the necessary strength to influence politically against the mine, something that it could not have done as an isolated organisation. [sic]” (Carranza Rojas & Acevedo-Osorio, 2018, p. 33). To increase the allies, IEs became involved in market fairs (Corporación Consorcio, 2017; Programa Oportunidades Rurales, 2010; C5-IT1-P1, 2019; C5-IT3, 2019), looked for support from the University (Corporación Consorcio, 2016a; APACRA, 2016c; APACRA, 2017; COLCIENCIAS, 2018; C5-IT1-P1, 2019; C5-IT5, 2019), made knowledge interchanges with organisations, partners and neighbours in the region (APACRA, 2017; Programa Oportunidades Rurales, 2010; C5-IT1-P1, 2019; C5-IT5, 2019; ColciCase-IT13, 2019; Consorcio-dtr, 2017), did consumer awareness campaigns (APACRA, 2017), and became involved in demonstrations against the “La Colosa” mining project (C5-IT1-P1, 2019; Cortés, Acevedo, & Baéz, 2019).
Making materials	This strategy looks at developing materials to show results and strengthen other actions.	<ul style="list-style-type: none"> • It is possible to identify three types of materials in this case. <ul style="list-style-type: none"> ◦ The first type emerged from knowledge management. In that sense, elements like soil assessment and the identification, management and biological control of the Chachafruto crops were presented as successful ACC awards results (APACRA, 2016c). These materials were relevant because they allowed the taking of decisions to improve the crops and therefore, the farms productivity (APACRA, 2017). In this type of materials, the production of scientific publications (Cortés, Acevedo, & Baéz, 2019) was also identified as a material that the IEs used to build their reputation with external actors. ◦ The second type of material was linked to the infrastructure built like the kitchens supported by the Tolima governorship (C5-IT1-P1, 2019) or the production centre built to fulfil the INVIMA regulations (C5-IT1-P1, 2019; APACRA, 2016c). ◦ The third type of material was videos production to show the vision, advances, results of the organisation to an open public (C5-IT1-P1, 2019; APACRA, 2015c; APACRA, 2015a), and the participation in a podcast to share their experience (Arreta Caballero, 2020).
Conciliation	In this process, an actor looks for find a balance between the interests, expectations, or intentions from different parts, which conflict with each other.	<ul style="list-style-type: none"> • The profile of IEs as fighters (See Annex 2, Table 3) prevailed over their role as conciliators. It can explain why the conciliation strategy was not clear enough in the analysis. However, the particular intention of the IE of making APACRA self-sustaining and bring welfare for its members shows their role as conciliators between interests (C5-IT1-P1, 2019): “How to increase production so that the association had a profit, yes, the associates would also improve their quality of life economically. As I said, the equity part was like, as we were in another trend, then economically good, but let us make it. Somehow we have to make it to be able [sic] because this is not only passion, only beautiful and so on, but it also has to be economically viable” (C5-IT1-P1, 2019, pp. 16-17).

Table 5. Continued

Strategy	Definition	Description from the case
<ul style="list-style-type: none"> Doing something to show the others that it is possible to do it. 	<ul style="list-style-type: none"> This strategy is named by Mintrom & Norman (2009) as leading by example, and this strategy is used by policy entrepreneurs to build momentum for change" (p. 653). 	<ul style="list-style-type: none"> This strategy was implemented in the production process followed by the organisation's associates through agroecological techniques (APACRA, 2016; APACRA, 2017; Cortés, Acevedo, & Baéz, 2019). Inside the organisation, the IEs also used this strategy to share practices or techniques to be replicated by the other associates. It was the case of implementing the irrigation systems (APACRA, 2017; MinCiencias, 2017b). It is important to underline that this strategy was crucial to involve men in the organisation and overcome the dominant male dominated-vision (C5-IT1-P1, 2019).
<ul style="list-style-type: none"> Motivating by example 	<ul style="list-style-type: none"> IEs promote the organisation as an <i>experience</i> that should be followed by other actors (C5-IT3, 2019). For this purpose, they used their achievements to motivate those actors. It was the case, for example, of the ACC award. It was used to show the link between the organisation's results and their innovative capabilities to other organisations (C5-IT3, 2019). In general, IEs considered that APACRA was an example for society: 	<ul style="list-style-type: none"> This strategy was also implemented as part of the activities taken forward to stop the mining project "La Colosa" (Carranza Rojas & Acevedo-Osorio, 2018) and to claim the role of the peasants in the region (Giraldo Casaña, 2018; APACRA, 2015c). This strategy was identified explicitly as a feature of the two people who shaped the IEs in this case (C5-IT1-P2, 2019; C5-IT5, 2019).
<ul style="list-style-type: none"> Networking 	<ul style="list-style-type: none"> This strategy could involve both the process of creation and of consolidation of networks of allies to support the vision of change. 	<ul style="list-style-type: none"> "I imagine this association in 20 years (1:05:00) as the benchmark of many associations with the same goal of empowerment, transformation, innovation, but always with that APACRA benchmark. APACRA is a benchmark in society, even if the politicians want to overwhelm us, even if selfish tell you "no, that is no longer useful"[sic]. It is a reference because it has been sustained over time and without a political sponsor, without financial help from a multinational company" (C5-IT3, 2019; p. 21). An analysis made in the ACC award framework highlighted the increasing networking capability of the APACRA's (Corporación Consorcio, 2017). This strategy was performed jointly with the strategy of looking for allies. Some of the activities done to strengthen networks were part of the networking process, for example, the launch meeting of the ACC award (C5-IT1-P1, 2019; C5-IT5, 2019). The organisation's networking is visible as a strategy to foster the IEs' vision of change. In this vein, two main networks were identified. The first one was a technical and financial network. To strengthen this network, the IEs interchanged knowledge between organisational peers like the Organisation Chorrros Blancos, the educational community from the Tolima University (APACRA, 2017; C5-IT1-P1, 2019) and other actors in the region (APACRA, 2017; Programa Oportunidades Rurales, 2010; C5-IT1-P1, 2019; C5-IT3, 2019; C5-IT5, 2019). The second network was oriented towards protecting the vision of change from resistance to change pressures like "La Colosa" mining project (Carranza Rojas & Acevedo-Osorio, 2018; Giraldo Casaña, 2018; Torres Mateus Téllez, 2017a; Padilla, 2015; C5-IT1-P1, 2019; C5-IT3, 2019).

Table 5. Continued

Strategy	Definition	Description from the case
Organisational Involvement	Actions performed to increase the level of commitment and participation from other members of the project and stakeholders.	<ul style="list-style-type: none"> The associates' participation and interest in the vision of change promoted by the IEs have been fostered differently. For example, the community work in <i>Mingas</i> (C5-IT1-P2, 2019), training activities (Programa Oportunidades Rurales, 2010), social integration activities (Programa Oportunidades Rurales, 2010; APACRA, 2015c; C5-IT1-P2, 2019), monthly meetings (APACRA, 2015b; C5-IT1-P1, 2019; C5-IT3, 2019), research activities of the associates (APACRA, 2015b; APACRA, 2016c), and periodical activities for sharing experiences, learning and knowledge between the associates (APACRA, 2017). Examples of community work included: the building of the production centre where the associates participated with their workforce (APACRA, 2016c; APACRA, 2017), the installation of irrigation systems (APACRA, 2016c; APACRA, 2017; MinCiencias, 2017b), the process of developing the articles of association (APACRA, 2016c; C5-IT1-P1, 2019), or the improvement of the quality and crops of the soils by a participatory research process (APACRA, 2017).
Shielding or neutralising actors who can affect organisation development.	This strategy is a process of avoiding or neutralising actors who can affect organisation development.	<ul style="list-style-type: none"> "Like traditional activities or practices, innovations in APACRA have been participatory and, thus, the individual actions of its members have been transmitted and adopted by other members of the community" (Cortés, Acevedo, & Baéz, 2019, p. 125). "the organisation has accomplished conjugate each association member's efforts based on their experience productive and knowledge. The innovation process was possible by articulating efforts in two areas, the family and community" (Cortés, Acevedo, & Baéz, 2019, p. 129). A consensual decision-making process (Corporación Consorcio, 2017) along with the monthly meetings and the distribution of responsibilities and roles have kept the associates' involvement (Corporación Consorcio, 2017; APACRA, 2016c; APACRA, 2017; C5-IT1-P1, 2019). In this frame, the planning activity completed as part of the ACC award helped increase the associates' involvement. This activity allowed the associates to make decisions more systematic and based on their priorities (C5-IT3, 2019). The opening of market opportunities also contributed to increasing the APACRA's associates involvement (Cortés, Acevedo, & Baéz, 2019; C5-IT3, 2019). For this purpose, IEs have triggered marketing campaigns to involve also the consumers (C5-IT1-P1, 2019). The reduced number of APACRA's associates has been favourable to guarantee their involvement in the IEs' initiatives (Corporación Consorcio, 2017). However, it has been a process which has lasted approximately 12 years. (C5-IT1-P1, 2019). The IEs involvement in the activities and the processes to stop the mining project "La Colosa", and therefore the APACRA's involvement worked as a strategy to shield the vision of change built over the years (Carranza Rojas & Acevedo-Osorio, 2018), but also, the vision of change that APACRA embodied was used to shield other organisations from the mining project (Carranza Rojas & Acevedo-Osorio, 2018) as a sort of niche (Cortés, Acevedo, & Baéz, 2019). "For APACRA, participating in this movement meant taking a political position to protect the territory and defend their own ways of life; The people of the region considered that APACRA had to participate in this campaign against mining because they were precisely the "caretakers of the environment." (Carranza Rojas & Acevedo-Osorio, 2018, p. 33). The activities supported by APACRA, and other organisations from Cajamarca and the region, led to obtaining 98% of votes supporting against the mining project in popular consultation (Carranza Rojas & Acevedo-Osorio, 2018; La FM, 2018). An example of those activities was a process of divulgation of the potential areas affected by the project with the community (C5-IT1-P1, 2019) and demonstrations (C5-IT1-P1, 2019) (See institutional density, self-reinforcement mechanism, territory defence). IEs depicts APACRA as an "alternative project with strong features of resistance against multinationals which have arrived at the municipality in the last ten or eleven years to our municipality to sell us the idea that development is totally opposed to we have been done: agriculture" (Mateus Téllez, 2017a, p. 1). Regarding the APACRA process, the IEs used the revolving fund as a filter to debug the potential participants in the APACRA initiative (C5-IT1-P1, 2019; C5-IT3, 2019), and thus protect the initiative from spurious interests. The articles of association were also used to protect the organisation from deviations of the associates from the vision of change (C5-IT1-P2, 2019), even to expel people from the association. It was the case of a former associate who had agreements with the Anglo Gold Ashanti. These agreements were the reason for being expelled from the association (C5-IT1-P2, 2019).

Table 5. Continued

Strategy	Definition	Description from the case
<ul style="list-style-type: none"> • Besides using the <i>material strategy</i>, IEs showed as results of their vision and the introduction of the divergent change the followings: the acceptance and increasing consumption of their products by children; the opening of the sale points (Cortés, Acevedo, & Baéz, 2019); an increase in the family income and changes in the children's diet patterns (APACRA, 2015b), and also the diet patterns from the APACRA's associates (APACRA, 2015b); the quality certification from the Participatory Guarantee System (Corporación Consorcio, 2017); the increasing of the agroecological area (C5-IT1-P1, 2019); the diversification of their product portfolio (C5-IT1-P1, 2019); and the development of their networking (see <i>networking strategy</i>). 		
Showing results	<ul style="list-style-type: none"> • It is the process of justifying their actions by achieving concrete goals that could be measured and share with the stakeholders. 	<ul style="list-style-type: none"> • The IEs also highlighted the results from public calls. For example, the results achieved by the implementation of the ACC award (APACRA, 2017; C5-IT3, 2019) were underlined (Consorcio-dit, 2017). Among those results, the following were mentioned: the fulfilment of the INVIMA quality regulations for the association products (APACRA, 2017; COLCIENCIAS, 2017; Consorcio-dit, 2017), advances in terms of agri-food marketing, labelling, productivity, irrigation systems installation (APACRA, 2017; Consorcio-dit, 2017). It was also the case from the public call for applications from "Oportunidades Rurales" (C5-IT3, 2019), which gave them the possibility of attending market fairs (Programa Oportunidades Rurales, 2010). • The APACRA results were presented as an argument to shield the municipality from the mining project. It was highlighted in the <i>shielding strategy</i>. APACRA is perceived as an organisation that has positively impacted recovering the environment and traditional production practices (Cortés, Acevedo, & Baéz, 2019). • An exciting result highlighted by the IEs is the management and change of the male-oriented pattern inside the organisation (C5-IT1-P1, 2019; C5-IT3, 2019).

Source: Own elaboration.

Table 6. Case 3: Self-reinforcement mechanism implemented

Mechanism	Example of their use
<ul style="list-style-type: none"> • External agreements 	<ul style="list-style-type: none"> • The organisation received financial support and financial resources through the award of the program ACC. These elements had the aim of strengthening the APACRA's vision of change based on the initiative agreed with COLCIENCIAS and other actors, and made use of Science, Technology and Innovation (COLCIENCIAS, 2016b; C5-IT4, 2019). The agreement between the parts above was materialised in a legal contract (2016g). • APACRA networked with eight different organisations which contributed to finding contracts to support the organisation's activities (Corporación Consorcio, 2017). • The regulatory requirements can be understood as an external agreement. In this case, the National Institute for Food and Drug Surveillance (INVIMA by its acronym in Spanish) pushed the organisation to make technical and financial investments to fulfil the legal requirements (Cortés, Acevedo, & Baez, 2019; Consorcio, n.d.). It was necessary to sell their products freely. • APACRA agreed with the University of Tolima to sell their products in the university and participate in the decision-making process about agroecological activities (C5-IT1-P1, 2019).
Financial investments	<ul style="list-style-type: none"> • The organisation's financial resources to foster the vision of change came from two sources. The first source was its own resources (APACRA, 2016b). These resources, in turn, came from a revolving fund made by the APACRA's members (APACRA, 2016g; Cortés, Acevedo, & Baez, 2019; C5-IT1-P1, 2019), and from the profits generated from the products' sales (C5-IT3, 2019). The second source of income came from the public calls through which the organisation benefited (APACRA, 2015b). For example, in the case of the award received from ACC (COLCIENCIAS, 2016b). In that case, COLCIENCIAS awarded COP \$50,000,000 and APACRA COP \$30,200,000 (COLCIENCIAS, 2017e). A second example was the funding from the program from the Ministry of agriculture "Oportunidades Rurales". The resources provided by the Program were COP \$33,770,000, and COP \$3,070,000 from APACRA (Programa Oportunidade Rurales, 2009). • Financial investment outcomes: It is possible to identify some outcomes of the financial investments done by the Organisation: <ul style="list-style-type: none"> o First: The opening of three sales points (APACRA, 2015b; Cortés, Acevedo, & Baez, 2019; C5-IT1-P1, 2019; C5-IT3, 2019). o Second: Investments were made in marketing strategies to improve the branding, product's image, and packaging (APACRA, 2017). o Third: Improvements on the post-harvest processes and installations (Cortés, Acevedo, & Baez, 2019; Programa Oportunidades Rurales, 2010; C5-IT1-P1, 2019; C5-IT3, 2019).

Table 6. Continued

Mechanism	Example of their use
•	<p>Formalisation process: APACRA's members decided to formalise the organisation in 2002 (Cortés, Acevedo, & Baéz, 2019). This decision was triggered by applying for public calls (C5-IT3, 2019). In this process, they fulfilled the legal requirements including the Chamber of Commerce register (C5-IT1-P1, 2019; C5-IT3, 2019), and the definition of a management board (APACRA, 2015b). The organisation also received support to accomplish accounting requirements (Programa Oportunidades Rurales, 2010).</p>
•	<p>Articles of the association: In this process, they spent two years developing their articles of association (APACRA, 2016c; C5-IT1-P1, 2019). The IEs are proud of having done the articles of association. (C5-IT1-P1, 2019; APACRA, 2016c). Along with the articles of the association, they made an internal regulation to steer the organisation. The internal regulation was used to assess the continuity of some associates that because of various reasons were not attending the monthly meetings (C5-IT1-P2, 2019) and the expulsion of one associate because of his involvement with a mining company (C5-IT1-P2, 2019).</p>
•	<p>Quality System: Two quality systems emerged in this case. The first one was linked to the process of obtaining the sanitary licenses from the regulatory authority (National Institute for Food and Drug Surveillance, INVIMA by its acronym in Spanish). It pushed the organisation to make technical and financial investments to fulfil the legal requirements (Cortés, Acevedo, & Baéz, 2019; COLCIENCIAS, 2015f; APACRA, 2017). Below are some highlights from those investments:</p> <ul style="list-style-type: none"> o The building and adequation of a production centre (Cortés, Acevedo, & Baéz, 2019; APACRA, 2016c; APACRA, 2017; C5-IT1-P1, 2019), and equipment purchases (COLCIENCIAS, 2017c). This centre fostered the organisation's changes of practices including moving from home-production to centre-production outside the associates' houses (Cortés, Acevedo, & Baéz, 2019). o A quality assessment laboratory assessed the product's quality (APACRA, 2016c) to build the nutritional tables that each product must have (APACRA, 2017). o The payments to the INVIMA to apply for the sanitary licenses (APACRA, 2016c).
Institutional density	<p>The second quality system was based on trust building between producers and consumers to grow an agroecological market. Like ARAC, APACRA implemented the Participatory Guarantee System (PGSSM) (Corporación Consorcio, 2017).</p> <ul style="list-style-type: none"> • Revolving fund: A critical mechanism to finance the vision of change was the revolving fund (C5-IT1-P1, 2019; C5-IT3, 2019; APACRA, 2016c; Cortés, Acevedo, & Baéz, 2019). It had a twofold objective. On the one hand, it allowed for the identification of potential associated commitment (APACRA, 2016c; C5-IT1-P1, 2019), and on the other hand, it was the source of funding (C5-IT1-P1, 2019; APACRA, 2016c; C5-IT3, 2019) for the associates (Programa Oportunidades Rurales, 2010). It was necessary to define an internal regulation process to manage better this revolving fund (C5-IT3, 2019; Programa Oportunidades Rurales, 2010). • Territory defence: One of the main targets of APACRA were the defence of their territory and the claim of the peasants' role (Cortés, Acevedo, & Baéz, 2019). Thus, to increase the associates' commitment and the recognition of APACRA, the IEs fostered public fairs to showcase the values of Cajamarca as an agrarian territory. It is the case of "El carrao" festival (APACRA, 2015c). They also promoted the movement against the mining project "La Colosa" (Carranza Rojas & Acevedo-Osorio, 2018). It made them more relevant in political terms (Carranza Rojas & Acevedo-Osorio, 2018). They began to become involved by participating in public demonstrations against the project. Besides, they received training through which they learnt about the mining projects' technicalities and legal alternatives to stop them (C5-IT1-P1, 2019). In this process, APACRA was also involved in developing a complex network of organisations to fight against the mining project (C5-IT1-P1, 2019; C5-IT3, 2019). • Periodical meetings: To make a follow up of the activities and their alignment with the vision of change, APACRA's associates met weekly and monthly. Whereas the weekly meetings were informal, the monthly ones had a formal character (C5-IT1-P1, 2019). The associates were encouraged to participate in these meetings through monetary fines and appealing to their human nature (C5-IT1-P1, 2019). • Supporting network: More than an association, APACRA is considered a family (C5-IT1-P1, 2019). In that sense, they promoted activities to share their spare time and support to those in a disadvantaged situation (C5-IT1-P2, 2019). In that sense, all the activities and projects implemented were looking for improving the associates' wellbeing. For example, the necessity of changing the production strategy was the case because of the INVIMA requirements. Thus, it was necessary to hire one person to transform the products instead of having shifts among the associates, which began at 3 am every day (C5-IT1-P1, 2019).

56 For more information see footnote 55.

Table 6. Continued

Mechanism	Example of their use
	<ul style="list-style-type: none"> • From external organisations: <ul style="list-style-type: none"> o The agroecological training school offered by the NGO “Semillas de Agua” was possible to trigger the modification of agricultural practices which relied on the green revolution (APACRA, 2015b; APACRA, 2016c; Consorcio-dit, 2017; C5-IT1-P1, 2019; C5-IT3, 2019). This training school turned the peasants into the main actors in the process (APACRA, 2016c). It was a process that lasts for three years (Marcus Téllez, 2017a; C5-IT1-P1, 2019). o The NGO “Semillas de Agua” and the support of a lawyer from an organisation from Cali supported the development of the articles of association (APACRA, 2016c; C5-IT1-P1, 2019). o The program “Oportunidades Rurales” brought technical assistance to the organisation, contributing to improving their agroecological practices (Programa Oportunidades Rurales, 2010). • From the godparents: <ul style="list-style-type: none"> o The work between them provided learning to strengthen and take care the soil properties (APACRA, 2016c; APACRA, 2017; COLCIENCIAS, 2018), and install and improve the irrigation systems (APACRA, 2017), and other training activities (C5-IT4, 2019). These activities were done as part of the godparent duties framework (COLCIENCIAS, 2015d). • From APACRA <ul style="list-style-type: none"> o They organised internal workshops about the social appropriation of knowledge (APACRA, 2017), and provided spaces of knowledge interchange with other organisations in the region (APACRA, 2017). Besides, they had promoted a process of independent learning (Cortés, Acevedo, & Baéz, 2019), for example in the production of new products recipes based on their agricultural production (Cortés, Acevedo, & Baéz, 2019). o Along with the support of programs like “Oportunidades Rurales”, the IEs has been working in introducing a gender equity approach in the organisation (Programa Oportunidades Rurales, 2010; C5-IT1-P1, 2019) o They promoted a change in the consumers’ patterns at Tolima University through their marketing strategies. In that sense, they made the academic community more conscious of their dietary habits and the need to consume healthy food (C5-IT1-P1, 2019). • APACRA applied to several public calls to obtain resources and support for their vision of change. For example, they applied and received resources from the National Department for Social Prosperity (DPS by its acronym in Spanish) and Rural Opportunities from the Ministry of Agriculture. These resources were invested in building a production centre (Cortés, Acevedo, & Baéz, 2019), and to improve the farming practices (Programa Oportunidades Rurales, 2010; C5-IT1-P1, 2019). The resources received from Tolima’s governorship were also invested in improving some of the associates’ kitchens (C5-IT1-P1, 2019).
Application to calls	

Source: Own elaboration.

Annex 5. Stages description into the involvement dimension for the three case studies

Table 1. Case 1: Involvement in the InIn Stages

InIn stage	Description	Some drawbacks identified
Pre-kick-off	Two situations explain the involvement of the community in the Ideas para el Cambio's program. First, a program requirement was to present a proposal to the public from alliances between communities and Science, Technology and Innovation experts (COLCIENCIAS, 2016b). Second, because of the Ideas para el Cambio's program requirement, a research team from el SENA looked for a community in Facatativá and found Mancilla village community (C6-IT2-P1, 2020; ColciCase-IT8, 2019).	There were no drawbacks identified about this stage.
Needs identification	Mancilla's needs were captured using surveys conducted by SENA's research team (Forero, Pedraza, González, & Jaimés, 2018). The diagnosis was made jointly between Universidad de Cundinamarca's professors, SENA's research team leader, and Mancilla's IE (C6-IT4, 2020).	An interviewee suggested that it was possible to consider that having safe water access was not a vital need of this community (ColciCase-IT8, 2019). This situation could explain the lack of community cohesion and interest, besides the other elements highlighted during the project.
Solution design	The technical solution was designed regarding surveys in formation from visits to 5 or 6 families (C6-IT1, 2020), data about the hydrologic history and the conditions of the disposable water resource in the area (Forero, Pedraza, González, & Jaimés, 2018). The research team's visits to the community allowed them to corroborate their hypothesis about the community problematic.	According to the IE, the technical solution arose from the visit; the research team made to her. In that visit, the IE explained to the research team her experience in rain harvesting water and grey-water treatment based on the systems installed in her house (C6-IT2-P1, 2020). This showed lack of community participation as co-designer of the solution to attend their needs.
Project kick-off	Once the research team and the IE were informed about the project approval, they gathered all the community (the 68 families) to inform them about: (i) the news about the project approval, (ii) the constraints about covering all the community, and (iii) that a selection process would be conducted in the community to choose who would benefit (C6-IT1, 2020).	<ul style="list-style-type: none"> • In the frame of the kick-off, Colciencias realised that the community did not have any previous relationship with the solution proposal (COLCIENCIAS, 2016). This finding was corroborated by one interviewee from the research team who said "once that they told us yes, that the project had been approved, so there we did gather the whole community[sic]" (C6-IT1, 2020, p. 5). • The lack of coverage of the community, within the project, produced frictions among the community (C6-IT3, 2020). • The community was reluctant to participate in the project (C6-IT4, 2020; ColciCase-IT8, 2019; Jaramillo Gómez, 2003; C6-IT3, 2020). One of them said that when they arrived in the village the people had told the research team, "Another project? And what, for what thesis is this going? [sic]" (C6-IT4, 2020, p. 1). • The skepticism in Mancilla was explained by one of the interviewees as being due to the country's corruption levels. Thus, the people did not trust third parties because they thought that it would be necessary to give something in exchange like voting for someone (C6-IT4, 2020). This reading of skepticism in Mancilla was close to the one presented by an interviewee regarding the skepticism of the older population in the same village (C6-IT1, 2020). Also, apparently, "There was already a history that people go to convince them, and ask for resources and steal them[sic]" (C6-IT4, 2020, p. 4). • The SENA's research team had problems involving the community in the social appropriation component of the project (C6-IT3, 2020), and in providing the techno-scientific solution to the community (ColciCase-IT8, 2019; C6-IT4, 2020).
Project implementation	After designing the technical solution, the research team began a training process with the families that benefited with the solution about how to install, use and maintain the equipment (Forero, Pedraza, González, & Jaimés, 2018). Thus, the research team visited the benefited families, one at a time, to explain the project, fix the appointments and set the requirements with them, to begin the project (C6-IT1, 2020). Also, they worked according to family groups selected. The idea was to explain to each family the benefits of accessing the system but also they had to contribute their own labour. (C6-IT2-P1, 2020).	

Table 1. Continued

InIn stage	Description	Some drawbacks identified
Project closing	Both community representatives and the research team worked and developed together the strategy to sustain the technical solution over time. This strategy was named as the "sustainability plan" (COLCIENCIAS, 2017h; COLCIENCIAS, 2017i).	<ul style="list-style-type: none"> • Technical problems in the techno-scientific solution, besides "a low level of social appropriation of knowledge", led to the extension of the project until 31st of July of 2017 (COLCIENCIAS, 2017i, p. 11). • One of the actors involved in the project, affirmed that "It was no cohesion between the 13 project's beneficiaries [sic] and IEs around the solution co-construction process. It did not identify a collaborative innovation process between the community and the research team" (COLCIENCIAS, 2017i, p. 15). There was no evidence of community cohesion around the project implementation; their participation was limited (COLCIENCIAS, 2017i). • The project could have had a bigger scope if the research team had used cheaper technology. It was not possible to benefit all the community because of the cost of the technological solution chosen by the research team (C6-IT2-P1, 2020).

Source: Own elaboration.

Table 2. Case 2: Involvement in the InIn Stages

Project stage	General features	Facts from the case	Comments
Experiences Nomination	Organisations were invited to nominate their experiences (projects) on how they dealt with a problem related to one of the three scopes of the public call (COLCIENCIAS, 2015e).	A university professor who had been working with the community in previous projects informed them about the opportunity to apply to the public call (C4-IT3, 2019; C4-IT8, 2019; C4-IT11, 2020). With the help of professors from UniMinuro, the community nominated themselves as suitable experience to the call (C4-IT5, 2019; C4-IT9, 2020)	The community was in charge of doing the paper work, and prepare the application.
Experiences assessment	Experts in the three areas of the public call's scope assessed the experiences which fulfilled the public call's formal requirements.	The experience fulfilled the technical assessment and was enabled to the National Voting Period stage.	In this stage, the community had a passive role because they only contributed by providing input on the assessment, but they did engage further on this stage.

Table 2. Continued

Project stage	General features	Facts from the case	Comments
National Voting Period	<p>Experiences with the highest scores in the assessment of the experiences' stage were published in the A Ciencia Giera webpage for national voting. In the meanwhile, the community was in a public campaign to get more votes and the likelihood to receive COLCIENCIAS' funding and acknowledge.</p>	<ul style="list-style-type: none"> The community was involved in the process of finding voting support for the public call (C4-IT8, 2019). According to an interviewee, the process of looking for voting support brought "an argument to strengthen as an association and to make known what they were doing" (C4-IT8, 2019, p. 4). This perception was shared by another interviewee (C4-IT5, 2019). The voting process fostered the community members to organise campaign with their families, friends (C4-IT2, 2019; C4-IT5, 2019), in spaces where they interacted with other actors (C4-IT2, 2019). They opened a Facebook page to promote their experience (C4-IT11, 2020). This process did not take longer than a month (C4-IT11, 2020). An interviewee pointed out that the voting process triggered other topics that might never have happened in their plots (C4-IT11, 2020). "So I remember a lot, an anecdote that I have. In a cabinet over there, in La Conejera restaurant, a colleague on cardboard, he folded a little piece of paper, and with his raised hand, and besides put the link: Please vote for us. Nevertheless, it was a very handcrafted thing, that you say: 'that is the feeling of them [sic]' (C4-IT11, 2020, p. 3). 	<p>This stage triggered community participation and also encouraged them to explore other scenarios of action, like political campaigns. Thus, the call showed a positive impact on the community daily routine and open opportunities to explore the use of other tools to encourage their experience; it was the case of opening their Facebook page.</p>
Best experiences awarding	<p>The 20 experiences with the highest voting numbers were selected as winners of a national voting conquest. Being selected gave communities access to support from COLCIENCIAS and public recognition of their experiences (COLCIENCIAS, 2015e). Communities who were selected to be awarded by the public call had to send a proposal of the experience strengthening (COLCIENCIAS, 2015e). The proposal sent by the communities was the main input to work in the local encounters (ColcfCase-IT13, 2019).</p>	<p>The ARAC experience was one of the 20 most voted experiences in the public call. They received 496 votes and placed in position 19 of 20 experiences awarded (COLCIENCIAS, 2016a).</p>	<p>In this stage, the community had a passive role, considering that COLCIENCIAS was in charge of the process of awarding the most voted experiences. However, although the community's role was passive, it contributed to empowering them based on the public acknowledgement of their work.</p>
Pre-Local encounters	<p>The community conducted surveys with their members to ask about their necessities, to build the experience strengthening proposal (ARAC, 2017g). Thus, each of the community members participated in defining the necessities to be strengthened (General-Presentation, 2019; C4-IT2, 2019).</p>		<p>An active and participative role from the community members is clear. The process of consultation as a mechanism to identify the necessities to be satisfied by the public call is proof of it.</p>

Table 2. Continued

Project stage	General features	Facts from the case	Comments
Local encounters	<p>The support, provided by Colciencias was made official at a launch event. This event had two moments. In the first one, the organisations received the public acknowledgement of the experience, and it was announced the funding. In the second one, a technical meeting was conducted between COLCIENCIAS, Consorcio para el Desarrollo, the godparents, and the organisation's members, to define and agree on the implementation plan of the project to strengthen the organisation.</p>	<p>After negotiations between the community, COLCIENCIAS, the godparents, and Corporación Consorcio para el Desarrollo (C4-IT6, 2019; C4-IT7, 2019), an agreement about the strengthening experience features was achieved (C4-IT7, 2019).</p> <p>Consorcio para el Desarrollo facilitated the involvement, both from COLCIENCIAS's team, the community, and godparents, by using a planning methodology based on a Chiwa's trip metaphor.</p> <p>An administrative structure was defined to manage the experiences strengthening's implementation stage (see section 5.2.2.4.i).</p>	<p>This stage was crucial to align expectations from each actor. In this process, the planning methodology was fundamental to obtain not only the community's involvement but also that of all the actors in the encounter. The alignment of these expectations around activities, goals and budget assignments in strengthening the experience.</p>
Experiences' strengthening	<p>The goals defined in the agreement achieved in the Local encounter were expected to be fulfilled in a period of six months (COLCIENCIAS, 2015e). In this period, the organisation received support from their godparents and Consorcio para el Desarrollo. However, the responsibility of implementing the project was theirs.</p>	<ul style="list-style-type: none"> • Aspects related to the involvement of the community in the management of the project: <ul style="list-style-type: none"> o The coordination committee central in this stage, and it was supported by additional committees organised by the Community (see section 5.2.2.4.i). • Aspects related to the community members' participation in strengthening the experience: <ul style="list-style-type: none"> o The community used surveys and individual analysis to include community members' necessities in the process of design and implementation of solutions (ARAC, 2017f; Fernández U., 2017; C4-IT2, 2019). o Some of the community members contributed by doing technical analysis (ARAC, 2017f). Others helped in organising the logistics to bring materials and equipment from Bogotá to Subachoque without at no cost (C4-IT6, 2019; C4-IT11, 2020), or between all the members painted the sales point at the municipality market place (C4-IT6, 2019). As one interviewee stated, "For me, the most beautiful thing was the will of each one" (C4-IT2, 2019, p. 6). It means that the willingness of contributing to strengthening the experience was present in each of the community members. 	<ul style="list-style-type: none"> • The organisational structure settled, based on the last stage, contributed by: <ul style="list-style-type: none"> o Decisions being taken democratically. o Bringing a space of accountability to the organisations in the weekly assembly that the organisation had. o Allowing all members to become aware of the project's development and to take part in steering the project through the organisation assembly. • The implementation process counted with the community's involvement on all the activities planned. However, this does not mean full participation of the community's members. For instance, an interviewee declared that he was not full involved in the process (C4-IT10, 2020).

Table 2. Continued

Project stage	General features	Facts from the case	Comments
Results delivery	<p>The project closed with the formal presentation of the results achieved in the previous stages. This presentation was made by the organisation to COLCIENCIAS.</p>	<ul style="list-style-type: none"> o "it seing like the strength that there are here, also different capacities of some people [sic]" (C4-IT10, 2020, p. 10). Activities done by the members of the organisation were certified as to their in-kind contribution (ARAC, 2016a; ARAC, 2017b; C4-IT2, 2019). o The community took part in several activities designed for them, like workshops (ARAC, 2017g), a cooking club (ARAC, 2017g), and a course of food handling (ARAC, 2017g). In this last course, all the community members received the course certification (ARAC, 2017g). o The technological artefacts installed, such as the irrigation systems had workshops to explain how the technology worked (ARAC, 2017f). • The community requested an extension of the deadline for this stage. This was because some activities were delayed and more time was needed to develop others (ARAC, 2017d). 	<p>The community contributed by presenting the results and goals achieved in the process of strengthening their experience.</p>
<p>The project closed with the formal presentation of the results achieved in the previous stages. This presentation was made by the organisation to COLCIENCIAS.</p>		<p>The community presented in a video a summary of the results achieved by the implementation of the strengthening plan agreed with COLCIENCIAS (ARAC, 2017c). In terms of involvement, the final experience strengthening report underlined how it contributed to reinforce the team working among community members (ARAC, 2017g). A conclusion of the process was "that by working together we can achieve great things and that the limits are often in ourselves as human beings and as an association [sic]. There are many spaces for the association to appropriate resources, knowledge, technologies and strategies that we must explore as an organisation with all the experience acquired during this adventure." (ARAC, 2017g, p. 27)</p>	<p>The community contributed by presenting the results and goals achieved in the process of strengthening their experience.</p>

Source: Own elaboration. Based on COLCIENCIAS (2015e), and Pinzón-Camargo & Centeno (2021).

Table 3. Case 3: Involvement in the InIn Stages

Project stage	General features	Facts from the case	Comments
Experiences Nomination	Organisations were invited to nominate their experiences on how they dealt with a problem related to one of the three scopes of the public call (COLCIENCIAS, 2015e).	The IE was informed of the ACC award by one of their relatives (C5-IT3, 2019; C5-IT1-P1, 2019). They assessed the APACRA's experience regarding the ACC award's terms of reference and decided to apply (C5-IT3, 2019).	<ul style="list-style-type: none"> It is not clear if all the association was involved in developing the proposal to apply for the call. They were informed that traditionally the IEs were in charge of doing the proposals to apply for public calls (C5-IT1-p2, 2019) after the associates' approval of doing that (C5-IT1-P1, 2019). In developing the proposal for the ACC award's, they realised that they were doing several innovations. Those innovations included processes of raw agroecological material transformation (C5-IT3, 2019).
Experiences assessment	Experts in the three areas of the scope of the public call assessed the experiences which met the public call formal requirements.	The experience fulfilled the technical assessment and enabled the National Voting Period stage (C5-IT3, 2019).	In this stage, the community had a passive role because they only contributed to providing inputs for their assessment, but they did not have further interaction.
National Voting Period	Experiences with the highest scores in the assessment of the experiences' stage were published in the A Ciencia Cierta webpage for national voting. In the meanwhile, the community was involved in a public campaign to obtain more votes. The higher the number of votes, the greater the change of winning the prize.	The IE led this stage. Two situations depict this process. In the first situation, the IEs rented a computer in a cybercafé. While one of them was waiting for a potential voter in the cybercafé, the second one was looking and inviting the people in cybercafé (C5-IT3, 2019). In the second situation, they put a computer in the association sales point at the Universidad del Tolima, and from there they invited their consumers to vote for them (C5-IT1-P1, 2019).	In this stage, the associates' participation is not as clear as in case 2. Until this point, apparently, the associates' participation was focused on approving the presentation of the proposal.
Awards for the Best experiences	The 20 experiences with the highest voting rates were selected as winners in a national voting conquest. Due to this they received support from COLCIENCIAS and the (COLCIENCIAS, 2015e).	The APACRA's experience was acknowledged as one of the winners of the ACC award. They were ranked 12 out of the 20 winners (C5-IT3, 2019; C5-IT1-P1, 2019), and received 629 votes (MinCiencias, 2017c).	In this stage, the community had a passive role, considering that COLCIENCIAS was in charge of the process of awarding the most voted experiences. However, although the community's role was passive, it contributed to empowering them based on the public acknowledgement of their work.
Pre-Local encounters	The communities selected to be awarded by the public call for applications had to send a proposal pointing out the areas to be strengthened in their experiences (projects) (COLCIENCIAS, 2015e). This proposal was used as the main basis for organising the local encounters (ColciCase-IT13, 2019).	This proposal was submitted. In that proposal, the IEs identified the three main fields of work according to their needs. Those fields were a) strengthening of raw material production, b) regulatory compliance, and c) marketing activities (APACRA, 2015a).	According to one interviewee, the IEs were quite clear about their needs (C5-IT5, 2019). It was because of the high level of organisation and commitment of all the associates (C5-IT4, 2019).

Table 3. Continued

Project stage	General features	Facts from the case	Comments
	<ul style="list-style-type: none"> • COLCIENCIAS support for the winners' organisations commenced with two meetings. First, the organisations were publically praised for the experience, and the funding was announced. Second, a technical meeting took place between COLCIENCIAS, Consorcio para el Desarrollo, the godparents, and the organisation members, to define and agree the implementation plan of the project to strengthen the organisation. 	<ul style="list-style-type: none"> • The first part of the Local Encounter was characterised by a large attendance of different municipal actors. Some of those actors were social organisations, relatives (C5-IT1-P1, 2019), representatives from the major, the Universidad del Tolima, and CORPOICA (Colombia Corporation for Agricultural Research), in total 75 people attended the activity (MinCiencias, 2017a), it was a big event (C5-IT5, 2019). The second part was focused on the explanation of their experience by the IEs. However, instead of making the presentation in a room, the APACRA's associates organised a guided tour of their farms to show and explain their experience (C5-IT5, 2019). • According to one of the IEs, the planning process was a great activity that involved all the associates in thinking about their path-transformative process, and also to identify the priorities to strengthen such process (C5-IT3, 2019). The Consorcio used the Chiva's trip metaphor to guide this process (C5-IT1-P1, 2019). However, the organisation's enclosed profile produced enormous tension between them and the godparents (ColciCase-IT13, 2019) (See Box 2). 	<ul style="list-style-type: none"> • Regarding the second part of the Local Encounter, it is possible to identify the reluctance of the IEs to receive or consider having input from an external knowledgeable source in their process. This situation produced a strain between the APACRA's associates and the godparents. The Consorcio and the godparents managed this tension. • The outcome of this stage was an agreed plan between all the parties. This plan followed mainly the APACRA's needs and had few changes. The principal change included a soil assessment activity that was not totally well accepted by the association (Corporación Consorcio, 2016a).
Local encounters	<ul style="list-style-type: none"> • In a period of six months they were expected to fulfil the goals defined in the agreement reached in the Local encounter (COLCIENCIAS, 2015e). In this period, the organisation received support from their godparents and Consorcio para el Desarrollo. However, the responsibility of implementing the project was theirs. 	<ul style="list-style-type: none"> • In this stage, two situations should be highlighted. The first one was linked with the relationship between the association and their godparents. Strikes in the University did not allow the godparents to attend their agreement meetings with the community, and they decided to find new godparents without the support of Colciencias or the Consorcio (ColciCase-IT13, 2019). • The second situation in this stage was a delay in the achievement of the agreements from the association. This situation was because of the time required by the food regulatory authority (INVIMA for its acronym in Spanish) to answer the authorisations request for the APACRA's products (APACRA, 2016a). Regarding this delay, the association asked for postponing the end of the project's end, but COLCIENCIAS rejected such a request (APACRA, 2016a). 	<ul style="list-style-type: none"> • In this stage, the community was greatly involved in all the activities planned and the decision-making process.
Experiences' strengthening			

Table 3. Continued

Project stage	General features	Facts from the case	Comments
Results delivery	<p>The project closed with a formal presentation of the results achieved in the previous stage delivered by the organisation to COLCIENCIAS.</p>	<ul style="list-style-type: none"> • The organisation made a video reporting the goals achieved in the ACC award frame (Consortio-dit, 2017). Despite a delay on the part of the INVIMA, the association was able to fulfil all its commitments in the initiative. • The balance after finishing the project was positive. • According to the IEs (Consortio-dit, 2017) and Colciencias (COLCIENCIAS, 2018), the development of the ACC award frame contributed to strengthening the organisation and attend their needs. 	<ul style="list-style-type: none"> • The IEs commissioned the production of a video where they presented the results achieved in the ACC award frame.

Source: Own elaboration. Based on COLCIENCIAS (2015e), and Pinzón-Camargo & Centeno (2021).

Annex 6. Activities which contributed in shaping the InInIn governance

Table 1. Case 1: Activities that boosted the de facto governance

Activity source	Activity	Description
Terms of reference	Team working	The joint work between communities and STI experts was a requirement to join the Ideas para el Cambio program, and these actors had to demonstrate the willingness to work together (COLCIENCIAS, 2016h).
Terms of reference	Developing a “Collaborative work minute”	As a way to enforce the collaborative work between the community and the STI experts, the public call included a minute named “Collaborative work minute”. In this document, the community and STI experts should explain the process followed to design the innovative solution which will attend the community needs (COLCIENCIAS, 2016h).
Terms of reference	Proposal defence	STI experts and the community leader had to attend to explain their proposal jointly (COLCIENCIAS, 2016h).
Terms of reference	“Choque de nudillos” (knuckle crash)	A symbolic activity was implemented in the kick-off meeting to cement the relationship between the different actors involved in the project. The representatives of each party printed their knuckles using paint as a commitment signature for each part ofn the project; the activity was called “choque de nudillos” (knuckle crash) (COLCIENCIAS, 2016i)
Terms of reference	Sustainability planning	The Research team and the community prepared a plan to manage the sustainability of the project beyond its finishing point (COLCIENCIAS, 2017i).
Actors interplays	Committee organisation	On September 30th 2016 a Local Management Committee was established. It had the purpose of doing the surveillance activities agreed in the operational plan (COLCIENCIAS, 2017i).
Actors interplays	Trust-building	To make contact with and have a better understanding of the community’s problems, the research team began to have conversations with the community (C6-IT1, 2020). In such a way, they also began to build trust with the community (see session 2). At the end of the project, the research team was considered part of the community (C6-IT3, 2020), or at least, they weer more accepted by the community. This activity was done also by the Godparent.

Source: Own elaboration.

Table 2. Case 2: Activities that boosted the de facto governance

Activity source	Activity	Description
Terms of reference	Local Encounter	They are “participatory spaces to visit and learn about the places where the experiences that citizens voted for and selected originated as those that met all the criteria established in the contest [<i>sic</i>]” (COLCIENCIAS, 2015e, p. 10).
Local Encounter	Participatory planning process “La Chiva”	Using the metaphor of travelling by one Chiva (It is an iconic and typical medium of transport in the rural areas of Colombia (C4-IT5, 2019)), the COLCIENCIAS’s operator opens a space to discuss and plan the project (COLCIENCIAS, 2018; COLCIENCIAS, 2017a; C4-IT5, 2019) and to organise the project according to the logical framework methodology (C4-IT7, 2019). Thus, the inputs were considered as the useful payload for the journey, the drive of Chiva was the leader of the project, the community and other participants were the passengers who went on the journey. The fuel was the financial support from COLCIENCIAS, and the end of the journey was the final destination (goal) of the project (C4-IT2, 2019). This activity incentivised the participants’ involvement in the planning and decision-making process to strengthen the experience (C4-IT7, 2019).
Local Encounter	Signing the banner.	It is a symbolic process which entails making a public commitment of all the actors involved in the call (C4-IT7, 2019). This activity endorsed the commitment of the actors with the community, the local attendees, and their counterparts.
Terms of reference	Signing the minute of dialogue and agreements	It is a minute where the community commits to using the financial support of COP 50 million from COLCIENCIAS in the activities agreed to strengthen the experience (COLCIENCIAS, 2015e; C4-IT7, 2019).
Actors interplays	Monitoring and supporting the project.	The follow-up, continuous contact with the organisation and a closing meeting were organised by the COLCIENCIAS’ operator (COLCIENCIAS, 2018; COLCIENCIAS, 2015e). These activities were crucial to boost synergies between the communities and the godparents (COLCIENCIAS, 2018). “In this process, the operator supported the planning of the strengthening[<i>sic</i>], the search, motivation and engagement of the sponsors, the mediation between sponsors and organisations to solve conflicts and favour dialogue, maintenance of that relationship, managing the process and resources, and accompanying and monitoring of the execution [<i>sic</i>].” (COLCIENCIAS, 2018, p. 44).

Source: Own elaboration.

Table 3. Case 3: Activities that boosted the de facto governance

Activity source	Activity	Description
Best experiences awarding	Voting activity.	This results from this activity encourage APACRA to give recognition to 12 of the 20 most voted experiences in Colombia (COLCIENCIAS, 2016b). These results encouraged APACRA to continue being part of the ACC award process.
Local Encounter	Kick-off event.	This event had 75 attendees which were invented by APACRA (C5-IT5, 2019). It can be argued that this event raised the expectations from both sides (APACRA and Colciencias' team) to set a common ground to agree on the ACC award implementation route.
Local Encounter	Participatory planning process "La Chiva".	The implementation of this methodology contributed to the planning process of activities and responsibilities between the inclusive innovation initiative (C5-IT1-P1, 2019; C5-IT3, 2019).
Local Encounter	Signing the banner.	It was a conclusion activity where all the involved actors publicly signed a banner to show their commitment to the agreements reached. In this case, this activity was a space to make public the tensions between the actors involved (ColciCase-IT13, 2019).
Terms of reference	Signing the minute of dialogue and agreements.	The participants in the Local Encounter signed a minute where the commitments, responsibilities, and agreements, in general, were agreed between them (COLCIENCIAS, 2016b).
Implementation of experiences that were strengthened	Legal contract signing.	After defining the agreements between the parties of the tentative governance which defined the activities and investments to be done, a legal contract was signed between the parts (COLCIENCIAS, 2016g). This contract produced a legally binding commitment between them.

Source: Own elaboration.

Annex 7. Actors' Roles Performed in the Case Studies

Table 1. Case 1: General roles played by the actors at Mancilla case

Actor	Role	Comments
Institutional Entrepreneur	<ul style="list-style-type: none"> Leader: She was a community leader (COLCIENCIAS, 2017g; APENIMPA, 2016; C6-IT1, 2020; C6-IT4, 2020). Channelliser: She was looking for the due alignment of SENAs research team with her vision of change. To do so, she defined the techno-scientific solution to be implemented in the InIn (C6-IT2-PI, 2020), and was part of the tentative governance. Surveillance: She was part of the local committee for surveillance of the InIn implementation (COLCIENCIAS, 2017). Conciliator: She used to conciliate between the research team and the community (C6-IT1, 2020). Advisor: She was in charge of giving advice to the research team about how to work with the community (C6-IT3, 2020; C6-IT1, 2020). Trust and credibility builder: She was a crucial element in helping building trust between the research team and the community (C6-IT2-PI, 2020), and with universities and public entities. 	<p>Although the IE was considered a community leader, the enabling conditions discussed in the frame of the path-transformative process showed that she could improve her hold on the community.</p>
Research Team	<ul style="list-style-type: none"> Conciliator: In some cases, the research team leader was a mediator between the IE and the community (C6-IT1, 2020). Trust builder: They built empathy and trust with the community base through keeping in touch on a continuous basis (C6-IT1, 2020) and leaving aside their role as engineers or technicians. Technological designer and implementing team: they were in charge of designing the techno-scientific solution, based on their and the IEs' ideas. Finally, they were in charge of implementing the project together with the community (COLCIENCIAS, 2017i). 	<p>An example of their trust building role involved elderly people. The members of the research team used to arrive and drink a coffee with them, chatting for a while. Then, they shared their plans and opened a discussion with the people to define how to proceed (C6-IT1, 2020).</p>
Community	<ul style="list-style-type: none"> Knowledge receptor and workforce: The community was understood mainly as recipients of knowledge and as a workforce to install the technoscientific solutions. 	<p>This role is inferred from the case analysis. For instance, the community's participation was considered for preparing the field and building the system structures (APENIMPA, 2016).</p>
Community Action Committee	<ul style="list-style-type: none"> Formal community representative: It was the local organisation in Mancilla village in charge of co-developing the project's implementation together with APENIMA (COLCIENCIAS, 2017j), and of designing a sustainability plan for the project jointly with the SENAs research team (COLCIENCIAS, 2017i). 	<p>Although some actors acknowledged the Community Action Committee as well organised to manage their local aqueduct (APENIMPA, 2016), others considered that it was a weak organisation.</p>

Table 1. Continued

Actor	Role	Comments
Godparent	<ul style="list-style-type: none"> • Conciliator: He was a mediator between the actors at the governance level, and between the community and governance level actors. • Advisor: Regarding technical solutions required by the research team or to solve challenges between actors. 	<p>The role of Godparent was framed mainly regarding a formal agreement between the COLCIENCIAS and the godparent (COLCIENCIAS, 2017b). Godparents as volunteers in Ideas para el Cambio's program. One of the main challenges for the Godparent was to gain the community's trust. He implemented two strategies to build trust with the community. First, it was by sharing spaces and talking with the people; and second, by making the effort and being committed to the project (C6-IT4, 2020). This last strategy is an example of <i>motivating by example</i>.</p>
Colciencias	<ul style="list-style-type: none"> • Game maker: Colciencias was in charge of making the "technical and financial resources available (...). In the same way, it contributes its experience in science, technology, and innovation, and it is who determines if the project is a solution in this matter and maybe the object of financing. It will be responsible for coordinating activities related to the dissemination of the call and the process of evaluation and selection thereof. Likewise, it will coordinate the technical and financial follow-up to the fulfillment of the objectives of the selected solutions [<i>sic</i>]" (COLCIENCIAS, 2016b, p. 3). 	<p>Although the role of COLCIENCIAS was to bring the conditions to make possible the Ideas para el Cambio's public call, COLCIENCIAS was represented in the field by the Corporación Enlace.</p>
Corporación Enlace	<ul style="list-style-type: none"> • Social appropriation trainer: It was in charge of the social appropriation of knowledge activities. • Gatekeeper: It went to the community to assess if the knowledge had stayed with the equipment installation (C6-IT1, 2020). They were doing an assessment of the implementation process (C6-IT1, 2020). 	<p>According to the archives, the role of this organisation was expected to be in the form of mediator in the implementation process of the project (COLCIENCIAS, 2019a). However, that role was not identified in this case.</p>
FES	<ul style="list-style-type: none"> • Finances manager: It was the entity in charge of managing the financial resources provided by Colciencias to foster the project. 	<p>This entity worked under the legal figure of delegate manager; it meant that it was "in charge of acquiring materials, equipment, implements, payment of services and personnel and other items required for the execution of the project" (COLCIENCIAS, 2016e, p. 1).</p>

Source: Own elaboration.

Table 2. General roles played by the actors at La Pradera case

Actor	General Description	Role	Comments
IE's trinity	<p>It is an entity constituted by the mixture of motivations, qualities, skills, and strategies from three persons. One them a peasant from Subachoque and the other two were neo-peasants.</p>	<p>The IE's trinity was represented directly by two of the three people who constituted it. One of them was holding the ARAC's chair, and the second one was the Community Project leader. This last one was in charge of channeling the expectations from the COLCIENCIAS's team according to the ARAC's vision. He also worked as a speaker with the other constituents of the tentative governance. Both, the ARAC's chair and the Project leader were gatekeeping the ARAC's vision. It was visible, for example, in the tensions between the COLCIENCIAS' team and the Community Project leader.</p>	<p>In the development of the inclusive innovation initiative, two of the three constituents of the IE's trinity performed an active role. The third was reported to be distantly involved in the initiative (C4-IT10, 2020).</p>
Community	<p>The public call terms of reference defined communitarian organisations represented by rural producers as participants for the call (COLCIENCIAS, 2015e).</p>	<ul style="list-style-type: none"> • They were the main actors in all the public call (C4-IT5, 2019). • The community's responsibilities were defined in the agreement act signed in the local encounter. Those responsibilities were linked to the implementation process to strengthen the experience (COLCIENCIAS, 2016a). • The community members had different qualities which contributed to processes carried out by the community (Puentes E., 2017; C4-IT9, 2020), and fostering the community's development (C4-IT2, 2019). 	<p>While the peasants shared their knowledge with the neo-peasant members, in turn the neo-peasants contributed with their knowledge in, for example, management, and doing research on the internet. The relationship between them depicts a "dialogue of wisdom between them" (COLCIENCIAS, 2018).</p> <p>In the community, the neo-peasants shared with the local peasants their connection "with the earth, with the nature, with the Pachá Mama" (C4-IT2, 2019, p.10).</p>
Technological Godparents	<p>Technological Godparent was a strategy developed by the Social Appropriation team of Science, Technology and Innovation and the COLCIENCIAS' operator of the call. This strategy had the purpose of involving experts from universities or specialised entities in the topics of the public call to support as volunteers the community that was going to strengthen their experience using support from COLCIENCIAS (COLCIENCIAS, 2015d; COLCIENCIAS, 2018).</p>	<ul style="list-style-type: none"> • The public call for applications guidelines included a technological godparent guide. This guide requested the following from the godparents: <ul style="list-style-type: none"> ✓ Behaving empathically with the community (COLCIENCIAS, 2015d). ✓ Assisting the organisational processes, advising based on their technical experience (COLCIENCIAS, 2015d). • In this case, the godparent was officially in charge of supporting the community from the technical perspective in the activities planned (COLCIENCIAS, 2016a; C4-IT6, 2019; C4-IT8, 2019). Examples of this technical support were: <ul style="list-style-type: none"> ✓ Doing the soil analysis of 23 lands (ARAC, 2017g). ✓ Giving advice about the irrigation systems (C4-IT7, 2019). ✓ Doing the training sessions about agroecology (C4-IT7, 2019) • Godparents were a community ally (C4-IT6, 2019). For example, they gave the information to the community about the public call of A Ciencia Cierta (C4-IT3, 2019; C4-IT5, 2019; C4-IT8, 2019). • Besides their roles as advisors and supporters, godparents also were considered, interlocutors (C4-IT6, 2019) or conciliators with other actors (C4-IT8, 2019). 	<p>According to COLCIENCIAS, godparents agreed that showing to the community the results on using science was a strategy to get on well with the community (COLCIENCIAS, 2018).</p> <p>In this case, the godparents had been working with the community for a long time before the public call (Vela M., 2017; ColciCase-IT13, 2019), making possible a strong relationship (COLCIENCIAS, 2018; C4-IT2, 2019). This strong relationship was evident when the community invited them to be their godparents in the frame of the public call (C4-IT5, 2019).</p> <p>The new godparent invited to contribute to strengthening the experience did not fulfil the community's expectations (C4-IT2, 2019; C4-IT6, 2019).</p> <p>Godparents from UniMinuto stated their commitment to engage the Academia with the communities and close the gap between them (C4-IT5, 2019). This commitment is explained in the case of one of them because it had a peasant origins (C4-IT5, 2019).</p>

Table 2. Continued

Actor	General Description	Role	Comments
COLCIENCIAS' operator (Consortio para el Desarrollo)	<p>The operator was the main ally of the Social Appropriation team in the field. "the operator supported the planning of the strengthening, the search, motivation and engagement of the sponsors, the mediation between the godparents and the organisations to solve conflicts and favour dialogue, the maintenance of that relationship, the management of the process, the management of resources and accompaniment and monitoring of the execution[<i>sic</i>]" (COLCIENCIAS, 2018, p. 44).</p>	<p>COLCIENCIAS' operator was the Corporación Consortio para el Desarrollo Comunitario. They were in charge of bringing technical and administrative support to the community (COLCIENCIAS, 2016a; C4-IT6, 2019; C4-IT8, 2019; ColciCase-IT13, 2019).</p> <p>Consortio was a conciliator between the godparent and the community (COLCIENCIAS, 2016a), and also between COLCIENCIAS in the Local encounter (C4-IT5, 2019) and across the implementation stage (C4-IT7, 2019; C4-IT8, 2019; C4-IT5, 2019).</p> <p>They were looking to guarantee a participative process (C4-IT5, 2019). An example of this intention was the use the "Chiva" planning methodology (C4-IT8, 2019). They were featured because of their knowledge and expertise in working with local communities (C4-IT5, 2019).</p> <p>Consortio was in charge of developing the social appropriation of STI strategy (COLCIENCIAS, 2016a; C4-IT5, 2019).</p>	<p>The human quality of COLCIENCIAS' team and their operator were acknowledged by the community in the following terms: "Exercises like this show that in addition to resources, the human value of those who manage and supervise them is very important." (ARAC, 2017g, p. 27). An interviewee confirmed this perception (C4-IT6, 2019).</p>
COLCIENCIAS' team	<p>The Social Appropriation team of Science, Technology and Innovation from Colciencias was in charge of leading the public call for applications and assuring public support for the communities.</p>	<p>They were in charge of the strengthening experience surveillance work, and of handling administrative and legal issues linked with the experience internally COLCIENCIAS (COLCIENCIAS, 2016f).</p> <p>They were showing by results to the community the value and usefulness of using science in their environment (COLCIENCIAS, 2018; C4-IT8, 2019), but also to the academia the value of the process carried out by local communities (C4-IT5, 2019).</p> <p>An interviewee considered the COLCIENCIAS' team a facilitator, observer and channel for solving the community's necessities (C4-IT5, 2019).</p> <p>They encouraged the Community process of diffusing the Community's experience to other communities (C4-IT8, 2019).</p>	<p>As was mentioned in the previous comment, COLCIENCIAS's team was recognised for their kindness and will to contribute in the ARAC process. However, their presence in the field was mainly represented by the Consortio para el Desarrollo.</p>
Valencia and Falla	<p>It was an ally organisation of Consortio's that gave technical and pedagogical support to the communities about financial and accounting administrative processes (ColciCase-IT17, 2020).</p>	<p>This organisation transferred their knowledge and supervised the community on how to handle financial and accounting processes linked with the financial reports that they had to present to COLCIENCIAS's team (C4-IT7, 2019).</p>	<p>This actor was only recognised by the Consortio.</p>

Table 2. Continued

Actor	General Description	Role	Comments
Allies Entities	<p>Two sets of allies were identified. The first set was constituted by la Conferencia Episcopal Colombiana, the Ministry of Agriculture and Rural Development, the Ministry of Information and Communication Technologies, and the Administrative Unit of Territorial Consolidation.</p> <p>The second set was composed by the Colombian Corporation for Agricultural Research (CORPOICA by its acronym in Spanish) and the Ministry of Agriculture and Rural Development, the Colombian Agricultural Institute (ICA by its acronym in Spanish) and the National Training Service (SENA by its acronym in Spanish).</p>	<p>While the first group supported the diffusion of the call at the local level (COLCIENCIAS, 2018), the second group supported technically COLCIENCIAS in defining and assessing the experiences nominated by the communities (COLCIENCIAS, 2018) and provided technical support in the field with the communities (COLCIENCIAS, 2018).</p>	<p>Most of these actors were involved in the background of the public call or in stages before launching the public call in 2015.</p>

Source: Own elaboration.

Table 3. General roles played by the actors at Cajamarca case

Actor	General Description	Role	Comments
IE	<p>It is the mixture of motivations, qualities, skills, and strategies from two peasant women from the municipality of Cajamarca. They studied at university and returned to their municipality.</p>	<p>They were recognised for being tireless women, leaders of their organisation (APACRA, 2015c) and external actors (C5-TT5, 2019). They were in charge of shielding and gatekeeping the vision of change introduced in the association. These roles were evident in the tensions around external knowledge (See Box 2). They were in charge of channelising external sources of change, both positive like the ACC award and negative like the mining gold project described in Section 4.1.3.3.ii.</p>	<p>The activities carried out by the institutional entrepreneurs were oriented towards closing off access to the organisation to third parties. It was highlighted as a form of resistance to change internal pressure in Section 4.1.3.3.ii. In the analysis of this inclusive innovation initiative, it was also outstanding that the sources of report mainly relied upon them.</p>

Table 3. Continued

Actor	General Description	Role	Comments
Community (APACRA)	<p>The public call terms of reference defined communitarian organisations represented by rural producers as participants in the call (COLCIENCIAS, 2015c)</p>	<p>It was a peasant association integrated mainly by women. In this association 62% of the participants were women and 38% men (Corporación Consorcio, 2017). The roles, according to gender, were clearly divided. Women were considered the agent that generated the transformation (C5-IT3, 2019; C5-IT4, 2019). They were crucial not only in the farming process (C5-IT1-P1, 2019; C5-IT3, 2019) but also in the innovation and transformation of the crops into healthy and accessible food (APACRA, 2015b) for their families and the APACRA's consumers (C5-IT3, 2019; C5-IT1-P2, 2019). Men: They were in charge of producing the raw agroecological material (APACRA, 2015b).</p>	<p>It was not a female association, and they did not acknowledge them as such. However, women's participation and the interest of the IEs in recognising the role of the peasant women through an approach to promote gender equity was outstanding.</p>
Technological Godparents	<p>Technological Godparents was a strategy developed by the Social Appropriation team of Science, Technology and Innovation and the COLCIENCIAS's operator of the call. This strategy had the purpose of involving experts from universities or entities that specialised in the topics covered the public call. They supported the community in a voluntary capacity and thus strengthened their experience by having support from COLCIENCIAS (COLCIENCIAS, 2015d; COLCIENCIAS, 2018)</p>	<p>They were in charge of offering technical support and advice (C5-IT4, 2019) on the installation of irrigation systems, soils analysis (C5-IT5, 2019), the study of the Chacha fruto's disease (APACRA, 2017), and a marketing analysis of their products (APACRA, 2017).</p>	<p>It is essential to highlight that the godparents suggested by the Colciencias's team and Consorcio had problems meeting their commitments. Therefore, the IEs decided to find new godparents from the Universidad del Tolima and from the Tolima Center of Productivity (CPT for its acronym in Spanish).</p>
COLCIENCIAS's operator (Consorcio para el Desarrollo)	<p>The operator was the main ally of the Social Appropriation team in the field. "the operator supported the planning of the strengthening, the search, motivation and engagement of the godparents, the mediation between the godparents and the organisations to solve conflicts and favour dialogue, the maintenance of that relationship, the management of the process, the management of resources and accompaniment and monitoring of the execution <i>[sic]</i>" (COLCIENCIAS, 2018, p. 44)</p>	<p>They were conciiliators between the godparents, the Colciencias's team, and the association (C5-IT5, 2019). They saw themselves as acting like a bridge between the different actors involved in the initiative (C5-IT5, 2019). According to one interviewee, the Consorcio was a supportive in overcoming difficulties that arose in implementation of the initiative (C5-IT1-P1, 2019; ColeiCase-IT13, 2019). Consorcio was ready to support them (C5-IT1-P1, 2019; C5-IT5, 2019). From the Colciencias' team perspective, Consorcio was in charge of supervising the implementation of the initiative, and the correct performance of the godparents (ColeiCase-IT13, 2019; COLCIENCIAS, 2016b), and offering technical assistance (COLCIENCIAS, 2016b).</p>	<p>From the Consorcio's perspective, key elements to support their role as conciliators were arriving with humility and respect towards the community (C5-IT5, 2019). Consorcio tried to build empathy with the association to have a better in their role as conciliator (C5-IT5, 2019).</p>

Table 3. Continued

Actor	General Description	Role	Comments
COLCIENCIAS's team	<p>The Social Appropriation team of Science, Technology and Innovation was in charge of leading the public call and ensuring that the public supported COLCIENCIAS.</p>	<p>The team supported the application process of the community. Colciencias' team guided the IEs to improve the proposal submitted to participate in the ACC-award: "When they called us and see [sic] that it is very good but that it is very, very wide, that "please put more here and ta, ta, ta". Then it was like the interest also from them (Colciencias) so that they would present themselves. So that the initiative was presented like this, and we began to accommodate it then how to fill in things that were needed. And then, about a week, we filled, and it was already the day of the contest [sic]" (C5-IT1-PI, 2019, p.26).</p> <p>They did not only provide financial supporter assistance (COLCIENCIAS, 2016b) but provided technical assistance (C5-IT1-PI, 2019) permanently (C5-IT1-PI, 2019).</p> <p>They were in charge of verifying the social appropriation strategy's implementation and the inclusive innovation initiative (COLCIENCIAS, 2016b).</p>	<p>The IEs underlined the interest that Colciencias and Consorcio showed in the social component of the initiative. It was not expected from the Association's perspective, and it was something quite essential for them too.</p> <p>"But that it is a process that one says, "ok, Colciencias like research, but it does not have anything social, and no". It is a beautiful process where, where the social is very important for them, and one would think that it is not, but it is that-[sic]" (C5-IT1-PI, 2019, p. 27).</p> <p>The IEs highlighted the human quality from Colciencias' team (C5-IT1-PI, 2019).</p> <p>"1: what role did science, technology and innovation play? Because then you tell me that project was about science, technology and innovation, but or do you remember more about the social part ...2: yes[sic]" (C5-IT1-PI, 2019, p. 31)</p>
Valencia and Falla	<p>It was Consorcio's ally organisation. They provided technical and pedagogical support to the communities about financial and accounting administrative processes (Colicase-IT17, 2020).</p> <p>Two sets of allies were identified. The first set was constituted by: la Conferencia Episcopal Colombiana, the Ministry of Agriculture and Rural Development, the Ministry of Information and Communication Technologies, and the Administrative Unit of Territorial Consolidation.</p> <p>The second set was composed of the Colombian Corporation for Agricultural Research (CORPOICA by its acronym in Spanish) and the Ministry of Agriculture and Rural Development, the Colombian Agricultural Institute (ICA by its acronym in Spanish) and the National Training Service (SENA by its acronym in Spanish).</p>	<p>They provided accounting support through a pedagogical audit. Valencia and Falla became a kind of ally that contributed to the initiative from the financial area (C5-IT 5, 2019).</p>	<p>Consorcio only highlighted the role of this actor.</p>
Allies Entities	<p>While the first group supported the diffusion of the call at the local level (COLCIENCIAS, 2018), the second group supported COLCIENCIAS in a technical way by defining and assessing the experiences nominated by the communities (COLCIENCIAS, 2018) and providing technical support in the field to the communities (COLCIENCIAS, 2018).</p>	<p>Most of these actors worked in the background on the public call or on stages prior to launching the public call in 2015.</p>	<p>Most of these actors worked in the background on the public call or on stages prior to launching the public call in 2015.</p>

Source: Own elaboration.

Summary

This research was conducted in the Global South, based on three cases from the Colombian Andean Mountains. The cases illustrate mistrust, poverty and inequality and other social disparities that institutional entrepreneurs have addressed by building path-transformative alternatives. In this frame, and despite the low and sometimes the total lack of state support, policy programs emerged to foster inclusive innovation processes in those communities. However, little is known about the role of Institutional Entrepreneurs in building path-transformative alternatives in settings like those from the Global South and about their role in inclusive innovation initiatives supported by national entities.

This research contributes to understanding the role of an agent of change, the institutional entrepreneurs, in inclusive innovation initiatives supported by national entities in local communities. This study is supported by three literature branches: inclusive innovation, path dependence and creation, and institutional entrepreneurship. The first branch provides a useful approach to address social concerns and needs under a direct approach to development. In turn, path dependence and creation support the study of those path-transformative alternatives by trying to build more sustainable and inclusive development. Finally, the concept of Institutional Entrepreneurship contributes to studying inclusive innovation from the actors' perspective and understanding their role in building path-transformative alternatives. Thus, the combination of these literature branches helps in answering the following research question: what is the role of Institutional Entrepreneurs in Inclusive Innovation Initiatives supported by National Entities in local communities?

From a methodological viewpoint, this study combines an abductive approach (Awuzie & McDermott, 2017) with case study research (Yin, 2018). In this vein, the metaphor "navigation" is suggested to explain the back-and-forth movement between theory and data to reveal the coordinates to answer the research question. Three cases from the Colombian Andean Mountains are studied in-depth, through nine months of fieldwork with semi-structured interviews, official archive documents, academic documents, news reports and articles from local newspapers, and other data gathered to triangulate the findings.

As part of this cruise, it was found that in inclusive innovation initiatives supported by national entities (here mainly Colciencias) in local communities, institutional entrepreneurs function as channelisers. This role was crucial for two reasons. First, it prevents the initiatives from hampering or undermining the path-transformative process. Second, it contributes to exploiting the positive effects of the initiatives. Thus, this channeliser role of institutional entrepreneurs aligns the inclusive innovation initiatives supported by Colciencias, with the path-transformative processes led by institutional entrepreneurs in their communities. In performing this role, institutional entrepreneurs channelled the initiatives to strengthen their vision of change and simultaneously cope with pressures that resist change. This role is supported through three critical activities: i. A strategic analysis about the needs to be attended; ii. Bargaining between the institutional entrepreneur and the entity that supported the initiative; and iii. The surveillance of the initiative's implementation.

Besides, to answer the research question, this study provides a set of five contributions: i. A set of two heuristics are developed to navigate the social complexity. They are assembled in the theoretical realm and improved while navigating the studied cases; ii. This study provides the building blocks to advance in understanding the notion of inclusive innovation as a multidimensional concept; iii. Instead of a linear process, the building paths process is presented in the form of phases or modules led by institutional entrepreneurs; iv. Institutional entrepreneurs are studied in different settings from those reported in the literature. Besides, it is confirmed that agency is distributed and relational. These contributions support the study of actors in transformative processes; and v. Finally, this research leads to a reflection on the contributions from a setting that could be identified as part of the Global South to the Global Norths.

Resumen

Esta investigación fue adelantada en el Sur Global a partir de tres casos ubicados en las montañas andinas colombianas. Estos ilustran las condiciones de desconfianza, pobreza, desigualdad y otras disparidades sociales que los emprendedores institucionales tienen que enfrentar para construir caminos de transformación alternativos. En este marco, y a pesar del poco o a veces ausente apoyo estatal, programas de política pública aparecen para impulsar los procesos de innovación inclusiva en esas comunidades. Sin embargo, poco se conoce acerca del papel de los emprendedores institucionales en la construcción de caminos de transformación alternativos en escenarios como aquellos que aparecen en el Sur Global, así como tampoco de su papel en el desarrollo de iniciativas de innovación inclusiva apoyadas por entidades del orden nacional.

Esta investigación contribuye en la comprensión del rol de un agente de cambio, el emprendedor institucional, en iniciativas de innovación inclusiva apoyadas por entidades del orden nacional en comunidades locales. Este estudio se apoya en tres ramas de la literatura: innovación inclusiva, dependencia y creación de caminos, y emprendimiento institucional. La primera rama brinda una aproximación útil para abordar preocupaciones y necesidades sociales a partir de una aproximación directa al desarrollo. A su vez, la teoría de la dependencia y la creación de caminos apoya el estudio de aquellos caminos de transformación alternativos que intentan construir un desarrollo más sostenible e inclusivo. Finalmente, el concepto de emprendimiento institucional contribuye en el estudio de la innovación inclusiva desde la perspectiva de los actores y a la comprensión de su papel en la construcción de caminos de transformación alternativos. Así, la combinación de estas tres ramas de la literatura ayuda a responder la siguiente pregunta de investigación: ¿Cuál es el papel de los emprendedores institucionales en iniciativas de innovación inclusiva apoyadas por entidades del orden nacional en comunidades locales?

Desde un punto de vista metodológico, este estudio combina una aproximación abductiva (Awuzie & McDermott, 2017) con investigación de estudios de caso (Yin, 2018). En este marco, se sugiere la metáfora de la “navegación” para explicar como el movimiento de ida y vuelta entre la teoría y los datos revelan las coordenadas que permiten responder la pregunta de investigación. Tres casos ubicados en las montañas andinas de Colombia son estudiados a profundidad a partir de un trabajo de campo de nueve meses. El desarrollo de dicho trabajo de campo permitió desarrollar entrevistas semi-estructuradas, recopilar archivos oficiales, documentos académicos, artículos de periódico, y otra información para triangular los hallazgos de este trabajo.

Como parte de esta navegación, se encontró que en las iniciativas de innovación inclusiva apoyadas por entidades del orden nacional (en este caso Colciencias, hoy Minciencias) en comunidades locales, los emprendedores institucionales desempeñan el papel de canalizadores. Este papel fue crucial por dos razones en esas iniciativas: primero, dicho papel permite evitar que las iniciativas ostaculen o afecten los procesos de transformación de caminos. Segundo, ese papel contribuye a explotar los efectos positivos de las iniciativas. Así, el papel de canalizador de los emprendedores institucionales permite alinear la iniciativas de innovación inclusiva apoyadas por Colciencias, con los procesos de transformación de caminos liderados por los emprendedores institucionales en sus comunidades. En el desarrollo de este papel, los emprendedores institucionales canalizan las iniciativas de innovación inclusiva para fortalecer su visión de cambio y simultáneamente afrontar

las presiones de resistencia al cambio. Este papel de canalizadores es desarrollado a través de tres actividades: i. Un análisis estratégico acerca de las necesidades a ser atendidas; ii. Un proceso de negociación entre los emprendedores institucionales y la entidad que apoya la iniciativa de innovación inclusiva; y iii. La supervisión de la implementación de la iniciativa.

Además de responder a la pregunta de investigación, este estudio brinda un conjunto de cinco contribuciones: i. Un conjunto de dos heurísticos desarrollados para navegar los casos de estudio; ii. Conceptos básicos para avanzar en la comprensión de la noción de innovación inclusiva como un concepto multidimensional; iii. En lugar de un proceso lineal, los procesos de construcción de caminos son presentados en la forma de fases o módulos liderados por emprendedores institucionales; iv. Los emprendedores institucionales son estudiados en escenarios diferentes a aquellos estudiados por la literatura. Además, se confirma que la agencia es distribuida y relacional. Estas contribuciones apoyan el estudio de los actores en procesos transformativos; y v. Finalmente, esta investigación lleva a reflexionar acerca de las contribuciones que desde un escenario que podría indentificarse como parte del Sur Global puede hacer a los Nortes Globales.

Samenvatting

Dit onderzoek werd uitgevoerd in het Globale Zuiden, op basis van drie cases uit het Colombiaanse Andesgebergte. De cases illustreren wantrouwen, armoede en ongelijkheid en andere sociale ongelijkheden die institutionele ondernemers hebben aangepakt door pad-transformatieve alternatieven te bouwen. In dit kader, en ondanks het lage en soms totale gebrek aan staatssteun, ontstonden beleidsprogramma's om inclusieve innovatieprocessen in deze gemeenschappen te bevorderen. Er is echter weinig bekend over de rol van institutionele ondernemers bij het bouwen van padtransformatieve alternatieven in omgevingen zoals die uit het Globale Zuiden en over hun rol in inclusieve innovatie-initiatieven die worden ondersteund door nationale entiteiten.

Dit onderzoek draagt bij aan het begrip van de rol van een agent van verandering, de institutionele ondernemers, in inclusieve innovatie-initiatieven die worden ondersteund door nationale entiteiten in lokale gemeenschappen. Deze studie wordt ondersteund door drie literatuurtakken: inclusieve innovatie, padafhankelijkheid en creatie, en institutioneel ondernemerschap. De eerste tak biedt een nuttige benadering om sociale zorgen en behoeften aan te pakken met een directe benadering van ontwikkeling. Op hun beurt ondersteunen padafhankelijkheid en creatie de studie van die padtransformatieve alternatieven door te proberen een duurzame en inclusieve ontwikkeling op te bouwen. Ten slotte draagt het concept van institutioneel ondernemerschap bij aan het bestuderen van inclusieve innovatie vanuit het perspectief van de actoren en het begrijpen van hun rol bij het bouwen van padtransformatieve alternatieven. De combinatie van deze literatuurtakken helpt bij het beantwoorden van de volgende onderzoeksvraag: wat is de rol van institutionele ondernemers in inclusieve innovatie-initiatieven die worden ondersteund door nationale entiteiten in lokale gemeenschappen?

Vanuit methodologisch oogpunt combineert deze studie een abductieve benadering (Awuzie & McDermott, 2017) met case study research (Yin, 2018). In deze geest wordt de metafoer "navigatie" voorgesteld voor het heen-en-weer bewegen tussen theorie en gegevens om de coördinaten te onthullen voor het beantwoorden van de onderzoeksvraag. Drie cases uit het Colombiaanse Andesgebergte zijn diepgaand bestudeerd gedurende negen maanden veldwerk met semi-gestructureerde interviews, officiële archiefdocumenten, academische documenten, nieuwsberichten en artikelen uit lokale kranten en andere gegevens die zijn verzameld om de bevindingen te trianguleren. Als onderdeel van deze cruise bleek dat institutionele ondernemers in lokale gemeenschappen fungeren als kanalisator van inclusieve innovatie-initiatieven die worden ondersteund door nationale entiteiten (hier voornamelijk Colciencias). Deze rol was om twee redenen cruciaal. Ten eerste wordt er mee voorkomen dat de initiatieven het padtransformatieve proces belemmeren of ondermijnen. Ten tweede draagt het bij aan het benutten van de positieve effecten van de initiatieven. Daarmee brengt deze kanaliserende rol van institutionele ondernemers de inclusieve innovatie-initiatieven die door Colciencias worden ondersteund in overeenstemming met de padtransformatieve processen die worden geleid door institutionele ondernemers in hun gemeenschappen. In deze rol hebben institutionele ondernemers de initiatieven gekanaliseerd om hun visie op verandering te versterken en tegelijkertijd om te gaan met weerstand tegen verandering. Deze rol wordt ondersteund door drie kritieke activiteiten: i. Een strategische analyse van de behoeften waar aandacht aan besteed moet worden; ii. Onderhandelingen tussen de institutionele

ondernemer en de entiteit die het initiatief heeft gesteund; en iii. Het toezicht op de uitvoering van het initiatief.

Deze studie biedt vijf bijdragen om de onderzoeksvraag te beantwoorden: i. Een set van twee heuristieken ontwikkeld om door sociale complexiteit te navigeren. Ze zijn opgesteld in een theoretische omgeving en verbeterd tijdens het navigeren door de bestudeerde cases; ii. De studie biedt bouwstenen om vooruitgang te boeken bij het begrijpen van het begrip inclusieve innovatie als een multidimensionaal concept; iii. In plaats van een lineair proces wordt het padenbouwproces gepresenteerd in de vorm van fasen, of modules, onder leiding van institutionele ondernemers; iv. Institutionele ondernemers worden bestudeerd in andere omgevingen dan die uit de literatuur. Bovendien wordt bevestigd dat “agency” gedistribueerd en relationeel is. Deze bijdragen ondersteunen de studie van actoren in transformatieve processen; en v. Ten slotte leidt dit onderzoek tot een reflectie op de bijdragen vanuit een setting die kan worden gezien als onderdeel van de Global South aan de Global North.

The background of the image is a dark teal color with a subtle, intricate pattern of light teal lines and dots, resembling a molecular or network structure. The lines form a grid-like pattern that is slightly distorted, giving it a three-dimensional, crystalline appearance. The dots are small and scattered throughout the pattern.

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