

**THE UNIVERSITY OF HULL**

**KNOWLEDGE FOR DEVELOPMENT: ENHANCING PEOPLE'S  
CAPABILITIES.**

*A case-study of Knowledge Management and Social Entrepreneurship based on a  
Mexican community experience*

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by

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## **Dedication**

To Mara, my daughter, whose perseverance in learning and developing has inspired me to understand knowledge in action from a whole new perspective.

To Naza, my wife, for her strength and companionship that have been a rock during this long journey.

To Lucy and Mario, my parents, whose life-long example of congruence have always been a model.

To the memory of Benito Manrique, the social entrepreneur, for he taught me through his actions that one determined person is truly capable of creating a better life for many.

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## Abstract

This thesis presents a case-study based on the academic fields of Development Theory, Knowledge Management and Social Entrepreneurship that portrays the development history of a Mexican rural community (Huixcazhdhá) that hosts a food processing company (San Miguel). The analysis uses concepts of human centered development and the Capability approach by Amartya Sen to describe the history of improvement of the wellbeing of people from the community thanks to the presence of the amaranth processing company. It also shows how despite the limitation in resources present in the environment where the business operates, San Miguel may be considered a knowledge creating company under the framework of Nonaka. Finally, it presents the personal history of the social entrepreneur in the establishment of a company with a strong social vision that completely integrates its business operations with the dynamics of the community. The research paradigm that provides light to the study is pragmatism; using case-study as research strategy and an inductive research approach, limitations intrinsic to these elements are discussed and tackled in the methodological design. The data collection stage included on-site observations in the company and community for a period of six months, carrying out thirty in-depth interviews to collect personal views of persons from the community who work in the company, and the analysis of different documents produced by the company, social entrepreneur, and external agents such as the media, government and other institutions. A Computer-Aided Qualitative Analysis Software (NVivo) was used to analyze all data obtained and to give shape to the conclusions drawn from the research.

The main findings obtained in relationship to each of the fields of knowledge considered in the thesis are: In relation to Social Entrepreneurship, the ethical fiber as a personal characteristic of the entrepreneur is a major element that has not received enough attention; additionally the process to develop a social vision that captures a collective purpose with a transformative effect and a widespread reach to create and sustain social value is stressed. Regarding the field of Knowledge Management, the process of adapting the elements of a knowledge-creating firm in a rural environment with major limitations regarding the human and material resources is shown. In the field of Development Theory, a process view where primary assets of a community are turned into an expanded capability set that changes into a choice process to convert it into achieved functionings is introduced. Furthermore, the elements that connect the three fields based on pragmatism is introduced; particularly the spirits of bricolage, phronesis and distributed agency are analyzed and extracted from the empirical evidence as relevant elements in the construction of a successful experience of development.

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## Chapter 1. Introduction

In recent years, the economic world has experienced an important shift from an industrial model where the success factors for nations and companies were the access to raw materials and cheap labor force towards one that is based on the creation and use of knowledge capabilities. In the current 'knowledge economy', the main economic players are nations or regions that have shifted from an economy based on manufacturing activities to knowledge-intensive sectors that require the participation of highly innovative workers which have obtained levels of well-being not matched ever before in the history of mankind. Nevertheless, this level of *development* has not reached all countries and regions of the world. Indeed, more than 21% of the world's population lived in 2008 under conditions of extreme poverty –with less than 1.25 USD per day, according to World Bank's standards– and nearly 50% lived below the moderate poverty line –with less than 2.5 USD per day– (World Bank, 2008). Eradicating extreme hunger and poverty was first of the millennium development goals subscribed in the year 2000 and set for 2015 by all nations belonging to the United Nations. In the report corresponding to the closing year for these targets, it was reported that there was a drop of people living under extreme poverty conditions from 21% in 2008 to 15% in 2011 and a projection of 12% at the end of 2015 (United Nations, 2015). These figures present an optimistic account of what has been achieved in one of the most visible indicators of development; it was officially reported that the objective of halving extreme poverty worldwide from 1990 to 2015 has been largely achieved, coming from a terrible figure of 1,926 million people (36% of the world population) living under these conditions at the beginning of the period to a 'remarkable' 836 million people ('only' 12%) at the end of it. However, this figure means that slightly more than one in every ten human beings are suffering from deprivation related to extreme poverty; and even more tragically, in regions like Sub-Saharan Africa, 47% of its population live under these conditions (United Nations, 2015; p.14).

Particularly this issue of inequality has taken preeminence in the recent economic discourse. It is evident that the gap between G-7 countries, which are fully integrated in the knowledge economy, and most Asian, Latin-American and African countries has

widened since the last part of the past century. Piketty (2014) studies inequality with hard data from XIX century to date, and shows how this issue is rising in the beginning of the twenty-first century similarly to the levels experienced at the end of the XIX century, setting alarms regarding the political aspects of unequal distribution of wealth. Prior to the 2014 World Economic Forum Summit, Oxfam, a NGO that seeks to fight poverty worldwide, presented a report that in conclusion showed that the 85 richest people in the world (a group of people who can fit in a lecture room), own the same amount of wealth as 50% of the world's poor population, stressing the implications of this difference related to the vicious circle of wealth and power concentration in few hands and political decisions that favor only those wealthy and powerful in detriment of the vast rest of the population (Fuentes-Nieva and Galasso, 2014).

In this scenario, the fruits of *development*, have reached only a very limited amount of the world's population, leaving the vast majority distant from this concept.

In spite of these conditions, we have witnessed interesting experiences of development based on knowledge coming from regions that do not necessarily belong to the 'developed' world. To illustrate them, two examples are portrayed: First, the 'hole-in-the-wall' experiment from India, led by Dr. Sugata Mitra. This project of minimally invasive education proved how children's computer literacy can be developed almost without the need for external supervision through the spontaneous presence of computers available in public spaces close to them. In this experience, computers connected to the Internet were made available in public kiosks of Indian slums and rural locations without giving notice to the communities. Instinctively, the children gathered around them and started playing with the software available; after few days, they were capable to browse, paint drawings, play games, and create documents. The positive results that have been registered in the targeted communities imply a learning process in the children that have developed abilities of collaboration through peer tutoring and vocabulary construction and generalization, thanks to the exploration and discovery of the computer tools (Mitra, et.al., 2005).

A second inspirational experience comes from Egypt in the form of an agricultural company that changed the desert landscape of its country into fertile land based on

biodynamic methods that produce organic foods, herbal medicines and a clothing line from organic cotton for national and international markets: SEKEM. This company was established by Dr. Ibrahim Abouleish aiming for sustainable development of a community, having the achievement of the full potentials of every one of its member as one of its most important goals. From its beginnings in 1977, SEKEM has promoted biodynamic agriculture based on crop rotation, biological pest control, sustainable water management, and protection of the biodiversity, achieving today a business model that integrates nine companies that promote 'economies of love' (fair trade practices based on trust, transparency and fair pricing among all the participants of the value chain) and integrates a network of nearly 1,000 Egyptian farmers who receive knowledge assistance around the philosophy of the company (SEKEM, retrieved on November 22, 2012, from [www.sekem.com](http://www.sekem.com)).

With inspiring evidences provided by cases like SEKEM and the-hole-in-the-wall project where local communities have improved their living conditions using knowledge, but at the same time with an economic environment where inequalities are rising despite efforts to promote development at the global scale, the present dissertation seeks to bridge the fields of *Development* and *Knowledge Management* by arguing how the latter can expand the use of its methodologies to promote development in societies, expanding its scope of action from businesses as an element of analysis to the expansion of knowledge capabilities of the society as a whole. The linking concept that brings these two fields together in this research work is *Social Entrepreneurship*, a phenomenon that involves the innovative use of resources to create organizations and practices that tackle social problems that are left behind -or not effectively resolved- by traditional approaches such as government and development agencies programs. This dissertation intends to contribute to the field of knowledge, integrating the three former concepts through the analysis of a case-study of a Mexican community that has undergone a remarkable experience of development thanks to the establishment and growth of a business venture led by a social entrepreneur who during almost 30 years has devoted his professional experience to create a model based on the harmonious integration of the business and the dynamics of the community.

## **1.1 Development, Knowledge Management and Entrepreneurship: Is there a connection among the three?**

Development is a concept that has commanded the dynamics of our world since the second half of our previous century, when the US decided to embark on a global effort to make the benefits of American industrial progress for the “improvement and growth of underdeveloped areas” (Truman, 1949). From its bases, the idea of helping less privileged areas of the world to achieve economic conditions similar to those found in rich countries appear praiseworthy. However the way that the concept of *Development* has been implemented by the dominant forces in our planet (through institutions such as the IMF and the World Bank), has translated into merely a way to impose *western values* to every corner of the world, with the terrible consequence of a much more inequitable world than the one we had at the beginning of this conceptualization. Some academics and practitioners of development, however, have not forgotten the philosophical grounds that constitute this concept related to the humanistic tradition that tries to make sure that every person on this planet meets his basic needs to achieve a better life. Typically, these concerns are put to practice by shifting the top-down tradition of development efforts that involve enormous amounts of money poured into organizations and governments not necessarily worried about the realities of the people targeted by the effort into bottom-up endeavors that are intended to expand the opportunities of a focused group of people to realize a better standard of wellbeing.

Knowledge Management as an organizational discipline acknowledges the fact stated earlier in this chapter that the world has moved into a “knowledge economy” where the successful players (companies, regions and countries) are those that are able to develop products and services based on innovation and knowledge-intensive capabilities delivered by knowledge workers. In practice, Knowledge Management integrates processes and techniques that allow an organization to identify, capture, store, reproduce and share valuable knowledge with the purpose of improving its strategic position. A major challenge when organizations try to apply the processes offered by this discipline is to define what *valuable knowledge* means to them. And for this matter, even understanding the definition of *knowledge* presents a challenge. Indeed, since ancient times, man has dedicated important efforts to understanding this concept: the

most transcendental philosophers have devoted their entire lives to make sense of what knowledge is, how it can be obtained and what the implications are when man tries to acquire it. One stance around this concept based on the philosophical current of pragmatism defines knowledge as “the process of experiencing and changing life conditions” (Nonaka and Zhu, 2012; p. 28). When understanding *knowledge* in this broader sense, organizations and scholars began to realize the potential of the concept beyond the organizational boundaries as an idea that has the capacity of building communities where citizens get involved in matters that would allow them to transform the realities of their social groups. This realization has given rise to Knowledge-based Development as an evolutionary discipline that seeks to apply the concepts originated by Knowledge Management in the organizational context into the social sphere, to help humans to achieve their potential and, by so doing, improving their overall well-being.

Entrepreneurship refers to the process of creating value by detecting and exploiting business opportunities through the innovative mobilization of resources that implies taking risk. When we add the ‘social’ component to the concept, the purpose of this process immediately focuses on performing all these activities to alleviate social struggles. A social entrepreneur is an individual who offers an innovative solution to the most critical problems of society. It has gained relevance lately due to the increasing presence of persons taking entrepreneurial actions to work on issues that conventionally have been left to the government or to traditional charitable organizations. However, the way that some social issues have been treated by these agents has not resolved them efficiently; but more importantly, due to their bureaucratic nature, they fail to profit the possibilities that technology and innovation intrinsically offer in the solution of these issues. Social entrepreneurs, with a less restricted view, offer innovative solutions to problems in the areas of health, poverty, hunger, education, among many others, based on the mobilization of resources and the sum of efforts of other interested agents into their endeavors. The bottom line for them is to offer their abilities to improve the quality of life in particular aspects of a group of persons by helping them to solve a social problem.

These three concepts, therefore, have one particular and very important aspect in common: the reason for their existence and the scope of their actions are directed to

improving the quality of life of the society. Development might be the broader concept, since it is present in the mindset and actions taken by governments and international agencies and implies a global mobilization of resources targeted to improve the wellbeing of complete societies. Knowledge development gives focus to these initiatives by capitalizing on the great benefits that the creation and mobilization of knowledge carry for the benefit of the society. Finally, social entrepreneurship refers to one particular and innovative form of social value creation performed by individuals and organizations that aim to alleviate the most urgent problems of society. This dissertation intends to show how these three concepts that have been treated independently in the academic literature may inform one another to obtain significant alternatives to social research through the analysis of a case-study of a business venture in a Mexican community that presents relevant elements of each of them.

## **1.2 A cohesive component for the three elements: Pragmatism**

As expressed above, the concepts of Development, Social entrepreneurship and Knowledge development share the common element of trying to contribute to a targeted group to obtain a better life. That is to say, the three concepts intend, by the actions they inform, to produce a result that implies the improvement of a specific area of human life; their focus is on the human and their stance in the world. Due to the practical intention of the concepts and the way they are treated in this dissertation, pragmatism as a philosophy offers a very applicable lens to analyze the context of the three elements of theory in the practice of a relevant experience of development. Its relevance and application in this context lie in the fact that, as a philosophy, pragmatism intends to leave behind the discussions on the dichotomy between object and subject or the dualism between mind and body, and gives primacy to *practice* and *consequences* of actions as the criteria for knowledge and meaning (Baert, 2005; Bernstein, 2010). This philosophy has its roots in the US thanks to two founding fathers: Charles Sanders Peirce (1839-1914) and William James (1842-1910) and has regained relevance in recent times.

As a point of departure to analyze this philosophy we can recall the pragmatic maxim expressed by Peirce: “Consider what *effects*, which might be conceivable have *practical bearings*, we conceive the object of our conception to have. Then our conception of these effects is the whole of our conception of the object” (Peirce, 1878; p. 293,

emphasis added). Put simply, this maxim implies that an idea is defined by its practical effects on human experience (Lynch, 2009). The relevance of pragmatism is that it distances itself from the philosophical questions that focus on the divide between nature and object and gives preeminence to human actions and consequences. To Peirce any philosophical inquiry is situated in our acts and their consequences. According to Rescher (2005), classical pragmatism envisioned by Peirce intended to provide a test of the appropriateness of our factual beliefs as an implementation in real world situations and everyday life experience. To him “what we can do – and all that we can do –is to act on our beliefs and take note of the result” (p. 355). By doing so, the emphasis is placed on the consequences of our acts, and any reflection of them should help in establishing whether our beliefs about the world are objectively true and meaningful in characterizing reality. As such, pragmatist inquiry is also established by the objectives we aim to achieve by them. Nonaka and Zhu (2012) express this idea by stating that “our purpose defines what knowledge is, causes problems to exist and constructs actionable solutions” (p. 374).

When we try to apply these conceptual elements of pragmatism to issues of development, the role of knowledge in them, and the alternative options to put them in practice, as intended in this dissertation, offer a relevant lens to assess development initiatives with emphasis on the actions and observed outcomes. A relevant question to answer at this point is what elements of pragmatism should be considered while conducting this study considering their relevance and innovativeness in the analysis. The following paragraphs intend to answer this question.

Firstly, John Dewey’s (1859-1952) notion of *radical democracy* shall be considered as a common ground in all three concepts. To Dewey, radical democracy is understood not as a form of government, but rather as a way of life, which he characterizes to be rooted in a *social organism*, a person who is a “man only when in intrinsic relations to men” (Dewey, 1969; p. 231). Dewey establishes that an important feature in democracies is the fact that every person is capable of and accounted for ‘personal responsibility and individual initiative’ as long as freedom (Bernstein, 2010; p. 74). Building on this idea presented by Dewey, Richard Rorty’s (1931-2007) notion of *deep humanism* is central to the development concept as understood in this work due to its emphasis on *solidarity*.



Criticizing classical philosophers, Rorty claims that “solidarity should replace the philosophical worry about objectivity” (Bernstein, 2010; p. 207), establishes that “there is nothing that we can rely on but ourselves and our fellow human beings” (p. 211). He concludes that “pragmatism ... is in reality only the application of Humanism to the theory of knowledge” (p. 211). When intending to analyze how men may achieve a status of enhanced living conditions, it would only be possible to offer valid answers when considering the role and interactions of social groups, their effects on their social conditions, and the solidarity reflected in these acts, as expressed by Dewey and Rorty.

Secondly, a common concept in all pragmatist philosophers relates to the ethical component that must embrace it. Indeed, pragmatism has received a good deal of criticism when we disregard this component: it has been criticized for being relativistic, it has been pointed as the philosophical excuse for the US to expand abroad its ideals with little regard to others, it has also been called the philosophy of ‘anything-can-go’ or ‘opportunism-without-purpose’. Nonaka and Zhu (2012) summarize the criticisms that this philosophy has received when they express that “in the name of Science, [pragmatism] has been caricatured as anything-goes, utilitarian thinking, amoral and opposed to Reason, Truth, Progress . . . In business, pragmatism is allegedly responsible for corner-cutting opportunism and corruption. China’s recent tainted-milk saga, for example, has been attributed to a get-rich-quickly-by-any-means ‘pragmatism’” (p. 24-25). These critiques fail to acknowledge the main principle of pragmatism as dealing with specific and situated problems instead of aiming to give abstract generalizations. These authors capture the spirit of ethics in pragmatism, by saying that it “should be taken as a project of democratic, intelligent inquiry, of problem solving and experiential work, in everything we, reflective human beings, engage in every day” (p. 383) with emphasis on moral conduct, which cannot be reduced to a ‘code-based approach’ for it has to deal with ‘situated rightness’ according to our ‘knowledge of appropriateness’ (p. 57).

It is precisely this notion of ‘situated rightness’ that summarizes the ethical component intrinsic to pragmatism. This notion is close to Aristotle’s *phronesis*, the prudential knowledge, that calls for a virtuous acting in the practice, which takes a strong ethical fiber incorporated in the person acting. Grisez, Boyle and Finnis (1987) elaborate on the idea of *phronesis* calling it ‘practical reasonableness’. To these authors, *phronesis* is

integrated in the first principle of morality that urges humans to act voluntarily avoiding any harm to others and “to choose ... those possibilities ... compatible with a will toward integral human fulfillment” (p. 128). Again this principle incorporates the idea of deep humanism expressed in previous paragraphs as a pragmatic maxim.

Thirdly, and continuing with the analysis of John Dewey, another idea from this author that is relevant to this dissertation builds on his concept of democracy by defining it as “an ethical ideal [that] calls upon men and women to build communities in which the necessary opportunities and resources are available for every individual to realize fully his or her particular capacities and powers through participation in political, social, and cultural life” (Westbrook 1991, as cited in Bernstein, 2010). This idea is known as the *Deweyan ideal* which can be summarized as the quest to *enlarge people’s potentialities* (Baert, 2005, p. 144). As it will be introduced later in the next chapter of the dissertation, this very idea captures the spirit of development that will be used in the rest of the research work.

Lastly, one more important characteristic of pragmatism shall be considered in the analysis of the three building concepts of this dissertation: *the process view*. Process philosophy was formalized by Alfred North Whitehead (1861-1947), who although not considered as a pragmatist, acknowledges the relatedness of Peirce’s ideas to his process thinking. Whitehead criticizes the traditional concept of substance (implying that all things have an existence in and of themselves) providing an alternative to this conception: process view, which implies that “everything arises out of multiple other things and has no existence apart from its relations to them” (Cobb, 2007; p. 568). In process philosophy, becoming has preeminence over being; the fundamental questions should not be answered in terms of ‘things’ or ‘substance’, rather they must be addressed in terms of ‘flux’, activity, change, contingency, emergence and creativity (Rescher, 2000). One central concept to Whiteheadian philosophy is ‘prehension’ which can be understood as the manner that a momentary experience incorporates its predecessors to make sense to the whole experience lived by someone: “a way in which what was there-then, becomes here-now” (Cobb, 2007; p. 570).

This idea of becoming, as in process philosophy, applies perfectly to knowledge in the pragmatic point of view. Peirce and James agreed on the fact that knowledge is not made by static concepts. To them, the notion of ‘best practices’ that worked once and should be applied always is a misleading idea. Instead, knowledge is compared to an ever-changing fluid that is subject to critical revision in our actions.

Summarizing the concepts extracted from pragmatism presented so far and integrating them as a common ground that is relevant to development, knowledge development and social entrepreneurship, four main ideas emerge:

- *Personal responsibility and individual initiative* with a spirit of *solidarity* must be promoted at the forefront of the initiatives.
- Pragmatic *ethical reflection and action* must guide their implementation with the idea of *situated rightness*.
- The *enlargement of personal capabilities* should be the main objective of these initiatives.
- The *process* principle that truth is made in actions.

Finally, as a concluding remark for this section, the definition of pragmatism presented by Nonaka and Zhu in their Pragmatic Strategy book is now presented. It integrates different spirits of pragmatism, many of which will be introduced in different sections of the present dissertation.

“Pragmatism is a bias for action with focus and energy, a willingness to make-do without knowing how things might unfold, a habit that looks at situated particulars rather than generalized principles, an orientation that seeks knowledge based on the consequences of acting upon it, a mindscape that embraces plural perspectives and methods, an attitude that appreciates novelty and surprises, a conviction that collectively we can make a positive difference, a belief that practical consensus is often achieved at social-cultural-aesthetic levels instead of grounded on Truth or Reason. As such, pragmatism is theoretically engaging rather than soft-heading, instrumentally delivering not empty talking, morally inspiring instead of anything-goes or paralyzing” (Nonaka and Zhu, 2012, p. 25).

### **1.3 A story of knowledge development through social entrepreneurship**

Most of the academic literature produced to date in the field of knowledge-based development accounts for experiences from the most advanced “knowledge regions” of the world, such as Silicon Valley and the Boston region in the US, Barcelona and Nordic countries from Europe, or Singapore and Korea in Asia, to mention only a few. Indisputably, the knowledge experiences from these regions are noteworthy and valuable lessons can be drawn from them. However, many of those lessons may be applicable only in settings that already possess an important level of technological advancement as prerequisite (technology infrastructure is present, the culture of the society is open to innovation, there is a well prepared work force, among many). As stated earlier, the vast majority of the world is far from having these conditions. Does this mean that the gap between the “knowledge rich” and the “knowledge poor” must continue widening? The contention of this dissertation is that this reality can be shifted if the focus of attention in the academic field of knowledge development begins to consider that its frameworks and learnings may also be applicable to less developed settings, taking, of course, certain considerations.

To analyze if this contention has empirical support, and if so, what are the main elements that are relevant in these cases, this research work studied in depth the experience from a Mexican rural community of around 500 inhabitants (Huixcazhdá, in the State of Hidalgo) that 30 years ago had characteristics common to the most underdeveloped areas of the country and that has gone through an interesting path of development thanks to the presence of a business venture (San Miguel de Proyectos Agropecuarios). The approach taken in the research journey was based on the case-study methodology, using a single case, with the intention to dig in depth into the experience that is studied and to extract rich conclusions that may shed light on the understanding of the phenomenon and contribute to the academic field of interest.

The researcher knew about the activities of the company around 10 years ago, when the Mexican university he works for (Tecnologico de Monterrey) decided to document success cases in the region and looked for interesting stories among its partners. One such experience was presented from the Ministry of Health and was related to an

important effort to fight malnutrition among children led by a community company (San Miguel) that produced food supplements based on amaranth (an ancient crop from Mexico that was forgotten for a long time). The products from this company were distributed in different states of the country through government programs with interesting results thanks to the innovative use of the amaranth supplement that was integrated in a candy-like product that children accepted very well, unlike many other nutritional efforts undertaken at different levels.

That was how the researcher took interest in the experience and got in touch with the company to make a visit. The most striking aspect in that visit was to realize the setting where the factory is established: The community of Huixcazhdhá, far from any urban area, and being the main source of human labor for San Miguel. The company takes pride to communicate its policy of hiring almost 100% of its work force from the local community, despite the fact that it has only an elementary and middle schools as educational infrastructure and the average official schooling from its work force is of 8 years (hardly finishing middle school). Workers with this limited condition of formal preparation are responsible for running a world-class food production facility that has met the standards to become a supplier for Kellogg, for formulating new products based on the protein extracted from amaranth through a proprietary technology, and for developing production technology to be used in the factory and also transferred to other communities that are interested in using amaranth on a local scale to develop small businesses.

One person is the mastermind behind the whole idea: Benito Manrique, the social entrepreneur. The history of San Miguel is the history of his professional life. Being a son of World Health Organization officials and having lived in poor countries from Latin America and Asia he soon realized that the link between malnutrition and poverty has terrible consequences for human kind and decided to devote his professional activity to create a positive change in this area. He got acquainted with amaranth in a national congress and realized the potential of the crop in fighting malnutrition. He shared his passion with a Mexican academic leader in the field (the keynote speaker in that conference) and offered to open a production facility to industrialize and commercialize supplements based on the crop. He decided to do so in some lands that the family

owned in a rural community –Huixcazdhá– to extend the direct benefits of setting up a factory to a community with many needs. When Benito Manrique arrived in Huixcazdhá in 1985, the community had no electricity, no running water, or even a paved connecting road. More striking for him was the fact that infant malnutrition at that time reached 65% of the population of the community. Surprisingly enough, he thought this was a perfect setting for his venture for the potential improvement it could imply for the community.

After more than 25 years of activities, the company has established itself as a Mexican leader in the production and commercialization of amaranth-based products, but most importantly, it has become the engine for the development of Huixcazdhá. Providing more than 80 steady working spots for the community is only the most visible effect of San Miguel in the community. The philosophy of the company implies a full integration with the community life, so it has been a major player in all the projects to improve its infrastructure; but more importantly, it has offered a platform to improve the quality of life of all the people from Huixcazdhá. To provide only one example of the benefits for the community, after only two years of being established in Huixcazdhá and thanks to an innovative program run by the children of the community, coached by Benito Manrique, and based on the use of amaranth products from San Miguel, malnutrition levels dropped to 25%, and a few years later the community was officially recognized for having zero malnutrition incidences.

This dissertation tries to give account of the history of the relationship between San Miguel and Huixcazdhá, and more importantly, to describe the dynamics of both in relation with the role that knowledge (understood, as expressed earlier, as the process of experiencing and changing life conditions) has played in their development. It is the result of six months of presence of the researcher in the company observing its processes and in the community, interviewing people and understanding the dynamics of decision making and the vision of the individuals in terms of their concerns and possibilities for the future, and two more years of analyzing the data gathered with the lights provided by the bodies of knowledge used as guidance.

## 1.4 Research questions

The central objective that this dissertation pursues is to analyze the case of development of a Mexican community supported by a business venture, with the theoretical elements that three areas of knowledge offer: Development theory, Knowledge-based development, and Social entrepreneurship. Using an approach based on pragmatism, the focus of the application of analytical tools provided by the three areas is the identification of the relevant elements that have permitted the development of individual capabilities in the community thanks to the presence of a social entrepreneurship venture and the effects that it has had on their daily life, analyzing how the community members cope with their day-to-day problems, using the elements and artifacts they have at hand, incorporating their stories and past, and being open to collectively imagine how they want to become in the future.

With this objective in mind, the present research work seeks to answer the following research questions:

*RQ1:* What elements of Development theory, Knowledge management, and Social entrepreneurship are relevant when they are analyzed under the philosophy of pragmatism in the context of the development of a Mexican community?

*RQ2:* How can the case of development of Huixcazdhá, Mexico, in its relationship with the company San Miguel, be understood from a pragmatic point of view and with the theoretical background provided by Development theory, Knowledge management and Social entrepreneurship?

*RQ3:* What lessons can be learned from the development of Huixcazdhá, Mexico, thanks to the presence of San Miguel company, that may be replicable in different contexts?

Research question number one refers to the theoretical exploration that is required to understand the three areas of knowledge independently and their relationship with the other two, using the philosophy of pragmatism as element of integration. The present

dissertation intends to answer this research question via performing, first, a critical review of the three bodies of knowledge and, second, extracting from each one of them the elements that pragmatism offers to orientate their scope. It also intends to highlight the common aspects and main differences that one area has with the other two.

The second research question relates to the case study itself. It presents the conceptual elements that are used in analyzing the data of the company of San Miguel and the community of Huixcazhdhá. It also provides the framework used to present the conclusions of the case. The intention of this question is to orientate the whole research process of the case-study to focus on the empirical elements that are related to the three bodies of knowledge.

Finally, research question three belongs to the domain of practical implications. In consistency with the pragmatic philosophy used as an overarching element, the answer to this question seeks to extract the most important elements of the case that may serve as guidelines for the practice of development in contexts that may be similar to those presented in the community, and the elements that may be generalized to other environments.



## **1.5 Structure of the dissertation**

The present dissertation dedicates the following chapter to reviewing the literature of the main fields that are relevant to the topic that is analyzed: Development theory, Knowledge Management and Social Entrepreneurship. Hence, chapter two analyzes the economic and social schools of Development, presenting the major trends that each has utilized over time, criticizing their inconsistencies and unexpected results, and presenting a viable alternative based on the focus on people's capabilities inspired by the work of Amartya Sen. Secondly, this chapter examines Knowledge-based development by introducing the concept of *knowledge* as a philosophical fundament of this dissertation and as a base for the analysis of the academic field of Knowledge Management. Subsequently, the chapter argues that the main concepts and processes of Knowledge Management may be extrapolated from the business domain and used to offer solutions in the societal sphere, giving rise to the field of Knowledge-based development. Thirdly, chapter two considers the notion of Social Entrepreneurship with focus on two relevant aspects of the concept: the characteristics of the social entrepreneur and the processes and resources that are put into practice to develop a successful social venture. Finally, this chapter stresses the gaps that were detected in the literature review and how they were approached in the research journey.

Chapter three presents the research objectives and questions that have given shape to the research activities undertaken in this dissertation. Subsequently, this chapter presents the research design used in the dissertation by introducing first the research paradigm that gave light to the research journey: pragmatism. An account of this paradigm will be presented from its philosophical grounds to its application in the research of social sciences with the aim of highlighting the elements that it brought to the work. Later, this chapter presents the research elements that were used during the research journey, arguing for their cohesiveness due to the pragmatic standpoint: the research approach and strategy. A particular discussion is presented around the research strategy that was used in this dissertation: the case-study. Arguments provided by different academics around the issues of generalization, validity and reliability of case studies are introduced and analyzed providing support to its use in the present research work and the conclusions that are expected from it. Next, chapter three shows the case-

study protocol that guided the period of observation in the company and community, presenting the procedures and questions used in the field study. Finally, the chapter summarizes the different sources of evidence gathered in the case-study data base.

Chapter four is dedicated to providing a detailed description of the case that was studied in this research work with emphasis on the different aspects that are related to the bodies of knowledge used in it. It first describes the social entrepreneur who gave birth to the business venture which was the object of this study. Various aspects of his personal history are shown to extract the main elements that the entrepreneur intended to incorporate in his activity, as well as the ethical foundations that constitute the pillars of the company he founded. The importance of the various agents that provided support to the entrepreneur and his venture is emphasized to show how the experience that is presented was supported by relevant and multiple actors from very diverse natures. A second part of the chapter focuses on the company created by the entrepreneur. It intends to show two important aspects of the business: first, its uniqueness in terms of the deployment of its objectives that balance the economic value required to sustain its activities with the social value that seeks to benefit the individuals from one particular community by helping them to achieve their potential as human beings; and second, the role that knowledge has played in the company allowing it to become the leader in the country in its field, and how these dynamics are implemented on certain key processes of the company. Finally, a third part of the chapter presents the community where the company is located, extracting some dynamics that are present there and highlighting the way they incorporate some practices that may be a consequence of the existence of the company.

Chapter five provides the analysis of the data extracted in the observation period with the lights provided by Development theory, Knowledge management, and Social entrepreneurship. It first analyzes the entrepreneurship phenomenon focusing on the elements that are relevant to Benito Manrique's history and the elements that he incorporated as foundations for the company; it emphasizes the role of the multiple agents that came into play to make San Miguel the success story that it became; and it identifies the different stages that the business venture has gone through for its development. Later, this chapter focuses on the company as a unit of analysis, with

emphasis on the knowledge dynamics that are present there and the bases that led to those dynamics. Next, the chapter moves to the community of Huixcazhdhá as focus of scrutiny, identifying the different sets of individual capabilities that are present and the role that San Miguel has played in their development. Finally, chapter five provides evidence of the elements used in triangulation as a strategy to ensure the validity of the study and shows the use of the computer-aided qualitative analysis software as a support of the elements used to analyze the phenomenon studied.

Finally, chapter six presents the conclusions that this study allow to draw, summarizing the findings and lessons that can be extracted from the case using the three elements of analysis (Development, Knowledge management and Social Entrepreneurship). It also presents the considerations for future studies that may be derived from this work. Lastly, the limitations encountered in the study are presented.

## **1.6 Relevance and potential contribution of the research work**

One major potential contribution of this dissertation points to the manner by which the analysis that is introduced may provide light to the academic disciplines of Knowledge Management, Development, and Social Entrepreneurship by bridging the three fields together and presenting commonalities and differences that may direct some studies in the future. Although these fields are transdisciplinary in nature, they have not been studied together to date. The theoretical exploration provided in the dissertation intends to show how each field can serve the others to expand their scope and to offer potential grounds for future works that combine them making them richer and more complete. The bonding element in this endeavor is offered by the pragmatic philosophy that by focusing on the consequences of actions, centers the attention on expanding people's capabilities which can be viewed as the central objective of the three disciplines.

A second point of relevance of the present research work relates to the empirical investigation that it describes. By presenting the case of development based on knowledge of a Mexican community it tries to offer an alternative view to the current trend that relates knowledge development almost exclusively with fancy, state-of-the-art, technology-based, experiences that happen in the leading countries and companies

of the world. With a deep analysis that portrays rich characteristics of the company and the community involved, this work tries to present evidence about the way development based on knowledge may take place in rural areas in spite of their major limitations, and how this approach may provide a better life for the people concerned.

In consistency with the pragmatic view of knowledge, a third source of significance of the dissertation relates to the practical implications that it may bear. Practitioners of development (policy makers, development institutions, social institutions, among others) may find new elements to incorporate in their endeavors when designing actions to support the improvement of people's wellbeing; particularly, the idea of expanding capabilities based on knowledge may resound in this arena. Social entrepreneurs may also find ideas to incorporate in their ventures from the lessons learned from the case (both, from the successful stories and from the obstacles that were needed to be overcome) and the academic background that supports it.

Finally, some lessons may also be of value from the research design that was chosen and applied in this dissertation. The use of pragmatism as a research philosophy and as a conceptual framework may contribute to reaffirming its relevance as a form of social inquiry. Additionally, the conclusions drawn from the research strategy utilized -case study- may present with new evidence on its relevance and contribute to the academic discussion about under which circumstances and with what elements it may be a reasonable form of inquiry with relationship to its contribution to the current body of knowledge.

## Chapter 2. Literature Review

The following chapter shall introduce the bodies of literature that are relevant to the present dissertation. First, the issue of development shall be analyzed under two schools of thought: Development Economics and Development Studies. Next, the field of Knowledge Management will be reviewed, with emphasis on two important elements: the concept of *knowledge* that will give light to the present study, and the evolution of the academic field itself that has arrived to reach the scope of development with the idea of expanding the benefits of the use of frameworks that create, capture and share knowledge into the social realm. Finally, the concept of social entrepreneurship will be presented, focusing on the main elements that this nascent field is considering for the entrepreneurs who aim to solve social issues and the process to succeed while doing so. Subsequently, and as part as the factors related to social entrepreneurship, the issue of distributed agency shall be discussed with the aim to present the theoretical grounds that introduce the idea of acknowledging the relevance of the multiple actors that shape a 'path' (in the case of this study, a 'path' for succeeding in a social venture), balancing the traditional views of agency and structure.

### 2.1 A critical review of Development

This section seeks to present a critical review of the academic literature that has been published in the field of Development. This topic has been tackled from different angles, but for the purposes of this dissertation, two main schools of development will be analyzed and critiqued: The economic approach and the school of thought that claims for an interdisciplinary approach. By doing so, the identification of relevant ideas from each school is intended and an arrival to a ground where the positive aspects from both are integrated in a particular way of understanding development based on knowledge is sought. As an integrating point of both of them, the approach based on capabilities shall be presented and scrutinized to reveal its relevance to the present dissertation.

Before beginning the analysis of these schools of thought, an introductory concept of *development* is pertinent, due to its permanent presence in a very diverse variety of areas and recurring conversations. In a general manner, we may understand *development* as achieving a better life for everyone, meaning that every person meets his/her basic needs (food, health, a place to live, access to services, being treated with

dignity) (Peet and Hartwick, 2009). However, the scholarly study of Development is far more complex than this. For this reason it shall be analyzed from two lenses: the economic and the social approaches.

### **2.1.1 Economic-based theories of Development**

Adopting a simplistic perspective, development based on economic theory assumes the objectives of building economic capacity so that material life can be improved. It uses as central idea the concept of *Homo economicus*, which was first presented by Jeremy Bentham (1748-1832) based on the principle of 'utility': maximization of pleasure and minimization of pain; and built upon Adam Smith's (1723-1790) idea that all economic actors are inherently and eternally self-interested (Peet and Hartwick, 2009; p. 176). This concept was constructed under the assumption of a scarce world, where the desires of man are infinite while its means are limited. Here lies the basic economic problem that found its solution during the first half of the XX Century from two approaches: Central planning (socialist tradition) or the market (capitalist approach). As recent history has shown, the former was doomed to failure, while the latter has taken the lead role in the world as we know it today, adopted by the vast majority of countries, led by world institutions (The World Bank, The World Economic Forum, among others), and controlled by rich countries supported by the United Nations.

From this tradition, a new academic discipline was born around the 1950's, right after World War II and the decolonization that it led to: Development Economics. The purpose of study of this discipline was helping the recently independent nations in their quest to build viable states from the economic stand point when their main concerns related to solving internal conflicts and uprooting of their population that their independence involved. Following their former colonial masters in some cases or looking up to the experiences from the Soviet Union in others, the local leaders established economic goals for their newly born nations that implied maximizing economic growth through industrialization with emphasis on the production of capital goods aiming to develop skills around the heavy industry (Yusuf, 2009).

Allegedly, this academic discipline would provide models to help developing nations in finding the main determinants for their economic growth, whatever model they may

choose (the one established by socialist nations or some sort of path based on capitalist ideas). The central idea of these models implied a shift from agricultural societies into industry-based activities and the way they were implemented varied across frameworks from ideas based on balanced growth that imply the advance of mutually supporting economic sectors and a coordinated investment strategy (Nurkse, 1959), to proposals based on unbalanced growth, where leading sectors were to be targeted, stimulating as a consequence the rest of the economy (Hirschman, 1958).

For the first few years of application of the policies coming from this tradition and led by the World Bank, the results in economic growth experienced in developing economies were outstanding. In the decades of 1950 and 1960, as at no other time in past centuries, “had the world economy achieved such a rate of growth, and at no time in the past had the leading industrial economies and few industrializing ones expanded at such spectacular rates for almost two decades” (Yusuf, 2009; p. 12). Soon after this period the dream was over: at the end of these decades of flourishing, growth began to slow down in many developing nations as distortions and inefficiencies related to inexperienced policy makers began to show their effect. The major oil crisis of 1973 had a terrible effect on the growing nations that relied on offering raw materials and the high prices of energy did not leave room for optimism. Around that time, the president of the World Bank acknowledged that “the basic problem of poverty in the developing world can be stated very simply. The growth is not equitably reaching the poor. And the poor are not significantly contributing to growth” (McNamara, 1973; p. 10).

Originally, Development Economics focused on defining policies to help developing nations, assuming that their economic processes were different than those from developed countries. However, it gradually evolved to a stage where it was understood that neoclassical economics as applied in developed regions were applicable to developing ones without much change, resulting in “a mélange of ideas, part structuralist, part neoclassical, part Keynesian, part pragmatic” (Peet and Hartwick, 2009; p. 68) and most of its proposals started pointing towards neoliberal ideas of competition and trade (Clark, 2002; p. 831).

In the economic reality of the 1970's presented in previous paragraphs, the World Bank acknowledged that "international programs lacked sound and tested instruments, and they lacked country role models" (Yusuf, 2009) and as a result introduced the annual report known as The World Development Report (WDR) beginning in 1978 with the objective of assuming a leadership role in sharing understanding how economic growth could be achieved and on doing that, how could it benefit the poorest areas of the world to give lights on the way resources should be transferred from the industrial nations into the developing ones. This series monitors and gives account of the status of *world development* as understood by the institution. An integral part of these reports are the World Development Indicators, published by the same organization and following a similar rationale. Table 2.1 shows the central topic introduced in reports corresponding to ten-year anniversaries of the first issue and the indicators that the report included with the interest of exemplifying the different concerns from the World Bank on development and the way they understand the concept. The development indicators that the World Bank has used to depict the levels of development of the nations as presented in the reports is summarized in the table and between brackets the name of the table as portrayed in the report is presented. From the table the preeminence of economic concerns from the World Bank, with a little evolution into social aspects is easily noticed.

**Table 2.1. Selected issues of World Development Reports, with emphasis on World Development Indicators**

<i>Year</i>	<i>Main Topic of WDR</i>	<i>World Development Indicators</i>
<b>1978</b>	No title. Chapter 4: "Prospects for Growth and Alleviation of Poverty"	Population, Area, Per Capita Gross National Product (GNP), Index of Per Capita Food Production, Energy (Production and Consumption), Inflation [ <i>Basic Indicators</i> ]
<b>1988</b>	Opportunities and Risks in Managing the World Economy	Population, Area, Per Capita GNP, Inflation, Life Expectancy at Birth, Adult Literacy [ <i>Basic Indicators</i> ]
<b>1998/ 1999</b>	Knowledge for Development	Population, Area, Population density, GNP, Per Capita GNP, GNP at purchasing power parity [ <i>World View</i> ]
<b>2008</b>	Agriculture for Development	Population, Population age composition, Gross national income (GNI), GNI at purchasing power parity, Per Capita GDP annual growth, Life Expectancy at Birth, Adult Literacy, Carbon dioxide emissions [ <i>Key Indicators of Development</i> ]



The main criticism presented to the development approach centered on economics arises from the fact that the simplistic perspective they adopt has resulted intentionally (from a post structuralist view that will be presented later in this chapter) or unintentionally in a far more critical scenario than the one present during the beginning of the second-half of the Twentieth Century when such a perspective began to be used. To illustrate this fact we can acknowledge that in the 1960's, 20% of the people living in the richest countries had 30 times the income of the 20% living in the poorest ones. Showing how this figure evolved during the years where development policy has been established with economic predominance we arrived to a 44-to-1 ratio in 1973 and a 74-to-1 figure in 1997 (United Nations Development Program, 1999; p. 36).

A different source of criticism to the economic approach to development is its inherently top-down nature: The main discussions that shape the policies that intend to bring a better life to everyone on the planet are taken at levels where decision makers are much more aware of, and have far more lobbying pressure from, those who are already enjoying a great life (the rich minority) and leave behind the needs and inputs from those who need the most (the poor vast majority). Following this rationale, most of the support provided to underdeveloped nations has arrived conditioned to structural changes (budgetary constraints, economic deficits reduction, and the sort) and with difficulties of accountability. Currently, in the US there is a movement led by Senator Ron Paul that criticizes what this approach means to his country by saying that “foreign aid is taking money from the poor people in rich countries and giving it to rich people in poor countries” (Ron Paul’s twitter account @RonPaul, uploaded on October 18, 2011 and retrieved on October 11, 2012). Of course, his view has been extensively contested, but it is presented here as an example of the limitations related to the way economic development has been implemented.

One idea that exemplifies the criticism to this approach to practice development is presented by Yunus (1998), where the author describes the bureaucratic process that an initiative of micro credits in the Philippines went through when applying for financial support from the International Fund for Agricultural Development (IFAD) –a UN based agency aiming to assist the rural areas–. Five years passed since the application was filed and several in-site visits from consulting experts employed by IFAD to analyze the

project took place; still, the money was not yet approved. Yunus wonders about the number of micro credits that could have been granted to hundreds of families with the money spent in each one of the visits by the consultants. Furthermore, the author describes other examples of bribery in different forms, mainly when donor agency officials try to get approval for large projects that imply the allocation of targeted funds (which will make them appear quite efficient in their jobs) with the complicity of local government administrators that at the end of the day would receive and keep the money in their pockets; or with the collusion of consultants, suppliers or potential contractors that eventually would benefit from the projects (p. 15-16). The author summarizes these dynamics by saying that “foreign aid becomes a kind of charity for the powerful, while the poor get poorer” (p. 17).

Finally, if we take a step back to consider the theoretical foundations of economics we find the concept of ‘value’ and its maximization as a central objective of life. The very notion of value requires devaluing other forms of social existence: skills are turned into lacks; persons are twisted into commoditized labor; and “people’s autonomous activities embodying wants, skills, hopes and interactions with one another, and with the environment, into needs whose satisfaction requires the mediation of the market” (Sachs, 1992; p. 18). Such an approach dehumanizes the daily interactions and desires for a better life of people, forcing them to focus exclusively on the utilitarian perspective.

### **2.1.2 Interdisciplinary and cross disciplinary theories of Development**

Realizing that economic theory by itself is not sufficient to provide elements that describe and prescribe how a better life for everyone may be achieved, a parallel academic discipline emerged in the middle of the past century: Development Studies. Its main intention is to offer interdisciplinary and cross disciplinary analytical techniques based on a variety of social sciences (economics, politics, sociology, among others) to take into consideration social factors that promote or limit development. The main difference from economic theories lies in the fact that this approach considers the cultural origins and social evolution of the human being into modern social, cultural and political institutions of development. The agenda that traditionally has been pursued by this field includes concerns related to economic growth, poverty reduction, reform of

trade regimes, reduction of international debt, decentralization, democratization, social development, and environmental issues (Kothari and Minogue, 2002).

The early traditions of this approach integrate the structural, structural-functional, and modernization theories that assume a political charge in their evolution due to the fact that they are socially constructed by groups of men. A more recent tendency in this area incorporates theories such as the regulation school, the actor-oriented approach, post-imperialism, gender studies, and environmental sustainability (Schuurman, 1993). Some of these approaches shall be analyzed in the following paragraphs as a description of the way that the discourse of development has been constructed and to show the evolution from top-down approaches to theories that put the human being in the center of their analysis.

As a starting point, the theory of modernization shall be presented due to its relevant tradition in the way development is understood currently. Indeed, the roots of the idea of development as most official institutions accept it today come from a postwar discourse that rested on the belief of modernization through industrialization and urbanization. The US and Europe, using a colonial rationale, decided to transfer 'western democratic ideas and values' to maintain political order and stability in the world. Generally speaking, development in this tradition means achieving conditions that characterize the rich societies (opportunities for capital formation, education in modern values, establishing modern institutions); and with this in mind, the tensions concerning developed *versus* underdeveloped (which evolved later to developing) countries began. US President Harry S. Truman, in his inaugural address for his second term in presidency in January 1949 expressed: "We must embark on a bold new program for making the benefits of our scientific advances and industrial progress available for the improvement and growth of *underdeveloped* areas" (Truman, 1949; emphasis added). According to Esteva (1992) on that very day "two billion people ceased being what they were in all their diversity and were transmogrified into an inverted mirror of other's reality: a mirror that belittles them and sends them off to the end of the queue, a mirror that defines their identity, which is really that of a heterogeneous and diverse majority, simply in the terms of a homogenizing and narrow minority" (p. 7).

In the western view, development was a logical, almost natural path to walk. It was a progressive, beneficial and necessary dynamic in human life, as if development were to sociology what evolution was to biology (Peet and Hartwick, 2009; p. 220). This view displayed a supremacist idea of the West and defined its intention to master the rest of the world, assuming its mental models (rationalization), its institutions (the market), its goals (high mass consumption) and its culture (worship of goods).

With this rationale and under these assumptions, the shape that international development has taken is through international monetary aid provided from developed nations through international institutions (World Bank and International Monetary Fund) under programs such as *The End of Poverty: Economic Possibilities for Our Time* (Sachs, 2005). The program implied that 0.7% of rich countries GNP would go to international aid to end extreme poverty by enabling the poorest regions to get their foot on the ladder of development and preventing failed states that are critical to US security (Sachs, 2005; p. 333).

Some critiques that this approach have received come both from economic and ethical arguments. Economically, as discussed in the previous section, the central problem of scarcity tells that there will never be enough economic aid to solve the poorest problems while allowing the rich nations to continue growing. Ethically, the rationale behind this approach (rich countries should invest in poor countries for their own security, to prevent failed states, and to prevent the poor from becoming terrorists) shows a very cruel form of pragmatism... Its 'conventional economic reasoning' produces an ethical vacuum from which emerges an ethics of simple morality ("we should just do good things"), or moral utilitarianism ("it will not cost much") or moral pragmatism of fear ("do it to save ourselves") (Peet and Hartwick, 2009; p. 139). Another set of criticism are posed from a more pragmatic stand point that analyzes the consequences and realities of development efforts from the past. Authors like Uvin (2002) summarizes this account by questioning that "the voices of those who receive the services supplied (in the forms of development aid) are hardly heard, actions are rarely evaluated, and product quality measures are almost totally unknown" (p. 8).

In other words, in spite of economic development policies, or worse, because of them, poor people are getting poorer while the rich dominants are getting far richer. This unexpected result is very difficult to escape from academic leaders concerned with development issues. As an answer to this problem a new academic discipline emerged: Development Ethics (Crocker, 1992; Clark, 2002), with the objective of making sure that the decisions taken under the flag of development do not turn into consequences that destroy cultures and individuals (Goulet, 1997). The central idea of such a discipline implies coming back to the fundamental philosophical questions of the purpose of human kind: What makes a good life? (Clark, 2002), and more related to development issues, but still in the philosophical arena: “What is the relation of having goods and being good in the pursuit of the good life, what are the foundations of a just society, and what stance should societies adopt towards nature?” (Goulet, 1997; p. 1160).

Integrating these critiques from a philosophical perspective, a postmodern era of thought and culture has arisen, characterized by disillusionment and loss of faith in modern metanarratives like truth, emancipation, democracy or development (Lyotard, 1984). Indeed, in different stances and moments, heavy criticisms to development have appeared, seeking not development alternatives, but rather an alternative to development (Escobar, 1992a).

“The idea of development stands like a ruin in the intellectual landscape. Delusion and disappointment, failures and crimes have been the steady companions of development and they tell a common story: it did not work... The hopes and desires which made the idea fly, are now exhausted: development has grown obsolete” (Sachs, 1992; p. 1).

According to Peet and Hartwick (2009), the main argument against development in the modern tradition may be understood considering Richard Rorty’s (pragmatist philosopher) critiques to modern theories of ‘representational truth’ in which systems of symbols (statements, theories, models) try to accurately reflect real and separate structures of events (his famous ‘mirror of nature’). Rorty argues that such theories cannot be totally accurate, as they provide the perspective of a particular prejudiced thinker. Derrida along with Foucault represent the French tradition in poststructuralism

and they argue that because ideas are linguistically mediated (along with the Wittgensteinian idea of the relationship between Knowledge and Language) the play of language creates what is only taken to be 'true'. These ideas are in consonance with the theory of Knowledge and Interests of Jürgen Habermas.

A poststructural account sees the whole idea of *development* as an invention, a social construction, happening in two dimensions: a *discursive* (rather than natural) history; and a set of ideas, forms of behavior and social practices that operate in the economic world (Peet and Hartwick, 2009). With this handicap, development is a powerful, controlling, often detrimental tool established by rich nations supported by international institutions. Poststructuralists suspect who will receive the benefits expected from development initiatives. Moreover, they question who defines what 'beneficial' means.

Critics from this tradition have proposed an alternative focused on the characteristics and needs of those who have the least and need the most. Postdevelopmentalists share an interest in local autonomy, culture and knowledge and a position defending localized, pluralistic grassroots movements. Advocates of this tradition like Gustavo Esteva (México), Madhy Suri Prakash (India), Rahnema (India) share three positions:

1. Radical pluralism: Instead of 'think globally, act locally' (Renè Dubois), they propose to 'think and act locally'.
2. Simple living: Both, ecologically and spiritually. Requires intelligent rationalization of means, but more importantly, prudent moderation of ends. There is a notion of peace and harmony coming from simpler, less materially intensive, ways of living, where happiness derived from spiritual sources rather than consumption.
3. Reappraising noncapitalist societies (Peet and Hartwick, 2009).

Building on ideas that place the human being in the center of discussion, in the late 1990's a new approximation to development has been adopted by major agencies and NGOs: rights-based development (Small, 2007). Their rights-based approach provides a framework that allows a shift in focus of development practices away from identifying and meeting needs towards enabling people to recognize and exercise their rights

(Cornwall and Nyamu-Musembi, 2004). It provides a normative and practical value that integrates human rights into traditional development discourse and practice that seeks to achieve seven core principles: a) assess human rights conditions prior to embark on development programs; b) identify rights-holders and duty bearers in prospective projects; c) integrate local participation in the planning and implementing processes; d) assure the presence of accountability mechanisms from donors and receivers; e) empower marginalized groups; f) focus on the development process as much as on the outcomes; and g) engage in advocacy efforts to promote the rights of vulnerable groups (Kindornay, Ron and Carpenter, 2012).

Yet another concept of capital importance that has arisen along with this interdisciplinary perspective of development is sustainability. The seminal work that presented the concept of *sustainable development* was introduced as a report presented in August 1987 by the World Commission on Environment and Development, to the General Assembly of the United Nations. This report is titled *Our Common Future*, and is also referred to as 'The Brundtland Report' (Report of the World Commission on Environment and Development: *Our Common Future*, retrieved on August 3, 2011 from <http://www.un-documents.net/wced-ocf.htm>). According to this report, sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Part 2: The Concept of Sustainable Development). In that report, economic growth was seen as a required condition for development especially in underdeveloped areas and a possibility of further development in developed ones with the condition that it considers the main ideas of sustainability and no-exploitation of others.

However, a major source of criticism of sustainable development arises from the fact that the concept has been prostituted to cover initiatives that go against its very conception. Luke (2005) exposes that far from a real concern for the environment and the future, the main organizing principle of sustainable development, as conceived so far, is related to *economic growth*. Other authors like Sunderlin (1995) contend that this concept is originated in the capitalist model of production and consumption with the only purpose of its perpetuation. Again, we arrive to the economic model and its consequences at the heart of development topics.

Furthermore, a group of scholars concerned with sustainability, considering the physical limits of growth, and using as framework the Law of Entropy (Georgescu-Roegen, 1971; Rifkin, 1981), has reached the conclusion that instead of having economic growth as a major objective, there is a need for 'Degrowth'. The Degrowth Declaration of the Paris 2008 Conference states that economic growth implies an inevitable degradation of means (land, materials, energy) in favor of an increased economic activity (production-consumption-investment). This dynamic is *socially unsustainable and uneconomic* in the sense that it exacerbates the inequality among countries and has reached a state that has passed sustainable limits (Degrowth Declaration of the Paris 2008 Conference, 2010). As an alternative, this group proposes the concept of 'right-sizing' the economies, both in the global and the national level; meaning that countries define a path towards a 'just, participatory, and ecologically sustainable society', with some characteristics such as:

- "an emphasis on quality of life rather than quantity of consumption;
- the fulfillment of basic human needs for all;
- societal change based on a range of diverse individual and collective actions and policies;
- ... observation of the principles of equity, participatory democracy, respect for human rights, and respect for cultural differences" (Degrowth Declaration of the Paris 2008 Conference, 2010)

One more relevant topic to incorporate when analyzing the field of development is *globalization* recognizing the fact that economies in the world are fully integrated and national policies do not suffice to understand this trend. Additionally, there is a parallelism of the two concepts on the grounds of Western dominance that has been exposed earlier in this section. Despite its use as an 'all-purpose catchword' and risk to become a 'global cliché' (Lechner and Boli, 2004), globalization has an evident effect in terms of many changes that the world arena has experienced recently. Golden and Reinert (2007) scrutinize the relationship between globalization and poverty trying to shed light on understanding how the former concept has had an impact on the development of the world. The authors focus their analysis on five dimensions and their impact on poverty: trade, finance, global aid, migration, and ideas understood as the



“cross-border transmission of intellectual constructs in areas such as technology, management, or governance” (p. 3).

A current case in hand that exemplifies the relevance of this concept is the development experience of China, which has reached a remarkable level of economic growth thanks to its integration in the world economic arena. However, some challenges are raising for the country hand in hand with this development experience; two of the most notable relate to income distribution and pollution. Indeed, the benefits from development have reached a great number of its population; we cannot overlook the fact that between 1981 and 2010 a total of 680 million Chinese have escaped the conditions of extreme poverty. Nevertheless, the income distribution of the country is more unequal than ever and the levels of pollution that accompany this rapid development have reached degrees that affect large numbers of people in the country.

The most criticism that globalization as a concept receives is made on the grounds of a confrontation between Western VS Non-western conceptions of the world, with an evident supremacy of the former (Huntington, 1993). However, authors like Sen (2004) acknowledge that this is not a new trend, and in fact, during thousands of years, globalization has contributed to the development of the human being through ‘travel, trade, migration, spread of cultural influences, and dissemination of knowledge and understanding’ (p. 16). The problem arises when globalization as a concept stops at proclaiming a unique way of economic model (global capitalism) and conceptualizing the world as a common market place. The challenge then is to take advantage of the ‘benefits of economic intercourse and technological progress in a way that pays adequate attention to the interests of the deprived and underdog’ (Sen, 2004; p. 18). According to this author, “the appropriate response has to include concerted efforts to make the form of globalization less destructive of employment and traditional livelihood, and to achieve gradual transition” (Sen, 199; p. 241). This may require designing social safety nets in the form of social security and providing opportunities to acquire new skills more relevant in the global context.

As a general conclusion for the interdisciplinary and cross disciplinary approaches to development, we may acknowledge the need for a paradigm shift towards a

development centered on humans in our most basic conception. Amartya Sen's capability approach, which will be introduced in the next section, represents an interesting starting point in this direction thanks to its focus on the person; furthermore, the paradigm should integrate the postdevelopmentalist concept of 'community' as an integrative unit, making it the focus of study and policy. This implies a major shift from macroeconomic analyses and decisions that tend to be the same remedy for all illnesses towards solutions that are designed to impact a much more local group of people, with the understanding of their current needs and realities and the incorporation of their culture and knowledge into the desired state of development.

### **2.1.3 Human-centered Development: The Capability Approach**

Generally speaking, the group of scholars interested in finding alternatives to development that overcome the limitations from the traditional economic approach acknowledges Amartya Sen, an Indian economist born in 1933 and awarded the Nobel Prize in Economic Sciences in 1998, as one of the most influential minds of the field. Crocker (1992) provides a clear vision of the roots of Sen's ideas and its philosophical influence from philosopher Martha Nussbaum. Sen's seminal work *Development as Freedom* (1999) defines development as the "process of expanding the real freedoms that people enjoy" (p. 3) "through expanding the 'capabilities' of persons to lead the kind of lives they value –and have reason to value" (p. 18). In this sense, the main difference from other approaches is that the capability approach focuses on "what people are effectively able to do and to be; that is, on their capabilities. This contrasts with philosophical approaches that concentrate on people's happiness or desire fulfillment, or income, expenditure, or consumption (Robeyns, 2005, p. 94). By so doing, according to the capability approach, the most relevant goal of poverty reduction initiatives should be expanding the freedom the people have to enjoy beings and doings that they value (Alkire, 2005) after a conscious process of evaluation.

This theory, known in the literature as the *capability approach*, has led a group of experts to propose an alternative way to see development, criticizing the heavy reliance on economic figures that characterizes the traditional view represented by international institutions, and focusing on alternative figures that depict the different constitutive and instrumental freedoms Sen speaks about. Constitutive freedoms refer to the substantive

nature of freedom in enriching a person's life, and include, but are not limited to, avoid starvation, being nourished, escape morbidity and early mortality, enjoy uncensored speech and political participation, and other freedoms that come from being literate. On the other hand, instrumental freedoms relate to those "rights, opportunities, and entitlements [that] contribute to the expansion of human freedom in general" (Sen, 1999; p. 37). These instrumental freedoms, referred to as 'means' to achieve development in the capability approach, include:

- Political freedoms: free speech and participation in elections; deciding who should rule and on what principles.
- Economic facilities: participation in the market economy; opportunities to participate in trade and production.
- Social opportunities: arrangements that society makes in education and healthcare facilities that influence the possibility for human beings to live better.
- Transparency guarantees: trust that people have in social interactions; preventing corruption, financial irresponsibility, underhand dealings.
- Protective security: social safety net that prevents the affected population from being reduced to abject misery; institutional arrangements to provide security in case of unemployment, indigence, famine relief (Sen, 1999; p. 38-40).

In this approach, to understand the concept of 'capabilities' it is necessary first to discuss the idea of 'functionings'. Sen describes the latter as the "various things a person may value doing or being" (p. 75). Examples of functionings include basic valuable concepts such as being nourished or free from diseases, to more complex ones such as having self-respect or participating in the community life. Elaborating on this concept, a person's 'capability set' refers to a particular combination of functionings that this person is capable of achieving. In this view, we can describe the *realized* functionings from a person as the combination of functionings that she is actually able to achieve; and the *potential* capabilities as the possibilities of expansion for this person. It is from the latter that the capability approach arises, by analyzing the potential functioning combinations that a person may achieve we arrive to the idea of freedom: the larger combinations of possible achievements for a person, the larger level of freedom she experiences. In the words of Alkire (2005), "capability is a budget set; it is a set of real

opportunities that you could use in one way or another, the paths that lie open before you” (p. 121).

Two distinct categories of freedom are present in Sen’s writings: opportunity and process freedom. While the former refers to what people have or the opportunity or ability to achieve, as in the instrumental freedoms presented in the previous paragraphs, the latter refers to the process by which these opportunities are made a reality. Moreover, opportunity freedoms relate to the idea of *capabilities*, while process freedoms relate to the concept of *agency* (Comim, Quizilbash and Alkire, 2008).

With these diverse foundational concepts in Sen’s work, a number of controversies have emerged in the academic and practitioner literature. Comim, Quizilbash and Alkire (2008) summarize them in a book that followed a conference held in St. Edmund’s College, Cambridge in 2002 that focused on discussing how the capabilities approach could be used to systematically reduce poverty and injustice at significant levels. From the many topics discussed, three of them shall be presented now due to the relevance to this dissertation: the issue of how to understand the concept of *agency*, the clarification of *means* and *ends* in the approach, and the methodological challenges in *operationalizing* the capability approach.

#### *2.1.3.1 The concept of Agency in the Capability Approach*

To Sen, an ‘agent’ is “someone who acts and brings about change, and whose achievements can be judged in terms of her own values and objectives, whether or not we assess them in terms of some external criteria as well” (Sen, 1999; p. 19). By ‘agency’ Sen understands the ability of someone to act in order to achieve the goals that match his/her values (Pelenc, Bazile and Ceruti, 2015). This vision places the human at the center of the picture and differentiates it from policies that see ‘target populations’ as conglomerates of mindless people who have to be treated as one mass that needs not be taken into account in deciding their needs and hopes and to whom there is no need for accountability.

When digging into the conceptual foundation of the implications of the concept of agency, a number of authors criticize Sen’s view by stating that it over emphasizes the individual. Olivié, (2015) and Vandermoortele (2015), for instance, point to this

overemphasis on the individual when they call for a change in development policies led by the UN and reflected on the sustainable development goals that will be covered in the next paragraphs. Another set of authors states that the capability approach does not consider deep enough the preeminent role of collectivity and society when people define the valued beings and doings that they will pursue and its relevance in the process of this definition. In this line, Evans (2002) accounts for Sen's classical liberal exaltation of the individual by stating that his approach fails to take into account the role of collectivities when linking the individual choices and the social contexts where they are made; the author introduces the concept of *collective* capabilities as a normative frame where individual capability decisions are made and explains that they take a preeminent role, particularly in less privileged environments. As an example of this affirmation, the author cites organized collectivities (village councils, women's groups, among others) that are the cornerstone in defining what people choose to do and be to live the lives they have reason to value (p. 56).

Robeyns (2005) and Alkire (2005) try to moderate the debate between the individual and collective nature of agency in Sen's capability approach. The former introduces a non-dynamic model that represents a person's capability set within her social and personal context, accounting for the social context in terms of the social institutions, norms, the characteristics and behaviors of other people, and environmental factors, among many more, showing the relevance of all these factors when a person defines her valued beings and doings (p. 98). The latter, on the other hand, speaks about the motivations that lead a person in this same process of defining her valuable functionings, stating that the approach would not be coherent if it used an entirely self-interested model of human motivation, and instead it takes into consideration motivations based on a person's position in a social realm such as identity, cooperation, altruism and sympathy in establishing the valued goals and commitments to pursue (p. 125). Moreover, Robeyns (2005) digs into Sen's notion of individualism analyzing three distinctive realms of the concept: ethical on one hand, and methodological and ontological on the other. Ethical individualism makes the claim that individuals (and only individuals) are the units of moral concern and when social affairs are evaluated, we should focus on their effects on individuals; methodological individualism refers to the

fact that everything can be explained by reference to individuals; ontological individualism refers to the nature of human beings, and assumes that society is nothing but a sum of individuals and their properties. With these concepts, the author concludes that the capability approach embraces ethical individualism, however it does not rely on ontological individualism, since it recognizes the social and environmental factors that have implications on achieving functionings, and by accounting for the difference between functionings and capabilities and accounting for social structures when choosing a capability set (p. 108).

To Zimmerman (2006) this debate is settled when we clarify the concepts of situated versus positional agency. The former derives from a pragmatist philosophy of action that defines 'environment' as the conditions that allow a person to exercise their capabilities and develop itself extending the concept to the interactions and experience between the person and their environment and implying that they both can be changed over time; while the latter understands the concept of 'environment' as a context that shapes the plurality of a person's positions that can barely change since they are the result of fixed external conditions over which the individual has no control. The author explains how Sen bases his idea of freedom on the concept of positional agency, concluding that the capability approach could expand its views if it moved towards a pragmatic concept of positional agency that follows Dewey's ideas.

#### *2.1.3.2 Means and Ends in the Capability Approach: A pragmatist conciliation*

In Sen's view, the expansion of human freedom is regarded as both the primary end (constitutive role of freedom) and the principal means (instrumental role of freedom) of development. This premise establishes a dialectic relation between *means* and *ends* in development. However, according to some authors, this approach establishes a relevant distinction between these two concepts (Robeyns, 2005; p. 95); establishing that only the ends have intrinsic value, whereas the means are merely ways to achieve them.

To understand this contention, it is relevant to scrutinize what is understood by the primary end in the capability approach. Sen's summarizing idea that captures the *end* of development establishes that its main objective is enriching human life (Sen, 1999; p. 36). Some authors have discussed how this idea may be understood. In this arena,

Robeyns (2005) explains the concept by calling for an increase in well-being, justice and development; while (Alkire, 2005) speaks about enhancing the living conditions and the status of human beings. Generally speaking, the different understandings of the concept converge on achieving a better life, and give room to discussing what a *better life* means. Evidently, the answer to this question is contingent to the current status of a person or a group: the meaning of a *better life* takes a very different connotation for an indigenous group in the State of Chiapas, Mexico, than for a group of families who live in the suburbs of New York. Here lies the value of the capability approach; since it calls for an expansion of the real choices people have to lead the lives they have reasons to value, it takes into account these differences.

On the other hand, understanding instrumental freedoms may be less conflicting, since they are understood as those “that contribute, directly or indirectly, to the overall freedom people have to live the way they like to live” (Sen, 1999; p. 38). If we consider the five types of instrumental freedoms presented by Sen and listed at the beginning of this section, one precision that is relevant at this point is to establish the complimentary nature of these freedoms. To Sen, the connections between these types of instrumental freedoms is central to understanding that “freedom is not the primary object of development but also its principal means” (p. 38)

With this precision in mind and stressing the last assertion from the previous paragraph, it is evident that when placing the capability approach into practice, the distinction between means and ends fades away. An example that may illustrate this indistinctness comes next: being healthy and nourished (two illustrations of elementary capabilities or substantive freedoms) are ends in themselves; however, by attaining them, a person is now, for instance, able to work, converting them into the means that allow her to reach a new goal; but being able to work allows this person to build a house provided that it is something valued by her; eventually with this new house, this person will be more socially active, since she will have her own space to receive friends and family; in due course, this activity would increase the person self-esteem and her capability to participate in politics.

This dialectical view of *means* and *ends* is captured by John Dewey's contention that these two concepts live in a "complex, reciprocal, and situated interdependence. Ends are not given, but are (re)formulated through inquiry partially in response to available means" (Cohen, 2007). Accepting this conclusion of not being able to disassociate means from ends, a more relevant question to consider relates to the process of developing freedom and how this process may be understood clearly using concepts based on pragmatism.

A significant answer to this new question is presented by Zimmerman (2006) who introduces the concept of "freedom as a process" with the purpose of "enrich[ing] the social understanding of capabilities" (p. 477) by providing an "active, rather than descriptive understanding of freedom" (p. 478). According to the author, John Dewey defined *freedom* as an agency-related process following Georg Simmel's three elements of the concept: First, the understanding that freedom designs a kind of particular relationship with the environment (contesting the idea of men not having control over it); second, establishing that freedom is a process designed by specific interactions; and third, the power relation to others that is intrinsic in the process of liberation that freedom implies. With these elements in hand, freedom should be analyzed through elements of domination and subordination, and also with the lens of power and the *capability* of communicating our personal concerns and making sure that actions are taken about them. Zimmerman concludes that freedom "should not be considered as a state, but as a process of interactions and power relations. Rather than manifesting itself as a given and stabilized condition, it occurs through permanent doing" (p. 477).

Related to this previous concept, Deneulin (2005) establishes that "deliberation is a process of choice where means and ends mutually adjust themselves"; applying this idea to the capability approach, the implications are that when deciding upon which ends to pursue in a particular situation, one cannot separate the discussions about the means to achieve them. This process of adjustment is called by the author *ethical efficiency* (p. 88) and is illustrated with the example of a community that decides to pursue equality in primary education as a collective goal (end) and to do so allocates resources such as giving incentives to families who send their daughters to school (means); however, if the goal is not achieved, one of the reasons being the fact that the community experiences



violence against women in public places, according to this concept the community would need to reconsider the means to achieve its goals, and even more importantly, it would need to reconsider the goal itself and move towards achieving the capability of 'bodily integrity' (avoid gender violence) prior to deciding upon other ends.

### *2.1.3.3 Operationalizing the Capability Approach*

With the diversity and richness of concepts that the capability approach introduces, its operationalization presents a major challenge. Going back to the conceptual foundations of the approach, when trying to place it into practice, what is at stake is identifying a set of opportunities that come from resources, rights, entitlements, that may expand the possibilities of a person or group of persons (capabilities), and the achievements that these opportunities have attained or may conquer in the future (achieved or potential functionings). Furthermore, other elements that should be observed when using the approach are the preferences of people on deciding the kind of lives they value, and the conversion factors that are needed to transform such decisions into accomplishments.

Sen acknowledges this challenge by saying that some capabilities are hard to measure (harder than others) and sometimes when we try to use some kind of metric we end up hiding more than what we try to reveal. The author proposes three approaches to give practical shape to the capability approach (Sen, 1999; p. 81-83): a) the *direct* approach, which measures, examines, and compares, sets of functionings or capabilities. This approach may call for total or partial comparisons, depending on the sets that are used, or even a distinguished comparison, which imply the focus on some chosen capability; b) the *supplementary* approach, which implies the continuation of the use of traditional income based measures, but integrating to these measures some capability additions, such as availability of health care, employment issues, equality ideas, among others; and c) the *indirect* approach, which is similar to the previous one in the sense that it departs with income measures but they are utterly adjusted (for instance, family income may be adjusted upwards when high levels of education are present or downwards otherwise). In any case, the author calls for the need of *pragmatism* when using the approach for evaluation and public policy analysis due to the difficulty of measuring capabilities.

Comim, Qizilbash and Alkire (2008) compile a number of research articles that show applications of the capability approach under all three options that Sen proposes. This book pretends to point the issue of capability *dynamics* as one missing area of analysis, calling for attention in the *time* aspect of capabilities. It also pretends to show some techniques that try to capture the vagueness of concepts like poverty, well-being and inequality including the use of fuzzy poverty measures to prove the issue of vulnerability. The authors try to prove the point of the importance of using measures different from the traditional income, expenditure of consumption approaches (as in the supplementary approach) when giving public policy advice, and particularly present the Millennium Development Goals (which will be discussed later in this chapter) as an example of such use of multi-dimensional measures of poverty. Particularly in this topic, Chiappero-Martinetti (2008) shows how the concepts of the capability approach are complex and vague in nature, and how such concepts may be measured in practice. The author questions the traditional measure of poverty (people living with less than one dollar a day) and criticizes such a cut-off point by explaining that there are no such limits when we consider other dimensions of poverty: “it seems ... controversial to assume that an abrupt, sharp cut-off point exists between sick and healthy men, happy or unhappy women, fully integrated or totally excluded people” (p. 289). By analyzing 14 examples of studies based on the capability approach, the author explores the variety of statistical techniques used to operationalize it, including factor analysis, principal-component analysis, structural equation models, and fuzzy-set theory (p. 295).

Consistent with this observation, Bonvin and Farvaque (2007) speak in their work about a preeminence of statistical aggregation of second-hand sources when operationalizing empirically the capability approach. Zimmerman (2006) exposes an inconsistency between Sen’s claim about the capability approach being centered on the person and the methodological choice of quantitative and aggregate measures that speak more about the ‘generic human being’ than about the ‘singular person’ (p. 476). The author calls for an integration of such design that is quantitative and aggregated in nature with qualitative methods that really capture the singular person as the genuine object of inquiry. Particularly, the author proposes a Wittgensteinian grammatical perspective by suggesting the incorporation of information through ‘discourses, biographical stories

and counterfactual reasoning' and the pragmatist tradition of inquiry that goes further from analyzing such sources through "ethnographic moment and a naturalistic approach to inquiry through the immersion into the life-worlds of transacting actors" (p. 479).

#### *2.1.3.4 The Capability Approach in practice*

The capability approach has had a relevant impact on different policy making and a number of international development agencies have adopted it to some extent. To exemplify this impact, this section shall present how the development discourse and practices adopted by intergovernmental organizations such as the United Nations are now heavily grounded in this approach.

On this line and with the support of academics and practitioners that subscribe to Sen's position, a brand new annual report series was initiated in 1990 subscribed to the United Nations Development Program (UNDP): *The Human Development Report (HDR)* aiming, from a practical and pragmatical approach, to analyze experiences from different countries, not adopting a single model of development, but making relevant experiences available for policymakers (Human Development Report, 1990, p. iii). In their view, people must be at the center of all development efforts, with the objective of enlarging their choices, especially in terms of access to knowledge, nutrition and health services, security, leisure, and political and cultural freedoms. In line with these objectives, HDRs use a Human Development Index (HDI) that measures development in terms of longevity (life expectancy at birth), knowledge (mean and expected years of schooling), and income sufficiency (gross national income per capita).

Perhaps a more comprehensive framework based on the capability approach adopted by the states that belong to the United Nations was the Millennium Development Goals. In the year 2000, the 189 states that at the time belonged to the UN signed the Millennium Declaration that established a series of measurable (in most cases) goals to be achieved in 2015 under eight categories with the aim of "addressing extreme poverty in its many dimensions –income poverty, hunger, disease, lack of adequate shelter, and exclusion– while promoting gender equality, education, and environmental sustainability" (Millennium Project, <http://www.unmillenniumproject.org/goals/index.htm>). As the moment has arrived for

the time set for these goals, the UN has happily reported a drop in the number of people living under extreme poverty conditions from a shameful figure of 47% in 1990 to a very honorable 14% in 2015; primary school enrolment has increased in developing regions from 83% in 2000 to 91% in 2015; the average proportion of women in the member's parliaments has doubled in the past 20 years; the mortality rate of children under five years old has dropped from 90 to 43 deaths per 1,000 live births since from 1990 to 2015 and the maternal mortality ratio has declined 45% in the same period; new HIV infections have fallen by 40% between 2000 and 2013 from 3.5 to 2.1 million; 91% of the global population is using drinking water from improved sources in 2015, compared to 76% in 1990; and development assistance from official sources coming from developed nations increased by 66% from the year 2000, reaching a total of \$135.2 billion dollars (United Nations, 2015). These are but a representation of one goal that has been achieved in each of the categories established, showing a very optimistic picture of the development of the world.

A more critical account of these official figures points out to the issue of how statistics may be used as a political discourse to defend certain positions (Vandermoortele, 2015). The author, who is considered the father of the MDG, describes two particular examples of these goals to raise the issue of difficulty in measuring the targeted goals practically: Poverty reduction and access to improved water. Regarding the former, the author stresses the difficulty in measuring poverty due to the fact that, unlike other goals such as child malnutrition (where weight and height is an objective measure), there is no direct observation that proves whether a person lives with less than 1.25 dollars per day (the poverty line that is commonly accepted). To properly do so, a combination of other observations should be used, such as how much a person produces for his own consumption, whether he pays rent for the place he occupies for living, the national distribution of income, the purchasing power parity, among others. Similarly, regarding drinking water, the author explains that the official goal of access to water from improved sources comes from a direct survey applied to the families, failing to consider the issue of quality. The survey assumes that improved sources (piped water, public water pumps, protected wells, and public rainwater collecting systems) offer much higher quality of water than traditional ones (unprotected wells, surface water and

tanker water trucks); however studies conducted by UNICEF and WHO show frequent microbiologic contamination in water from *improved sources*, which would decrease significantly the real percentage of population with access to drinking water.

Another source of criticism to the MDG comes from the fact that they are collectively reported, and as long as the global target is attained, the world community will be satisfied. However, a more detailed analysis will show the large differences in realities among regions and within countries (Sub-Saharan Africa still is reported to have 41% of its population living under extreme poverty conditions, compared to the 14% presented at the global scale, for example). But also through a stricter scrutiny it may be shown that even though Sub-Saharan Africa may not officially reach the objectives in certain goals, it is the region that presents the most significant advances due to the level of human development that it had at the beginning of the program.

As 2015 approached (the targeted timeline for the MDG) the agenda post millennium development objectives started to be discussed. Some issues that were unattended in the MDG framework took relevance in the world arena and their importance for development was revealed: Sustainability with very specific points on its agenda (climate change, energy sources, responsible production and consumption among others); escalating inequalities among nations and within countries and regions; and a renewed interest in defining economic guidelines to assure a balance between human-centered development (which was overemphasized on the MDGs) and community economic and cultural development (Olivié, 2015). A difference in approach to developing the new development agenda was also used. In the previous agenda a group of technocrats were concerned with the fact that the Millennium Declaration (the collective document signed at the UN by all state members as their commitment to promote development in the new millennium) that captured the world attention for some time was gradually left behind and had the risk to be completely forgotten. To regain interest in the declaration, this group had the initiative to “lift selected targets verbatim from the text and to place them into a free-standing list in order to keep them in the limelight for a longer period” (Vandermoortele, 2012). As a result, a limited number of dimensions of human development was considered and the efforts to achieve them perhaps had a negative effect on other aspects that were not considered.

To avoid this bias, the new agenda emerged from a participatory, inclusive and bottom-up process that really represents the current concerns in development.

With these concerns in mind, in 2015 a new framework for development was established led by the UN: the Sustainable Development Goals (SDG). Comparing the two frameworks, MDG included 8 categories, one for each one of the following dimensions: poverty, education, gender equality, sustainability, and partnership for development, and three for health; on the other hand, SDG presents 17 categories, one for each of the six dimensions present in the previous framework; plus seven categories particular to sustainability; three related to reducing inequalities, decent work and economic work; and industry, innovation and infrastructure; and one more related to peace, justice and strong institutions (Sustainable Development Knowledge Platform, retrieved on December 30, 2015 from <https://sustainabledevelopment.un.org/sdgs>).

A final remark on the topic of development relevant to the present dissertation relates to the postdevelopmentalist critique to traditional development theory. Postdevelopmentalists criticize the heavy machinery that is established using 'development' as an excuse to mobilize large amounts of money from the North to the South, and point the clearly limited benefits that have been brought to the majority of people in favor of the few rich is supported. However, and contrary to this tradition that stops at critique (Nederveen Pieterse, 2000), this research work conceives a paradigm that recognizes the positive aspects that have been accomplished so far, and incorporates them into an approach that is based on the understanding and respect for the needs and capabilities of the individuals integrated into their cultures, class differences, and gender issues, and incorporating sustainability as a basis for their development.

## **2.2 From Knowledge Management to Knowledge-based Development**

A second major academic field relevant to the present dissertation is Knowledge Management and its evolution into Knowledge-based development. The present section intends to present a critical account of the academic literature that has been published to date in this field in terms of its relevance to the central topic of this dissertation. To do so, firstly a general definition of knowledge shall be established. From this ground,

the field of Knowledge Management will be presented and those models relevant to this work shall be highlighted, including a particular section on Knowledge Transfer. Finally, the chapter will present a section on Knowledge-based development, as a convergence of the fields of Knowledge Management on one hand, and development on the other.

### **2.2.1 Knowledge**

In order to introduce the concept of Knowledge Management, we shall begin by defining knowledge: From Plato's tradition, knowledge is understood as 'justified true belief'. This philosophical definition provides some elements to discuss, from establishing the process to justify beliefs (taking an ontologically objective or subjective stance, for instance), to the definition of what constitutes a 'true belief' (Boisot and MacMillan, 2004). Aristotle defines the concept integrating three types of knowledge: *episteme*, *techné* and *phronesis*. The first type, *episteme*, relates to scientific knowledge; the second one, *techné*, refers to technical skills; and finally, *phronesis* (also referred to as prudential knowledge) relates to the ethical aspects that are taken into consideration when acting.

Authors coincide that defining 'knowledge' is a difficult endeavor, since there is no unified definition that cuts across disciplines. Von Krogh, Ichijo and Nonaka (2000) characterize knowledge as a concept that is "extremely meaningful, positive, promising, and hard to pin down" (p. 5). Wittgenstein (1889-1951) -language philosopher- expresses that "knowledge is often in the eye of the beholder, and you give meaning to the concept through the way you use it" (Wittgenstein, 1965).

Adopting a Wittgensteinian stand and true to the philosophical position of this dissertation, a pragmatic definition of *knowledge* shall be used as basic ground for the rest of the work: According to Nonanka and Zhu (2012) in their Pragmatic Strategy view, "knowledge is the process of experiencing and changing life conditions" (p. 28). Elaborating on Plato's idea of knowledge as 'justified true belief', a pragmatist 'action theory of knowledge' implies to focus on the consequences that our beliefs carry when they are placed into actions: Whenever these 'applied-in-action beliefs' allow us to achieve our goals, then the beliefs are justified and knowledge may considered to be achieved (Zhu, 2010). Finally, integrating the Aristotelian *phronesis*, the ethical

dimension takes preeminence while defining whether our goals are achieved: Not only must they be fulfilled, but the process of accomplishing them must assure good ends for all the persons involved. In this pragmatic stand, a concluding definition of knowledge would be 'the capacity to act'; and we shall consider that *knowledge* has emerged after a process only if as a result of it, the knower increases his possibilities to solve legitimate problems that are relevant to him.

More important than the definition itself is the purpose that knowledge shall bring into this dissertation. To establish this purpose, this research work incorporates the notion of a 'walking stick' that pragmatists use to consider knowledge (as opposed to the idea of a 'roadmap') (Nonanka and Zhu, 2012; Zhu, 2010; Ghoshal, 2005). An illustrative example that contrasts both ideas is presented by Ghoshal (2005). In his work, the author criticizes management practices that led to corporate scandals (such as Enron and Tyco) due to the fact that certain managerial 'knowledge' which is characterized by the author as "excessive truth-claims based on partial analysis and both unrealistic and unbalanced assumptions" (p. 77) that deny any moral or ethical considerations, and that is adopted as such in the pursuit of making *business studies* a science, is taught in business schools as a 'roadmap', with the observed terrible consequences. As an alternative, the author proposes not treating business as a collection of scientific laws, but a matter of "common sense that combines information on *what is* with the imagination of *what ought to be*" that allows to adopt temporary walking sticks while they provide good results, but with the openness of adopting new ones whenever they provide better outcomes (p. 81).

### **2.2.2 Knowledge Management**

Knowledge Management has emerged since the 1990's as a major paradigm to the creation of value in the business world and has extended its application into other areas that include almost any kind of organizations. This mainly has been driven by the shift of the world towards a knowledge-based economy, which can be defined as one that "relies primarily on the use of ideas rather than physical abilities and on the application of technology rather than the transformation of raw materials or the exploitation of cheap labor. It is an economy in which knowledge is created, acquired, transmitted, and used more effectively by individuals, companies, and communities to promote economic



and social development” (Yusuf and Evenett, 2003). Indeed, we experience an economic environment where the most important players are those who have succeeded in incorporating knowledge into their products, services and processes and utilizing it to create sustainable competitive advantages compared with their competitors.

The concept of *Knowledge Management (KM)* can be traced back to 1986, when Karl M. Wiig –a consultant and academic- introduced it at a keynote address to the International Labor Organization (Beckman, 1999). Its theoretical roots can be related to the broader field of Intellectual Capital where authors such as Leif Edvinsson (a manager from Skandia, a Swedish financial company) contributed with models to manage intellectual capital of a *knowledge firm* (Edvinsson and Sullivan, 1996). In its early days, KM also integrated concepts from other fields such as artificial intelligence, software engineering, business process reengineering, human resource management and organizational behavior (Liebowitz, 1999). From these beginnings and analyzing the early literature published in the field it is interesting to notice that it was mostly influenced by practitioners and not enough emphasis was put on its epistemological bases to establish a common ground as an academic field (Boisot and MacMillan, 2004). As it is normal in academic fields, when time had passed this tendency shifted towards academic research and some authors express a danger that KM loses its practical sense and “becomes a pure scholarly discipline” (Serenko, et.al., 2010; p. 17). Nonetheless, a number of challenges had to be addressed by KM to establish itself as a mature field. Jakubik (2011) summarizes them, emphasizing the need for epistemological and ontological clarification in research.

Generally speaking, the definition of KM includes two main elements: first, the process of identifying, capturing, storing and making available valuable knowledge within an organization; and second, by so doing, the purpose of helping the organization to increase its value and achieve its objectives (Beckman, 1999). Reviewing its empirical roots, two main trends have arguably contributed to the development of KM: downsizing and the development of information technologies (Martensson, 2000). The former is related to the fact that when an organization lays people off (which has been a trend in the business world as of the end of the past century and the beginning of the new one) a major concern has been to capture the bulk of knowledge they have

developed over their journey to be used by those remaining in the organization. The latter implies that information technologies and their benefits in terms of connectivity, storage and processing capacities have been acknowledged and exploited by companies to profit from the increased information present and shared by *information workers*.

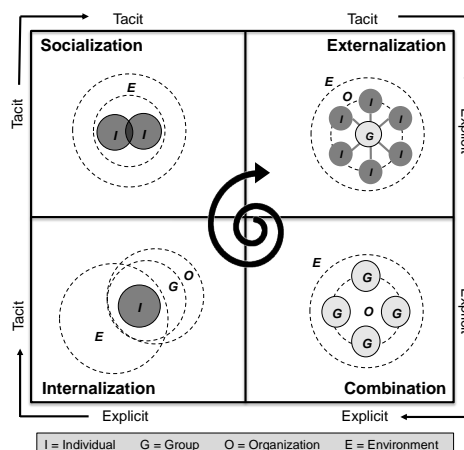
With an early history related to practitioners and a shift towards scholars, the evolution that KM has experienced over time can be divided into three major stages: The first focused on understanding how organizations could ascend the data-information-knowledge ladder thanks to the use of information technologies to collect and store useful information (coming from experiences, documents and many different sources) to make it available so the rest of their employees could use it in their daily activities. A second stage recognizes knowledge creation and learning as a major source of competitive advantages in organizations and seeks to reveal the organizational processes that are to be taken in order to create, diffuse and share knowledge within a company (McElroy, 2000). And finally, the third stage that seeks to extrapolate the benefits of knowledge management outside organizations to enter the sphere of citizen involvement and social development (Castro Laszlo and Laszlo, 2002). Despite this evolution into a broader scope of action, academic studies that seek to analyze the focus of publications related to the field show that the information systems communities have captured the majority of the literature (focusing still on one particular aspect of the first stage of evolution), and have neglected the attention to human resources issues (Scarborough, Robertson and Swan, 2005). However, the focus of the present dissertation falls into the third stage of evolution of KM, pretending to contribute from theory and practice in the evolution of this academic field.

One important aspect that has been accounted for in the KM literature relates to the socialization of knowledge. A big concern of academics in the past has focused on explaining knowledge in the individual (a 'cognitivist' epistemology). This tendency has shifted as the field matures towards a 'connectionist' epistemology, where the main question to be answered is how knowledge is created in communities (Jakubik, 2007) and giving preeminence to knowledge in social contexts. With this view, knowledge is no longer understood as a possession of isolated individuals, but rather as a phenomenon present in systems of interconnected persons. Integrating this trend to

the pragmatic orientation of knowledge, Gherardi (2000) expresses that “when the locus of knowledge and learning is situated in practice, the focus moves to the social” (p. 217). Again, the scope of this dissertation lies on the latter view: knowledge formation in a social context, relating to the epistemological foundation of pragmatism that gives preeminence to the accumulation of collective knowledge (Corbin and Strauss, 2014).

Unquestionably, in today’s academic world, one of the most cited works in KM literature is Nonaka’s *The Knowledge Creating Company* (Nonaka, 1991) and his subsequent publications including one of his latest works: *Managing Flow* (Nonaka, Toyama and Hirata, 2008). One basic proposition common to these works is the idea that knowledge is created as a process of transforming tacit into explicit knowledge and back in four stages that are repeated in a spiral form: Socialization, happening at the individual level (tacit-to-tacit knowledge conversion); Externalization, which was called ‘articulation’ in the earlier works of Nonaka and occurs among individuals in groups (tacit-to-explicit knowledge conversion); Combination, which happens in groups integrated to the larger organization (explicit-to-explicit knowledge conversion); and Internalization which brings back the knowledge from the organization to the individuals when applying it in practical situations (explicit-to-tacit knowledge conversion). This framework is known as the SECI spiral model (see Figure 2.1).

**Figure 2.1. Knowledge-creating process: SECI model (Nonaka, Toyama and Hirata, 2008; p. 19)**



The preeminence of Nonaka's ideas has received a good fair of criticism. Two main sources of it are related to ontological lack of definition (Zhu, 2006), on one hand; and on the strong charge of Japanese cultural context of his ideas that may be difficult to replicate in other parts of the world (Teece, 2008; Hong, 2012), on the other. The first criticism was tackled to some extent in his *Managing Flow* book, where Withehead's process philosophy is introduced as the foundation of knowledge creation in organizations stating that knowledge is "subjective, process-relational, aesthetic, and practical" (Nonaka, Toyama and Hirata, 2008; p. 14). Furthermore, both sources of critiques have been addressed in his latest book: *Pragmatic Strategy: Eastern Wisdom, Global Success* (Nonaka and Zhu, 2012) where the authors reaffirm the epistemological and ontological stand by the introduction of pragmatism and its relatedness to process philosophy (as will be expressed in subsequent chapters of this dissertation). Regarding the argument related to the difficulty of replication due to cultural differences, the book uses Confucian-Eastern values, but with a sense of offering a 'walking stick' (as expressed earlier in this chapter) and in light that no 'universal best practice' is to be found in theory, neither 'provincial wisdom'; rather 'cultural confidence and sensitivity' should be applied considering that in a pragmatic approach, what may be 'wise and good' (Confucianism and pragmatic strategy) must be "meaningful, doable and beneficial to people all over the world" (p. xviii-xix).

Besides the conception of knowledge creation as a continuous spiral of knowledge conversion, the pragmatic conception of knowledge and the process view that have been discussed in previous paragraphs, two ideas presented by Nonaka are of particular relevance to this dissertation and shall be considered during the discussion of the case study in subsequent chapters: the middle-up-down approach to support the creation of organizational knowledge and the knowledge responsibilities that organizations have in relation with their environment.

Regarding the middle-up-down approach to knowledge creation, Nonaka and Takeuchi (1995) contrast it with traditional bottom-up or top-down styles, stressing its relevance in the success of Japanese companies by providing examples of its application in business cases. The authors define the middle-up-down model as an approach where "knowledge is created by middle managers, who are often leaders of a team or task

force, through a spiral conversion process involving both the top and the front-line employees” (p. 127). The particularity of this style implies the preeminent role of middle managers in creating the organizational knowledge base as they serve as a link between the top management, who often defines visions that do not incorporate the particularities of the day-to-day working reality, and front-line workers, who can be so caught up in their functions that they fail to turn the information they gain into knowledge by themselves. These so-called ‘knowledge engineers’ facilitate knowledge creation in the four stages of the knowledge spiral and across the different organizational levels by the use of metaphors and analogies and direct conversations with the other two levels. Arguably, this concept is relevant to the success of knowledge-based initiatives due to the need for a leader who is close enough to the recipients to understand their true needs and realities and to gain their confidence to act upon them, but also has enough clout to communicate with the definers of the initiatives with the objective of orientating the goals and resources towards a proper understanding of this reality that needs to be changed.

Concerning the knowledge responsibilities of companies in relation with their environment, Nonaka, Toyama and Hirata (2008) critique the commonly used concept of *Homo-economicus* as a basis for economic theory in the sense that this conception establishes the ultimate goal for human beings as the accumulation of wealth (a view presented comprehensively in the development section of this dissertation). According to this concept there is no room for fairness, honesty or responsibility. In opposition to this tradition, the concept of *Person-in-community* is introduced, where neither person nor community have a substantial existence. Instead, they exist because of the presence of the other, and shape each other: “Our community shapes us, but our decisions also shape the communities in which we live” (Cobb, 2007; p. 578). Nonaka and his colleagues have included these ideas to analyze the extended ‘business ecosystem’ and to speak about the social responsibilities that companies have with their environments concluding that a sustainable strategy should definitely include actions seeking to make a positive impact on their communities. They state that the firms integrated to this tendency pursue happiness for themselves through the happiness of the communities they interact with by seeking “their own, absolute value in the context of their

relationships in the community and society” (Nonaka, Toyama and Hirata, 2008; p. 243). This trend is very close to the objectives that are sought by knowledge development initiatives, as will be discussed later in this chapter. In this sense it will be part of the conceptual foundations of this dissertation.

### **2.2.3 Knowledge Transfer**

Due to the focus of this dissertation, knowledge transfer (KT) as a particular aspect of KM is highly relevant. A number of authors researching the general process of Knowledge Management have expressed implicitly or explicitly the relevance of KT as a way to disseminate knowledge internally to the organization, or externally to other entities (Davenport and Prusack, 1998; Argote, 1999; Martensson, 2000). King (2006) defines KT as the “focused, unidirectional communication of knowledge between individuals, groups, or organizations such that the recipient of knowledge a) has a cognitive understanding, b) has the ability to apply the knowledge, or c) applies the knowledge” (p. 543). Interesting aspects of this definition are the unidirectionality and the aims that are pursued by such efforts. On the unidirectionality side, a position of superiority from the source of knowledge is assumed in the sense that there is an implied ownership to it. The recipient is somehow subordinated to the bearer of knowledge in that sense. Secondly, speaking of the aims and according to the definition, a successful KT process has occurred from the moment when the recipient possesses a cognitive understanding or acquires the ability related to whatever was received. Both ideas require precision in light of what has been stated earlier in this dissertation. Close to the most recent trends on development presented previously in this chapter, the knowledge base and needs of recipients of such initiatives must be taken into consideration from the early stages of definition and throughout the implementation if we want to assure their success. On the other hand, and integrating a pragmatic stand of knowledge, the real test of a KT strategy should be done when the recipient applies whatever was transferred and experiences an improvement on its life-coping issues. Paraphrasing Latour (1986) as cited by Hong (2012): “... it is the local actors [recipients] who would undertake a more salient and performative role by acting as knowledge agents and re-embedding the ideas and materializing them into actions” (p. 202).

Some elements of Knowledge Transfer processes and the way academic literature have treated the subject are relevant to this dissertation and shall be reviewed in detail. First, it will be argued that the focus of studies of this field has largely fallen on business organizations, neglecting the studies of regions or communities as unit of analysis, detecting a gap in the literature. Second, research efforts to depict the process of KT have produced a wide variety of models, mostly related to technical issues both of the knowledge and the steps to transfer it; the commonly accepted steps to perform a KT are highlighted for the purpose of the case studied in this dissertation. And finally, when identifying the critical success factors for KT processes, evidence has shifted from defining the nature of knowledge as the most relevant attribute of the process to establishing the characteristics of the receiver as the preeminent one.

### ***2.2.3.1 Focus of KT studies***

Liu (2007) performed a content analysis study on the trends of KT literature published from 1980 to 2004. The author found that the application fields of the vast majority of studies relate to businesses and their diverse organizational areas, accounting for nearly 84% of the 135 papers analyzed. Only 13% of the papers tackle industry-related issues (such as vertical integration, buyer-supplier relationships and the like) and a slim 3% are related to economic and education aspects related to KT processes. Furthermore, the focus of analysis identified by the author has been mostly the organizational level, where intra- or inter-firm studies account for nearly 35% of the analyzed papers and international experiences of KT amount for 12%. Other aspects that have captured the focus of analysis of researchers of KT include the industry and university levels (17%) and information systems related to the process (11%). Accordingly, only 3% of the papers tackle issues of KT at a national level and 1.5% of them analyze the issue at inter-regional level or with emphasis on public administration.

Although the referred study is limited in time and does not consider studies published from 2005 onwards, a gap in the knowledge transfer literature is made evident: Despite the relevance of KT processes aimed at societal, economic or social development, academic studies (empirical or conceptual) have neglected to analyze them from a Knowledge Transfer lens. In a way, this dissertation intends to fill in this gap by incorporating the elements provided by the most acknowledged authors of the KT

literature related to the process of transferring knowledge into the analysis of the case which is the object of the study.

### ***2.2.3.2 KT as a process***

A number of conceptual papers on KT have focused on analyzing the steps of the process that companies embark on to complete a Knowledge Transfer initiative. As an aggregate, eight variables are identified as the most recurrent in this research effort: articulation, acquisition, communication, internalization, application, acceptance, absorption, and dissemination (Liu, 2007). Narrowing down these variables into a model, Szulanski (1996) presents a process of four stages in KT: initiation, implementation, ramp-up, and integration. Kwan and Chung (2006) build on this foundation and divide the initial stage into two sub steps: motivation and matching, eliminating the ramp-up stage, and integrating retention as a final step of the process. On the same topic, Gilbert and Cordey-Hayes (1996) use a model of four stages that include acquisition, communication, application, and assimilation, and conclude that there must be an intermediate one between the third and the fourth, namely acceptance, due to the fact that in many cases, the knowledge acquired may not be fully assimilated, but introduced routinely by the receiving organization.

From these works it is evident that there is a lack of consensus on the process of KT. Emphasis has been added by the authors on the early or late stages of the process, according to their research interests. Nevertheless, one can conclude that at least three phases must be considered in a KT project: what happens prior to it, the implementation itself, and what happens after it. The first step implies planning from both sides, deciding on the right tools to use, and communicating to inform the incumbents about what will happen, among other activities. The intermediate step happens when the interaction between sender and receiver takes place so the objectives of the project are met. Finally, the third phase occurs after this interaction has happened and the receiving end must work alone and prove on the praxis that the knowledge received has helped to solve quotidian issues without the help of the sender. These three steps shall be incorporated into the general framework of the dissertation to look for evidences in the case-study on how they are considered by the community of analysis.



### ***2.2.3.3 Critical success factors in KT***

Szulanski (1996) introduces the concept of 'internal stickiness' to analyze the difficulties that could arise in knowledge transfer projects. The author presents four areas of potential conflict and the main barriers that each may present: a) characteristics of the knowledge to be transferred, with causal ambiguity and unprovenness as its main barriers; b) characteristics of the source, with lack of motivation and not being perceived as reliable as its barriers; c) characteristics of the recipient, with issues such as lack of motivation, lack of absorptive capacity and lack of retentive capacity; and d) characteristics of the context, with barriers related to a barren organizational context and arduous relationship between source and recipient. Using this framework Minbaeva (2007) reviews literature related to the topic and concludes that according to past research, the most important determinant of KT is the first of the variables (characteristics of knowledge, and particularly its tacitness, complexity and specificity). Later, the author performs an empirical study to prove this hypothesis by surveying Danish MNCs that have at least 2 subsidiaries abroad with at least 30 employees each. Contesting the evidence from literature, the author found that the strongest predictor for KT success is the characteristics of knowledge receivers. Davy (2006) supports this idea by stressing the characteristics of the recipient in a KT effort as the key determinant of its success, arguing that the features related to the organization, the environment, the task and the source of knowledge are influential to the receiver, rather than to the process itself.

The argument that favors the characteristics of the recipient as the most important element of a KT project supports the pragmatic view of knowledge development that has been established in this dissertation. Particularly, it connects Sen's capability approach with the objectives of such an effort and places it at the forefront of the whole process. Indeed, the main objective of an initiative aimed at knowledge development must be the increase of the recipient's abilities evidenced by their improvement in coping with daily problems.

Connecting the KM-KT frameworks with development initiatives, little work has been published to present experiences in newly industrialized countries. One exception to this trend is Li-Hua (2004) where the author researches on how the Chinese construction

industry has appropriated western models through Technology- and Knowledge-transfer methodologies. He concludes that international projects in China where local entities have partnered with western organizations have had a positive impact on development. Elaborating on his conclusions, the author shows from the Chinese experience that in less developed regions, informal and less structured methods to transfer knowledge are preferred, while more developed regions tend to prefer structured means. On the other hand, his results show that there is more demand for tacit knowledge in more developed regions, whereas in less developed areas the trend is towards explicit knowledge. In this same line of work, Zhu (2009) introduces a contingent model of knowledge transfer to analyze the experience of China transferring management knowledge from the West. A pragmatic conception of knowledge is used and the model uses four dimensions: contents, context, actors, and process. The author concludes that in order to be successful in such KT efforts, there is a need for mutual understanding and enhanced knowing as we move in the process from copying, to adapting and finally to mutual learning, obtaining as a result “globally informed indigenous innovation that is created and shared by local people in local contexts” (p. 26).

#### **2.2.4 Knowledge-based Development**

In the past few years a new scholarly discipline has emerged as a consequence of the evolution of KM as an academic field and its integration with the theoretical discipline of development: Knowledge-based Development (KBD hereafter). From a general perspective, KBD can be defined as the “dynamic and sustainable equilibrium between all capitals in a community or an organization, tangible or intangible” (Carrillo, 2011). The relevance of this new field has been expressed in several forms; among them we can count bi-annual editions on KBD published by the *Journal of Knowledge Management* since 2002 and annual editions since 2006; seminars held in Europe and America, such as the Global KBD Week; the formation of think-tank groups, as The New Club of Paris, and the Heidelberg University “Knowledge and Space” research group (Carrillo, 2008); and the recent inauguration of the *International Journal of Knowledge-Based Development* as an academic space to promote “innovative work and dialogue between practitioners and academics dealing with various KBD issues that inform policy

making for KBD of our cities and societies” (Yigitcanlar, Carrillo and Metaxiotis, 2010; p. 4).

Castro Laszlo and Laszlo (2002) analyze this ‘new’ trend as the evolution of KM as shown in earlier paragraphs and its convergence with ‘evolutionary development’ concepts. Describing the evolution of KM, the authors account for a first generation where the focus was on developing organizations through knowledge sharing; passing through a second generation with focus on organizational knowledge creation as a source of competitive advantage; and finally arriving to a third generation that seeks the building of a true learning community through the democratization of knowledge and citizen involvement. On the evolutionary development portion, the authors describe how the sciences of complexity (systems theory, cybernetics, chaos theory, nonlinear thermodynamics, autopoietic theory, among others) have treated evolution based on *knowledge* arriving into a proposition of an *evolutionary learning community* (as opposed to the idea of *maintenance* learning which is adaptive in nature) that seeks the “transformation of social realities to produce increased personal, social and environmental well-being” (p. 407).

The relevance of this progress to the present dissertation lies in the shift from knowledge created, managed and shared by one organization aiming to improve its competitive position towards recognizing the potential of knowledge as a catalyzing element that may help fulfill the global development promise in every person of the world.

Even though the KBD field derives from two main areas (KM and development theory), most of the published work to date treats them as independent and little research has been presented showing how the tools and framework from KM can be applied to KBD on one hand, and how this field can benefit from the contemporary theories of development. Some theoretical exception to this trend shall be presented in the following section.

Firstly, Carrillo (2002) seeking to bridge KM and KBD presents the concept of ‘capital systems’ by elaborating on the idea of a *knowledge event* which, in his view, is constituted of three components: object, agent, and context. This axiology is relevant to

KM and thus to KBD initiatives in the sense that it seeks the apprehension of intangible assets by companies and countries. As a consequence, first level KBD focuses on distributing instrumental capital (object-orientation); second level KBD aims to develop human capital (agent-orientation); and third level KBD seeks to develop capital systems, this latter being the most complete, consistent and systematic.

Secondly, a number of works have discussed the fundamental goals of knowledge development, using the World Development Report from 1998-1999: Knowledge for Development (World Bank, 1999) as a triggering publication. Among them, Wiig (2007) introduces the concept of Societal Knowledge Management, stating that countries must provide acceptable conditions for their citizens and businesses to participate equitably in the globalized knowledge economy. On a similar line, Raza, Kausa and Paul (2006) state that three domains of knowledge must be incorporated into effective KBD strategy: a) a different paradigm of development should be used, introducing the idea of economy as a 'knowledge communication system'; b) a reconstructed psychology that includes non-western views about *person* and *knowing* should be developed; and c) a review of non-western philosophies towards development should be accounted for, especially in cultural, ethical and ecological matters; all these to assure that social, political and environmental development place 'the human factor' at the center of initiatives, adopting a holistic and socially sensitive perspective to improve citizens' well-being and enable humans to achieve their potential. Related to this field, other authors have focused on the integration of social networks to include the participation of citizens in public life and knowledge creation. For example, Hasan and Crawford (2007) present the concept of 'knowledge mobilization' in the public area aiming to create spaces that enable people to act and apply sense making toward collective understanding and group decision making. This focus on the community as a whole promotes a view of socially constructed, collective knowledge as a source of learning, innovation and creativity.

Thirdly, authors have tried to operationalize these bases of KBD into frameworks that have practical applications. Among them, Sharma, et.al. (2008) present a model to develop a knowledge society based on four pillars: infrastructure, governance, talent and culture. They observe that the two most important components to build a successful knowledge society are human capital and governance (measured by higher education

levels and rule of law index respectively). The authors conclude on the difficulty to measure quantitatively (and as a result, benchmark) knowledge societies due to the high relevance of intangible assets such as culture and governance. An application work in this same line is presented by Mohamed, O'Sullivan and Ribiere (2008) where the authors present a program to develop a knowledge society in the Arab region; considering its cultural particularities; and based upon four pillars: knowledge society, leadership, R&D, and sustainability.

The academic work that has been accounted for in the three previous paragraphs aiming to provide the theoretical foundations of KBD has been highly conceptual. The objective of most of the papers described so far is to provide an analytic ground for the discipline. However, very little has been said about the application of these theories into practical settings, with exception of the Arab region case shown in previous lines. This evident gap in the literature is intended to be covered by the present dissertation, where KBD is intended to be studied on the ground, through a case study. The models and frameworks provided by the discipline shall be contrasted with an experience of development based on knowledge of a Mexican community, contributing to the body of knowledge by showing their application in a real life situation.

The following paragraphs intend to show how academics have treated KBD in practice and the applications that have been developed from this field. Two main areas are presented: the use of KM in the public sector, and the application of knowledge in the development of cities or regions.

One area of interest that connects KM with KBD derives from the use of KM practices in the public sector, which in general seek the improvement of the services provided to the citizens and their involvement in decision making processes. The area is relevant to this dissertation due to its intended contribution into policy making. Here, Gorry (2008) presents two cases of KM practices used in the public sector focusing on the difficulties experienced due to its differences from a traditional organization, concluding that despite there is a willingness to share knowledge among public servants, institutional commitment and support from leaders often is limited. On the same line, Wiig (2002) explores how KM could help public administration in achieving four objectives: assuring

competent and effective public service; preparing effective policy partners; building and leveraging public and private intellectual capital; and developing capable knowledge workers. Finally, Riege and Lindsay (2006) developed a framework to assure stakeholders' participation in public policy development that benefits from knowledge-based partnerships between government and different stakeholders.

Building on the connection between KM and public administration, a number of papers has been published describing examples of initiatives taken at the regional level in particular areas of public administration. They include the case of the Canadian public sector in general (Shields, et.al., 2000), and two particular cases: one describing the experience of a Canadian school district (Edge, 2005), and another accounting for the use of KM in the Ministry of Entrepreneurship Development of Malaysia (Syed-Ikhsan and Rowland, 2004; and Syed-Ikhsan and Rowland, 2004b). Interesting experiences are derived from these cases due to their particularly interesting characteristics and the depth of analysis provided by the researchers. A similar approach is intended to be used in the case to be studied in this dissertation.

A different and large set of papers accounts for the role of knowledge in developing cities or regions. Many of them fall in the categories of scientific parks, industrial clusters, business incubators and accelerators, innovation regions, or technology transfer centers, which are terms that existed long before KBD was established as a concept (Carrillo, 2011). However, a category that has developed parallel to KBD is the concept of 'Knowledge Cities'. In this line Ergazakis, Metaxiotis and Psarras (2006) define a knowledge city as one that "aims at a KBD, by encouraging the continuous creation, sharing, evaluation, renewal and update of knowledge" (p. 47) and present 12 hypotheses to the successful operation of a knowledge city grouped in two main categories: development and operation. García (2008) introduces the Most-Admired Knowledge City Award as a case of knowledge-sharing experience and shows how learning and knowledge creation is possible through networks at a global scale (namely, Networks of Practice). Finally, some particular experiences from Kyoto and Detroit (Luethge and Byosiere, 2006), and Singapore (Wong, Millar and Chong, 2006) have been documented.

As it is evident from the previous paragraphs, KBD literature has treated development based on knowledge as the history of inclusion of countries or regions into the Knowledge Economy. From its definition, a knowledge economy relies on innovation and human talents to promote global competition. By taking this road, KBD has omitted to integrate the least developed regions of the world into the ladder of development based on knowledge, failing to fulfill its initial promise of using knowledge to expand the personal and social well-being of every human on Earth. Not enough has been published on how KBD can have a positive impact on the poorest regions of our planet. One of the few exceptions may be presented by Batra and Rucci (2011) where the authors, reflecting on the rural base of countries like India (having 71.5% of its more than 1,100 million inhabitants living in rural areas), account for some of the initiatives based on information and communication technologies taken in their country to convert villages into hubs of knowledge creation and utilization. Moreover, they develop a framework to define a 'knowledge village' using concepts used at other levels of analysis such as the Most Admired Knowledge Enterprise, Most Admired Knowledge City, and Knowledge Assessment Method. Their conclusions stress the difficulty of obtaining reliable quantitative data at the village level to feed in a framework that may allow comparisons among villages and the establishment of development programs for them.

As shown from the focus of the works published so far, two major gaps in the literature have been exposed. On one hand, not much has been said about the relationship of basic KM tools with KBD despite its common roots, and what has been accounted for has mostly theoretical value, with little focus on its practical application. A source of contribution that this dissertation seeks is precisely to explore the use of concepts from KM in a real life knowledge-development case of a Mexican community. Of particular interest is the analysis of Nonaka's knowledge creating spiral and his ideas on the characteristics of knowledge based companies in the real life context provided by the organization and community that shall be studied. Furthermore, the emphasis on the capacities of recipients of knowledge transfer processes shall also be analyzed.

On the other hand, the fact that KBD has neglected the inclusion of frameworks and tools outside the knowledge economy in general, and relevant to less developed regions in particular, is evident. In this sense, the present dissertation shall analyze a

development case that occurred in a very poor region of Mexico, seeking to contribute to the body of knowledge by understanding the particularities of such an experience and presenting conclusions that may be relevant to academics and practitioners of KBD. By doing so, it intends to be a factor in favor of allowing any citizen and local community “access to knowledge and learning opportunities, have the social context for collaboration and resourcefulness, have the competencies to shape their future, and have the moral sensitivity to make informed and life-affirming choices” (Castro Laszlo and Laszlo, 2002).

## **2.3 Social entrepreneurship**

The present section shall introduce the issue of social entrepreneurship as an emerging field that seeks to capture the specific elements and processes that entrepreneurs confront when trying to apply innovative ways to solve social problems. It shall later analyze the perspectives that have been introduced to identify the characteristics of a social entrepreneur. Due to their particular relevance to the study, the issues of ethics and distributed agency in entrepreneurship will be stressed. Finally, the entrepreneurial process that is followed in this arena will be analyzed.

### **2.3.1 The concept of Social Entrepreneurship**

In his seminal paper on social entrepreneurship Dees (1998) remarks that this concept in academic circles may be new, but the phenomenon has been present for a long time since we have always had institutions and people that have been interested in alleviating social problems. It is only recently that it has received attention due to a variety of reasons: governmental provisions to satisfy basic needs such as education and health are lacking access, quality and affordability for poor people (World Bank, 2003); there is an increased attention from corporations to take actions to meet social challenges proactively (Seelos and Mair, 2005); after the recent wave of privatizations, actors are more interested in finding good practices to manage services provided formerly by governments (Christie and Honig, 2006); the competitive environment to which nonprofit organizations are exposed has tightened making their activities open to competition from other forms of institutions (Weerawardena and Mort, 2006); there is a broad movement worldwide in market economies that demands more ethical and socially inclusive capitalism (Dacin, Dacin and Tracey, 2011); and more people and



institutions are aware about the issue of sustainability and are taking actions towards a more sustainable world.

Prior to the appearance of the concept of social entrepreneurship, the related literature that covered issues that are now integrated in this arena included topics such as: nonprofit leadership and management; the intersection of management and social issues; practices where the nonprofit sector borrowed from the business world to obtain its objectives (mainly in terms of revenue generation); and issues of corporate social responsibility by which large corporations integrated social issues into their strategic actions (Mair, Robinson and Hockerts, 2006).

As a result of these antecedents, the growth in interest in social entrepreneurship as an academic field has resulted in the creation of a number of academic courses and centers that deal with the topic in a vast number of universities and there is a significant increase in the amount of conferences and journal articles around it (Lumpkin, et.al., 2013). In the practitioner field, there has been an increased recognition from non-government organizations, nonprofit organizations, governments and public agencies of the relevance of social entrepreneurship as a way to provide world-class services (Christie and Honig, 2006). This attention has given rise to global organizations such as Ashoka, the Skoll Foundation, and the Schwab Foundation, among others, which aim to promote the creation of social entrepreneurship activities (Choi and Majumdar, 2014).

As a developing academic field there is a contention about the focus of studies that have been introduced so far. Some authors acknowledge that the majority of research in the field remains phenomenology driven based on anecdotal evidence and case studies (Mair and Marti, 2006). Others state that the literature of social entrepreneurship has had a more substantial focus on conceptual research over empirical articles (Short, Moss and Lumpkin, 2009). In any case, the challenges that this field faces and are common to both views include the lack of a commonly accepted definition of the concept of social entrepreneurship, which is essentially contested (Choi and Majumdar, 2014), and the need for academic research that helps to answer key questions such as the factors that lead to social entrepreneurship and the mechanisms related to the processes of this field (Lumpkin, et.al., 2013).

The efforts to provide a formal definition for social entrepreneurship begin by tracing the origins of the concept of 'entrepreneurship' from a traditional perspective; as such, the definition of this concept is relevant to understanding this phenomenon directed to the social realm. Most authors acknowledge the economist Joseph Schumpeter as a precursor of the term 'entrepreneur' when he presents this figure as the major source for economic development (Schumpeter, 1934). In understanding the phenomenon of economic development, the author excludes exogenous factors as causes for the progress in economies, and attributes it exclusively to endogenous factors, mainly the creative acts attributed to entrepreneurial activity. Schumpeter portrays the entrepreneur as the agent that produces turbulence in the economic cycle (discontinuities), producing disruptions in the equilibrium of the steady state, by carrying out new combinations of activities of production or by serving new markets (Schumpeter, 2005).

As this initial definition of entrepreneurship evolved, some elements were incorporated to give account of the phenomenon. According to Dees (1998), two main components of the contemporary view of entrepreneurship are the notions of *opportunity* and *resourcefulness*. In relation to the first one, Peter Drucker, unlike Schumpeter, does not conceptualize entrepreneurs as change makers; he rather explains their relevance as someone who detects an *opportunity*, probably as a consequence of change itself (changes in technology or market preferences, for example) and translates it into the creation of value. Regarding the notion of *resourcefulness*, Howard Stevenson added to the idea of opportunity detection and exploitation of the element of resources. This author identifies the main difference between managers and entrepreneurs stressing the fact that the former concentrate on controlling a set of resources that belong to their existing organization, while the latter do not restrain themselves to the use of current resources, they instead mobilize resources from others to obtain their objectives. A third important notion that has been incorporated into the definition of entrepreneurship is that of *risk*. The launch of an activity that translates an opportunity into value through the mobilization of resources necessarily implies assuming risks (mostly financial); so the relationship between attitude towards risk and entrepreneurship has been extensively researched with the consented conclusion that

individuals with low risk aversion tend to become entrepreneurs, while those with high risk aversion have a tendency towards becoming workers (Kihlstrom and Laffont, 1979).

Having these elements incorporated from the literature of conventional entrepreneurship, the main addition that social entrepreneurship incorporates is that of social value creation by providing solutions to social problems (the mission and outcomes expected from social entrepreneurship). Indeed, the main difference between the two is the fact that the former is focused on value creation that is translated into economic value, or wealth creation; while the latter focuses on creating social value (Mair and Marti, 2006). This distinction may seem simple: authors even call social entrepreneurs a traditional entrepreneur with a social mission; it however has major implications. The main one comes from the fact that traditional entrepreneurs operate in markets that, even if not perfect, operate reasonably. The response from these markets will be the path to their economic value generation: an entrepreneur mobilizes resources to offer a solution in a competitive market; if such a solution is valued by customers, they will respond favorably to it and wealth shall be generated to compensate those who took the risk to invest in such a venture; if the market responds otherwise, this is an indication that the resources mobilized should have been used in an alternative and competing venture (Dees, 1998). This behavior based on market semi-perfection does not stand in the case of social entrepreneurship. Indeed, social problems are very often occurring outside the market mechanism (or maybe due to this neoliberal conception of development, as discussed earlier in this chapter). Poverty, hunger, problems in education, health, security, among others, are issues that traditionally the market economy leaves to the public sector; however it is noticed that governments and conventional nonprofit organizations are not addressing them properly. Social entrepreneurs face the challenge of trying to alleviate some of these problems, operating in a market economy where the market itself does not have a mechanism to quantify outcomes in social interventions (Austin, Stevenson, and Weis-Skillern 2006). Despite this challenge, social entrepreneurs need to integrate into their strategy the guarantee of fulfilling the double bottom line: the creation of social value should be linked to economic outcomes to assure the financial resources that are needed for their social mission (Dacin, Dacin and Matear, 2010).

Some authors argue, though, that social value generation is always present in a business venture and particularly in an economic entrepreneurial activity to a certain extent. Mair (2006) accounts for employment, innovation, and tax revenue as examples for social value created by 'all entrepreneurial activities' (p. 89). Dees and Elias (1998), criticizing investigators that assume a 'dichotomous world' of either solely social or commercial activities, present a *continuum* that accounts for business practices incorporated into social organizations and social value created by private enterprises. The authors place at one end of the *continuum* those 'purely charitable organizations' that have as explicit mission to work on a social problem, operate both on capital and expenses obtained exclusively from donations, have volunteer work as their only source of labor, and distribute their products or services at no charge. At the other end, they place 'purely commercial enterprises' that have economic wealth generation as their main objective, their funds are raised in capital markets, they rely on the labor market to hire their employees, they buy their inputs from the market, and their products or services are offered into the open market too. The authors conclude that most social organizations fall somewhere in the middle of this *continuum* explaining that the range of commercialization in the social sector is 'wide and complex' (p. 174), however, they propose the *continuum* as a starting point to analyze the structure of social organizations by focusing on their governance mechanisms, management practices and leadership styles in correlation to their social mission.

To arrive to a common definition of social entrepreneurship that has been agreed upon in the academic field, Dacin, Dacin and Matear (2010) performed a literature review analyzing 37 definitions provided in diverse journal articles and books. They include in their analysis definitions of social entrepreneurship, social entrepreneur and social enterprise indistinctively. The authors identify four main ideas that are common to the majority of these definitions: the characteristics of the social entrepreneur as an individual; the sector where they operate; the processes and resources that they use; and their primary mission and expected outcomes (p. 38). While the second (sector of operation of social entrepreneurship) and fourth (primary vision and expected outcomes) ideas from this conclusion have been already covered in the previous paragraphs, the idea around characteristics of social entrepreneurship and that around

processes and resources that social entrepreneurs use will be covered in detail in the next sections of this chapter.

Before moving on to these topics, a concluding definition of social entrepreneurship that synthesizes the ideas covered so far will now be presented. Building upon Mair and Noboa's (2006) definition, this dissertation considers social entrepreneurship as "[a process involving] the innovative use of resource combination to pursue opportunities aiming at the creation of organizations and/or practices that yield and sustain social benefits" (p. 122; emphasis added). It also acknowledges it as a particular form of entrepreneurship, and as such it benefits from existing research on conventional entrepreneurship (Dacin, Dacin and Matear, 2010).

### **2.3.2 Characteristics of the Social Entrepreneur**

Considering the definition provided in the previous section for social entrepreneurship, this dissertation considers a social entrepreneur as the individual who mobilizes resources in an innovative manner to pursue opportunities that seek to sustainably resolve a social problem through the creation of organizations and/or practices. As expressed earlier, the literature of this topic has given a fair share of attention to the characteristics of the social entrepreneur. This section shall cover the major trends in this topic to establish a common ground on how to analyze the individuals who decide to embrace a social mission and create a venture that alleviates a particular social problem.

From the practitioner's point of view, a good amount of effort is devoted by global organizations to identifying and supporting individuals with strong leadership in the social sector to promote their activities, understanding that their contribution to alleviating social issues is relevant and they can provide help in mobilizing resources for their social aims. Examples of such organizations are Ashoka or Skoll Foundation, which place strong emphasis on the characteristics of a social entrepreneur in their efforts to allocate their resources. This fact is even reflected in their definition for a social entrepreneur. For Ashoka, social entrepreneurs are "individuals with innovative solutions to society's most pressing social problems. They are ambitious and persistent, tackling major social issues and offering new ideas for wide-scale change."

([https://www.ashoka.org/social\\_entrepreneur](https://www.ashoka.org/social_entrepreneur); accessed on July 8, 2015). In the case of Skoll Foundation, social entrepreneurs are “society’s change agents, creators of innovations that disrupt the status quo and transform our world for the better” (<http://www.skollfoundation.org/about/>; accessed on July 8, 2015).

From the academic point of view, a fair amount of the literature on social entrepreneurship directs its attention to the individuals who are characterized as social entrepreneurs and portrays them as ‘heroic’ (Dacin, Dacin and Tracey, 2011). In this arena powerful stories are presented in an inspiring manner that characterize the social entrepreneur as “transformative forces: people with new ideas to address major problems who are relentless in the pursuit of their visions, people who simply will not take ‘no’ for an answer, who will not give up until they have spread their ideas as far as they possibly can” (Bornstein, 2007; p.1) to improve the lives of thousands or even millions of others. Evidently such a description raises the bar very high for someone who could be characterized as a social entrepreneur, and the people who meet such criteria really deserve their stories to be told.

The limitation of this conception of social entrepreneurs is the heavy reliance on individualism, an approach that Cho (2006) refers to as ‘monological’, rather than ‘dialogical’. Although individual achievement is very relevant, an overemphasis on persons tends to leave behind the ‘distributed’ nature of entrepreneurship (Spear, 2006) that should account for the role of external stakeholders essentially involved in the entrepreneurial process. Furthermore, according to Cho (2006), if we focus only on the innovative way that social entrepreneurs use to mobilize resources to solve social issues instead of asking why these issues arise in the first place and collectively dialoguing to find ways to solve them, we would be trying to solve symptoms rather than addressing root causes. Other limitations from this approach, as noted by Light (2006) is the tendency to focus on the personality of social entrepreneurs (‘who the entrepreneur is?’) instead of analyzing the process that he or she developed to succeed, putting to one side the possibilities that come from learning from failures. The author stresses the limitations for this vision that come from acknowledging social entrepreneurs only when they have obtained public recognition, but not helping individuals at early stages, when their ideas need support and funding.

Leaving behind the concept of the social entrepreneur, which in most cases refer to an individual with outstanding attributes of traditional entrepreneurship adding a social cause, the following paragraphs shall discuss some academic works that describe the common characteristics that are present when describing these individuals. The description shall follow a chronographic order to show how this view has evolved over time.

Leadbeater (1997) studied five British organizations that presented innovative solutions to issues that the public welfare system was failing to address, allegedly because it was designed for a society based on full employment and stable family circles that no longer existed in the UK. In each organization, the author identified the charismatic individual who led them calling him 'social entrepreneur'. Four elements that were common to all of them were presented as conclusion:

- Initially, they are *entrepreneurial* in the sense that they were able to identify resources that are underutilized and use them to alleviate social needs.
- Next, they are *innovative* since they created new products or services, or new forms of solving problems; they did so by using a combination of approaches that traditionally were used separately.
- Third, they are *transformatory* since they made a change for the organizations they were in charge of and for the communities they serve by bringing them opportunities for self-development.
- Finally, they share the following abilities: leadership, storytelling, managing people, visionary opportunism, and alliance building.

Drayton (2002) presents a conceptual article that discusses a 'divorce' between social and business organizations. He contends that since the 1980's social organizations have evolved from a bureaucratic old-fashioned structure to one that is much closer to traditional businesses; a shift that the latter have done over three centuries. The author argues that the gap between business and social organizations is as relevant as the development gap between the north and the south of the world. Ashoka, the organization that this author founded in 1980, seeks to close the gap between the two by identifying successful social entrepreneurs, supporting their ventures, and helping to

spread their ideas around the world. The characteristics that the author uses to describe a social entrepreneur are:

- First, they have a clear, new, system changing *idea*, which is also referred to as their *vision*.
- Second, they make use of *creativity* in two manners: in the way they set their goals, and in their approach towards solving problems.
- Third, their vision has a *wide-spread* reach in terms of its novelty, practicality and attractiveness, so much so that they will cause others to want to imitate it.
- Fourth, they hold an outstanding *entrepreneurial quality*.
- Fifth, they have a strong *ethical fiber*.

The author refers to the fourth characteristic as the most important and the toughest to define. The explanation provided by him for this feature refers mostly to the ability to reach a change in the whole society with a pragmatic view that combines a focus on the “practical ‘how to’ engineering question as on the vision” they seek to achieve (p. 124). Referring to the ethical fiber, the author relates it with the issue of trust, reflecting on the fact that social problems normally arise in environments where this value has suffered and it is fundamental for people to be able to trust the social entrepreneur to help them solve issues that are central to their wellbeing.

Mort, Weerawardena and Carnegie (2002) conceptually discuss the relevance of social entrepreneurship and introduce a construct for the concept based on five dimensions. The authors argue that only when all of these dimensions are present simultaneously in social entrepreneurs, we can define them as such. According to this construct, social entrepreneurs are:

- Entrepreneurially virtuous: this virtue dimension is related to the social mission established by the entrepreneur and implies the fact that she or he is conscious of her/his acts (they do not happen by accident); she or he performs the virtuous action without an ulterior motive; and this form of action becomes a habit for her or him.



- With good judgement capacity: implying that social entrepreneurs integrate a coherent unity between their purposes (social vision) and their actions, particularly in the face of moral complexity.
- Able to recognize social opportunities: for this dimension the authors recur to the social – commercial *continuum* as expressed earlier in this chapter, arguing that social entrepreneurs seek market opportunities to create higher social value to their customers.
- With decision-making capacities that integrate risk tolerance, proactiveness and innovativeness: these three characteristics are shared with traditional entrepreneurs and imply to acquire knowledge through exploration; to challenge assumptions to learn from the process; and to rapidly develop behaviors that leverage their learnings.

Finally, Dacin, Dacin and Matear (2010), while critically reviewing the literature on social entrepreneurship found the characteristics that are highlighted in academic articles that discuss the qualities and behaviors of social entrepreneurs. The authors concluded three clustering issues as the most prominent in the literature:

- Motivation
- Ability to recognize opportunities and produce change through leadership skills
- Ability to mobilize the necessary resources to put their vision into action

As a concluding remark from this review, social entrepreneurs import from traditional entrepreneurs their ability to mobilize resources, recognize opportunities and tolerate risk with creativity and innovativeness, with application to a social problem that is complex by nature, and that requires to develop a strong vision based on a changing idea that captures a collective purpose, is transformatory, and has widespread reach. Fundamental to achieving these characteristics is the strong ethical fiber required by social entrepreneurs. This concept shall be tackled in detail in the following paragraphs.

### *2.3.2.1 Ethical fiber in social entrepreneurs and the role of compassion*

The ethical dimension in social entrepreneurship is relevant due to the nature of the intervention that is intended through such ventures. Indeed, tackling social problems

and aiming for significant social change require for those affected to make 'several leaps of faith' that imply a very high level of trust in those who champion the change processes (Drayton, 2002). This trust may be particularly difficult to build since conceptually entrepreneurship and social aims may be perceived as having opposing values: competitive practices may appear contrasting with values of traditional social models that emphasize community participation, transparency, and due process (Zahra, et.al., 2009). Another source of relevance relates to the support from a diverse variety of agents involved in a social venture; social entrepreneurs need to build support and collaboration from external stakeholders that may be central in the activity, such as suppliers, customers, government, among others. This concept of distributed agency also implies a strong ethical fiber from the entrepreneur to be able to convince the relevant actors to join efforts in the pursuit of a solving a social problem.

To overcome the natural mistrust that comes from conflicting approaches, and to build trust from potential partners, social entrepreneurs, according to Mort, Weerawardena and Carnegie (2002), must possess a 'spiritual' or 'virtue' dimension. The authors refer to three criteria that must be met in social entrepreneurs with such a virtue: a) the entrepreneur is consciously aware of his actions (the virtuous action did not occur by accident); b) the entrepreneur chooses the realization of such virtuous actions for their own sake, with no ulterior motive; and c) the entrepreneur is consistent with these actions until they become a habit. Furthermore, a number of universal values must be present permanently in the social venture, including compassion, integrity, empathy and honesty; and certain virtues that are specific to the social entrepreneurial context must also be a part of it, including a fundamental belief in the capacity of people to contribute to their own economic and social development, and a passion to make arrangements for this to happen.

Particularly on the issue of compassion, Miller, et.al. (2012) study this emotion as a motivator to take actions that are integrated in the social entrepreneurship scope. The authors define compassion as a "prosocial motivator characterized by other-orientation and emotional connection to others in suffering" (p. 620). The process of connecting such a feeling with actions taken to alleviate others' suffering begins by observing and understanding what it feels like to experience the pain of others; these reflections lead

to enhance the awareness of their vulnerable circumstances particularly related to their context; as a following step, an understanding of the issues that contribute to this suffering is developed; and finally, an integration of alleviating the suffering of others into the potential social entrepreneur's scheme of goals and ends occurs. In this last step, the concern that was first developed from a particular group of people in suffering is now generalized to others suffering from similar circumstances. As a result, the emergent social entrepreneurship project proposes not just a solution that looks to alleviate the problems of the original group of people, but has the intention to reach the generalized population in suffering. Clearly the authors do not state that everyone who experiences compassion as understood in their view will become a social entrepreneur, they rather describe how this issue may be a relevant motivator to create a venture based on concepts of social entrepreneurship.

For the initial stage of a social entrepreneurship process where the motivation and recognition of a social opportunity are preeminent, the issue of compassion takes relevance. Ethics are also important in the process of building and strengthening a social firm. Zahra et.al. (2009) discuss a number of ethical dilemmas that social entrepreneurs may face while their ventures operate. Some of them arise from the issue of egoism or individualism that, according to the authors, social entrepreneurs share in their temperament with traditional entrepreneurs who are motivated by economic reasons and that may lead them to take any kind of actions to fulfill their ambitions assuming that they are ethically justified (p. 528). Generally speaking, the authors establish that the ethical 'challenges' faced by social entrepreneurs depend on their motives, the resources required to accomplish their goals, and the governance mechanisms in place that regulate their behavior. Particular examples of ethical dilemmas presented in their work include answering the questions of how to best allocate social wealth? What is a proper substitution for the price mechanism from the free market when the aim is the common good? How to subsidize 'under-pricing' strategies? What are the consequences of sub-optimal pricing on the quality and delivery of the goods or services offered? Generalizing again, the authors state that social entrepreneurs are confronted by situations where the "societal structures, institutions and norms have become ossified,

some may find rule breaking essential to introducing innovation and reform” (p. 529), which goes against the basic principle of ends not justifying means.

As a concluding remark, the ethical dimension is significant in social entrepreneurship mainly because the potential conflicting views that may be presented using an approach that traditionally focuses on making profits through offering value to the market (commercial entrepreneurship) in creating social value that alleviates a relevant and latent social problem. It involves moral foundations from the motivation stage prior to establishing the venture to recognize the suffering of others and apprehending it as a life mission that uses an innovative approach to alleviating it. It also requires a strong ethical fiber in the conduction of the social enterprise to balance the commercial challenges that any company faces with the social mission that often will demand compromises of one in favor of the other.

### **2.3.3 Bricolage in social entrepreneurship**

The concept of bricolage was first introduced by French anthropologist Claude Lévi-Strauss when he defined it as the process of “making do with what is at hand” (Lévi-Strauss, 1966; p. 17). Baker and Nelson (2005) extend this definition by saying that bricolage is “making do by applying combinations of the resources at hand to new problems and opportunities” and analyze the three elements of the definition in different organizational contexts: a) making do “implies a bias toward action and active engagement with problems or opportunities” (p. 334) instead of stopping at reflection. It calls for denying the limitations that commonly accepted standards and definitions pose to problems and instead of being limited by them, trying new solutions, observing the results and dealing with them; b) combining resources for new purposes imply reuse or join elements that were originally planned for a different purpose into the solution of the problem that is presented instead of relying on carefully planning through a rigorous engineering process that determines a priori the elements that will be used in its solution; and c) the resources at hand, which implies a conscious acquisition and accumulation of physical artifacts, skills or ideas under the principle that “they may come in handy” but their application remains undefined when they are acquired.

Baker and Nelson (2005), performing an exploratory study on 29 entrepreneurial firms that shared common characteristics of being exposed to environments with limitation in resources, observed through the lens of bricolage how all of them were able to offer value in their products or services by recombining the elements they had at hand to use them for creative purposes that challenged the limits and definitions provided by their same environment (institutional and other). Their concluding remarks imply that the bricoleurs (entrepreneurs of their study) did not find the opportunities they pursue externally to the resources and activities at hand. Moreover, “the processes of discovering opportunities and enacting resources were often one and the same, with both the resource environment and the opportunity environment idiosyncratic to the specific firm and constructed to the process of bricolage” (p. 358). This conclusion challenges the traditional view that opportunities are objective, ready to be discovered, and exposed to a limited number of alert individuals; instead the evidence provided here shows that entrepreneurial opportunities are enacted rather than discovered.

With this call for *flexibility* it is clear that “the tools not only shape their end purpose, but the purpose is also shaped by the resources available” (Di Domenico, Haugh and Tracey, 2010). It is this combination of ‘means’ and ‘ends’ that reminds us of the pragmatist stand of John Dewey when he says that ends are not given, but formulated once and again partially thanks to available means. Di Domenico, Haugh and Tracey (2010) inquire the role of bricolage in the entrepreneurship context and discuss the particularities that it brings into the social entrepreneurship arena. With support from eight case-studies on social enterprises, the authors isolated three dimensions as the most relevant for bricolage in a social context: a) making do, understood as creating something from nothing; using resources that were discarded or disused by others; and using local resources that other organizations failed to recognize or value; b) a refusal to be constrained by limitations, implying to try out solutions to overcome limitations set by political or institutional restrictions; and challenging the limitations imposed by the resource environment; and c) improvisation, seen as adapting standard working practices and using creative thinking to defy the limitations imposed by the environment; starting a range of different projects to try to respond to opportunities; and embedding agency and engagement with the community. With these dimensions

analyzed by the authors, they conclude that through the lens of bricolage it is evident the creation of social value in social ventures with a high reliance on stakeholder participation and an important share of persuasion from the social entrepreneur allowing him to influence the community thanks to his legitimacy, to be politically active to control local agendas, and to acquire new resources from different stakeholders.

Clearly, in environments where resource mobilization is difficult and other solutions have not resolved particular problems, like those present in social entrepreneurship activities as shown earlier, bricolage presents an interesting lens to observe how the ends of the ventures are shaped and interact with the available means. This dialectical process has commonalities with the vision of means and ends not differentiating from one another from the capability approach to development. In this sense, the resources at hand discussed in the bricolage literature may be considered as the instrumental freedoms of the capability approach, that, enacted upon, allow to get to new ends that in turn may be seen as new means to obtain higher objectives.

## **2.4 The issue of agency**

In the first and the third section of the present chapter, the issue of agency has emerged as a relevant element of analysis and discussion: In the section that reviews the capability approach to development this topic emerged to explore whether the approach is too individualistic without placing enough emphasis on the institutional arrangements that support the individual's decision on which capabilities to pursue, neither on the role of collectivities on such decision making process; also counterarguments were presented to show how these issues are treated in the literature of the subject. In the section that analyses social entrepreneurship a strong point was made on how the current academic material on the topic is too centered on the individuals who are characterized as 'heroic' change makers, and how this narrative leaves relevant aspects of the entrepreneurship process without scrutiny.

With the aim of critically reviewing the different views on agency that are found in the literature and concluding in a particular stand that is congruent with the present dissertation (distributed agency), the following paragraphs shall discuss relevant academic materials on the question.

First, it is relevant to note that the discussions around the issue of agency falls in the realm of ontology. To illustrate this, Danish philosopher Søren Kierkegaard (1813-1855) stresses the difference between an ontology based on an outsider and an insider point of view, defending the latter as an anthropological and philosophical reality of human beings. To present opposing views, DeHart (2015) analyzes Leibniz's view of the order created by God entirely in its spatial and temporal elements, stating that the German mathematician and philosopher supported the view of a 'creative causality' created intelligently and willingly by God, implying that everything is intended and seen by God prior to the course of events. To avoid a human stand of "lazy reason" that claims that all decisions are futile since all causal paths are already established by the creator, Leibniz establishes that us as humans have to realize that our personal acts that are performed as free agents of the world, are integrated in the 'chain' that leads to our future, and such a chain is established by God, but hidden to us. This vision clearly presents an outsider ontology, where God is the creator of our futures and foresees our decisions into accomplishing them.

DeHart (2015) continues his analysis by explaining how Kierkegaard, criticizing Leibniz, took a radically different stance when analyzing how individuals seek their eternal significance. According to this point of view, the truth that human beings seek is not already defined or predisposed by a superior plane "prior to and separate from the 'shadow play' of existing agency; it is precisely the affirmation, the truth of that very agency, its ideal reality as eternally grounded in the divine mind whose creative act is nothing other than the positing of the creature as agent along with all its individual acts" (p. 103). Furthermore, a person "faces forward, pursuing the time transcendent significance of one's selfhood ... only in and through the successive free decisions which make up this life, as in some sense constituted by those decisions" (p. 100). As such, the eternity of one person (the transcendent significance of her life) turns out to be the result of the self that she has constructed through the acts that she has chosen. Finally, and to stress the importance of decisions, it can be said that the "ideal self must be constructed on action, and thus each moment is filled with eternal significance" (p. 117).

Oversimplifying the concept of ontology, the two stances that were presented in the previous paragraphs, one by Leibniz, the other by Kierkegaard, present opposing points

of view of existence or being in the world; that is, opposing ontologies. The first presupposes the existence of a force external to the being, that acts upon him and leaves him almost helpless in the definition of his future; the second departs from the idea that individual's decisions and actions are constitutive of his being and determinants of his future, implying a future that is open to its construction.

How this ontological discussion has relevance in organizational theory might be shown by illustrating the opposing concepts of 'path dependence' (Vergne and Durand, 2010) and 'path creation' (Garud, Kumaraswamy and Karnøe, 2010). Path dependence refers to processes that are increasingly constrained by their environments and cannot be easily escaped. The concept is defined by the authors as a "property of a stochastic process which obtains under two conditions (contingency and self-reinforcement) and causes lock-in in the absence of exogenous shock" (Vergne and Durand, 2010, p. 737). In this view, path dependence occurs first, thanks to the presence of a set of initial conditions; second, when these initial conditions are followed by a series of contingent events that have a stronger influence than them; and finally due to various mechanisms of self-reinforcement such as 'network externalities' or 'positive returns' (p. 743). Finally, the authors present a state of lock-in that is reached by the system as a state of equilibrium that cannot be escaped from within. A typical example of path dependence presented by the authors is the QWERTY keyboard as an illustration of a process locked-in on a suboptimal path due to a series of contingent and self-reinforcing events (its production became profitable as sales increased, users got accustomed to it and developed skills to type faster, among others).

Garud, Kumaraswamy and Karnøe (2010), critique the path dependence concept as a 'de-contextualized comparative approach to viewing and evaluating phenomena' that may be suitable for administrators who do not have the abilities to be actively engaged with what happens around them, and as a result are not able to promote the forces needed to initiate and sustain an initiative. Instead, the authors conceptualize 'agency' as an "emergent property of a dynamic process involving a web of heterogeneous elements that reconfigures in action as actors probe their worlds to find out how they may unfold" (p. 762). This orientation opens the possibility of actor's self-efficacy to 'enact', 'improvise' and 'bricolage' through their involvement with other actors and with



artefacts to change 'emergent ideas into actions' and 'emergent actions into ideas', generating meaning from the problems they encounter. This process takes into consideration the temporal aspect of agency which accounts for the actors' "aspirations for the future, sensemaking of the past, and conceptualizations of what is transpiring in the present" (p. 768); but is not their accomplishment as isolated individuals, it is rather the emergence of memories that result from the discussion and dialogue with others. All these elements are integrated in the concept of 'path creation' as a perspective based on a 'relational ontology' that conceives agency as a result of unfolding *action nets* that emerge around issues and events.

It is precisely the idea of *action nets* which captures the notion of *distributed agency*. This concept accounts for the difficulty of attributing the outcomes of strategic actions to one single person, and instead considers agency as an element that is distributed across "actors, artifacts, rules and routines" (Garud and Karnøe, 2005). The concept emerges from a connectionist hypothesis that uses the human brain as an analogy considering groups of neurons that form modules. The brain's richness comes from the connections among neurons, from specialization of modules, and from redundancy in their function.

Along with this concept of distributed agency and researching its role in entrepreneurship Hayter (2013) digs in the relevance of networks of social, professional, and exchange relationships with other actors on the success of entrepreneurial ventures. From this perspective, the author highlights the importance of social capital for the individuals with strong relationship ties, giving a strong value to trust building and networking abilities of the entrepreneur. Finally, from the knowledge spillover perspective, Hayter shows the role of networks in disseminating knowledge and promoting economic growth. This view is consistent with the social construction of technological systems approach (Bijker, Hughes and Pinch, 1987), which explains how new technological paradigms are formed through social interactions of relevant actors that have to overcome the difficulties they encounter in the process of developing artifacts. Garud and Karnoe (2003) describe the bricolage process followed by a Danish team that developed a wind turbine, showing that the presence of various actors with different levels of involvement who offered their inputs to establish an emerging

technological path that was able to achieve higher functionalities than what was expected from the project at the beginning. From this point of view, technological entrepreneurship is not just about the discovery of new opportunities by alert individuals speculating on the future, it also involves the creation of new opportunities by a collective.

Finally, Whittle, Suhomlinova and Mueller (2011) focus on the relevance of dialogue and distributed agency in institutional transmission criticizing the traditional view of agency as a phenomenon reserved for certain unique conditions or actors. Instead, they call for the inclusive concept of distributed agency that allows the participation of all members of an organization in its construction, maintenance and dismantling. To them, this process reflects the *social structure* and *context* of the organization as they affect the distribution of agency throughout the system and requires special attention to the process of dialogue in institutional transmissions since the role of recipients is crucial in constructing meaning of an institutional change process.

With all these elements in mind, this research work considers agency as a concept that is open to creating paths following Antonio Machado's poem that expresses: "walker, there is no path; you make the path as you walk". By doing so, as expressed earlier, ideas are turned into actions and actions into ideas with lights from the bricolage concept of making do with resources at hand. It also recognizes the distributed nature of the concept not only acknowledging the role of and interaction with other actors, but also the importance of the presence of artifacts, rules and routines in making the path as it is walked.

## **Chapter 3. Research Methodology**

The present chapter presents the different aspects of the research methodology that has been used to perform the current research work. First, the chapter discusses the issues around pragmatism as a research philosophy used in this dissertation, highlighting its main characteristics and its application when conducting research in the social sciences. After stating this overarching philosophy, the approach used in conducting the research is presented, justifying the choice for an inductive-qualitative one. Next, the choice of the research strategy which is case-study in this dissertation is analyzed. At this point, the academic discussion around case-study as research methodology is presented and its conclusions are referred to in relationship with the intention of the present dissertation. Next, the techniques of data collection and analysis that were used in the course of the present study are introduced stressing on how they tackled the issues of reliability and validity. In the second part, this chapter presents the case study protocol discussing the observation period that was spent in the company and community and commenting on the different sources of information that were gathered, along with the questions that were used in the data collection procedures. Finally, the chapter summarizes the database that was generated from the diversity of sources of information used in the empirical study.

### **3.1 Research paradigm**

From the philosophical point of view, organizational studies have traditionally established their research paradigms using a prevalent model that has dominated the academic literature, introduced by Burrell and Morgan (1979) and based on the assumptions of the nature of social sciences in a dimension that can be either objective or subjective. According to their view, the ontological positions (which reflect the nature of reality in relation to the researcher) can either be nominalist –assuming that the social world is made of names, concepts and labels that reflect the structure of reality– or realist – believing in the existence of an external social world independent to the researcher–; on the other hand, epistemological stands (which intend to establish the relationship between the researcher and what is researched) may take a form of anti-positivism –assuming that the social world is essentially relativistic and understood from the point of view of the researcher– or positivism –where the researcher seeks to predict

what happens in the social world by searching for casual relationships between elements and taking the position of an independent outsider—. Following this tradition, two main research paradigms appear to have dominated the business and management fields: interpretivism and positivism; the first taking the subjective end of Burrell and Morgan's spectrum, while the second moving towards the objective extreme.

However, in recent years, a shift from this divide has started particularly in the academic research of social sciences. One of the reasons might have been the fact that in philosophical discussions and epistemological debates it is easy to take one stand or the other; nevertheless when practicing empirical research, most researchers, regardless of their stated philosophical stand, work closer to the 'center of this continuum' with multiple overlaps (Miles and Huberman, 1994). Other authors, instead of advocating for a philosophical paradigm to conduct research call for a 'paradigm of choices' which implies a rejection for methodological orthodoxy in favor of 'methodological appropriateness'. This concept implies making sensible decisions in research in relationship with the purpose of inquiry, the questions that are intended to be answered, and resources available (Patton, 1990). These ideas are captured by pragmatism as the philosophy of human actions and consequences, instead of focusing on the divide between nature and object; the reflection we make over our acts and their consequences is what we as humans should use if we are trying to establish if our beliefs about the world are true and meaningful in characterizing reality. With these starting remarks, a scrutiny of what pragmatism brings as a research methodology is due.

To describe the elements that pragmatism as a research paradigm embraces, six main characteristics are incorporated into social sciences by it, as summarized by Baert (2005; Chapter 7). Following, they are presented as the point of depart are to conduct a study based on this approach:

1. "Methodological diversity characterizes science": There should be no one-to-one relationship between the social or natural sciences and their methodologies of inquiry. The works of Kuhn (1996) presenting the nature of scientific revolutions in terms of paradigms, and Latour and Woolgar (1979) analyzing how scientific

knowledge is shaped by rhetorics of scientists are good representations of this characteristic.

2. “The social sciences gain form methodological pluralism”: Aims in social studies are diverse. Not only do they intend to explain phenomena to predict them (as in the positivist tradition), but they may also be targeted to a criticism of society that may lead to emancipation (as in radical humanism), to understanding (as in interpretivism), or even to self-understanding.
3. “The spectator theory of knowledge is inappropriate for social research”: Theorists who support this tradition (such as Giddens and Bashkar) assume that a complete account of the social reality is possible, an example being the view of ‘theory as objective mapping’ in Sociology. These ideas assume a pre-interpreted account of the social and a ‘God’s eye view’ to researchers (their capacity to ‘step out the history’). Instead, pragmatists welcome the researcher’s presuppositions and call for a reflection on them during the research process.
4. “Social research is a conversation [among philosophical traditions]”: Pragmatists salute dialogical encounters among different philosophical grounds as a source of learning from other points of view and questioning their own presuppositions, instead of embracing ‘foundationalism’ (the belief that one particular theory provides a frame of reference that is valid in different settings, cultures, and times).
5. “Knowledge is action”: If, as presented earlier in this dissertation, knowledge is something active that allows changing our reality, a pragmatic stand calls for clarifying what the researcher wants to achieve through a process of inquiry (his ‘cognitive interest’) and only then define its methods accordingly, instead of committing ‘ontological fallacy’ (assuming that methodological questions can be reduced to ontological matters).
6. “Self-understanding opens up alternative scenarios”: This concept implies embracing the researchers presuppositions as a basis of the research and continuously questioning them to affect his self-knowledge in three ways: with a ‘conceptualizing’ effect (the researcher verbalizes his presuppositions and gives account of the way they helped to make sense of what is investigated); with an ‘emancipating’ effect (which allows people to question their deepest-rooted

convictions about their culture); and with an 'imaginative' effect (which allows to imagine alternatives for the future).

These six premises summarize the foundations of research based on pragmatism as a paradigm. The principle that integrates them comes from William James' description of a pragmatist. To him, a pragmatist embraces the radical and less objectionable empiricism by turning his back on 'traditional' philosophy by not being interested in abstractions, bad *a priori* reasons, fixed principles or pretended absolutes. Instead, pragmatists look for concreteness and adequacy, they lean towards facts, action and power. "It means the open air and possibilities of nature, as against dogma, artificiality, and the pretense of finality in truth" (James, 1907; p. 25).

Up to this point, a general view of the pragmatism research paradigm in the social sciences has been presented. In addition, a list of elements that are integrated in a research activity based on this paradigm has been presented. In the next part of this chapter a detailed description of the methodological design used in this research work, based on the philosophical grounds of pragmatism is introduced, along with the rationale used to arrive to such decision.

### **3.2 Methodological design**

According to Saunders, Lewis and Thornhill (2009), six elements must be properly identified to conduct a research process: the research philosophy, approach, strategy, choice, time horizon and techniques. All of them are integrated in what the authors call the 'research onion'. In previous paragraphs pragmatism has been established as the research philosophy that has been used in this study. It was also stated that according to it, the choice of methodology (represented by the rest of the elements of the 'research onion') should be closely related to the aims of the study and the cognitive interests of the researcher. Recalling the main objective pursued by this dissertation, the review of a case study that analyzes the development experience of a Mexican community thanks to a social entrepreneurship venture using the philosophy of pragmatism as an integrating element is intended. The following sections of this chapter will introduce the research approach and strategy used in this dissertation with their appropriate justification related to this research objective. The remaining elements of

the onion will be presented in the section related to data collection and analysis of this chapter.

### **3.2.1 Inductive research approach**

According to Saunders, Lewis and Thornhill (2009) the alternatives to choose from when defining the research approach of a study are either deductive or inductive. Inductive research seeks to build theory from observation, as opposed to the deductive approach, which seeks to explain causal relationships between variables and test hypotheses established from theory. The current study intends to understand a phenomenon of development by conducting an in-depth analysis of a case with the intention of extracting valuable conclusions. The nature of these aims relate profoundly to the inductive nature of research, which seeks to gain understanding of the meanings that persons give to events by gathering qualitative information. For this reason and revisiting the research questions that this dissertation seeks to answer, the approach that will be followed is inductive.

When utilizing an inductive approach, the researcher begins by gathering information from particular observations and continues asking questions, forming categories and looking for patterns, having the eventual aim of developing new theory and comparing it with previously established concepts. On the other hand, a deductive approach begins from generalities and finishes in particularities: research in this tradition starts from existing theories that are narrowed down to hypotheses which in turn lead to the collection of particular data; its analysis is centered on confirming or rejecting the established hypotheses. These same two alternatives represent the quantitative – qualitative research divide, which shall be analyzed next.

The quantitative approach has been extensively used in research due to its nature of ‘explaining’ events through causal relationships and hypotheses testing in a value-free framework. Quantitative research is positivistic by definition since it intends to explain cause-effect relationships, placing emphasis on measurement, and intending prediction and control (Jeon, 2004). Up to this point in time, quantitative research dominates the literature in most academic fields. However, as interest in understanding social phenomena has risen, and as social worlds are more diverse than ever, “research is

increasingly forced to make use of inductive strategies instead of starting from theories and testing them[;] ... knowledge and practice are studied as *local* knowledge and practice” (Denzin and Lincoln, 2000; p. 9, emphasis added). Within this context, qualitative research has emerged as a valid form of making these social worlds visible through placing the researcher in the natural setting of the phenomenon studied and with the use of a series of representations (interviews, conversations, observations accounted through field notes, photographs, recordings and the like) that provide a good account of what is actually happening with the aim of understanding it, and eventually transforming it.

The research objective stated in the previous section fits naturally with the inductive nature of qualitative research as explained above. Moreover, the construction of meaning according to the pragmatic tradition also leans towards qualitative and situated research: “On the bases of the theory of meaning of Mead and Dewey, ... for pragmatism the rejection of positivist epistemology goes hand in hand with a proper understanding of the agency–structure relation and with a qualitative and ethnographic approach that grasps action as being situated and in process” (Zimmerman, 2006; p. 477). The use of a qualitative approach for the present dissertation implies also a choice of congruence with pragmatism as the overall philosophy of the study.

### **3.2.2 Case-study as research strategy**

After tackling the issue of the research approach, the following element to be identified according to the ‘research onion’ is the research *strategy*. This element establishes the connection between the research paradigm and the empirical world. It bridges the theoretical grounds to forms of inquiry and to collection methods of empirical information (Denzin and Lincoln, 2000). As stated earlier, for the present dissertation case-study as a research strategy was selected to gain understanding of some topics of interest through the in-depth study of an experience that captures them.

According to Yin (1994), case study is an “empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (p. 13). Continuing with this author, this strategy is relevant when the research questions that are intended come in



the form of 'how' or 'why', instead of 'what' or 'who'; and when the researcher has little control over the events that are investigated and such events are contemporary instead of historic (the places, settings and persons involved are alive and can be directly addressed). All these characteristics are present in the case that is studied in this dissertation, as will be presented in the following chapter.

Concerning the issue of deciding for a single- or a multiple- case study design, Yin (1994) explains that opting for a single case study design is justified if one of the following three reasons is present: Firstly, if the case is *critical* to testing a well-established theory; secondly, if the case has characteristics of *uniqueness*; and thirdly, if it has been inaccessible in the past (the *revelatory* case). The following chapter of this dissertation presents the narrative of the case that has been studied. Its uniqueness will become evident in terms of the exceptional approach that has been used by the community and company related to it, and the positive consequences that they have attained. These characteristics account for the second option that the author establishes as a valid reason to opt for a single case.

Discussing the sources of criticism that this research strategy has experienced over time, two main areas are consistently exposed. Firstly, the issue of generalization, in the sense that using a single experience, which is bounded in time, place, culture, and so on, would not be enough to assure that its conclusions would be relevant in other settings with different characteristics. And second, the issue of representativeness, in the sense that the selected case should be randomly selected to be representative of a sample. Siggelkow (2007) argues that it is actually these two issues (not seeking generalization, and unrepresentativeness) that make the case study methodology powerful. According to the author, by using case-study the researcher does not intend to generalize by using a representative sample; he or she rather seeks to present an interesting, powerful example that may provide insights that may be applicable to other settings by drawing inferences about their particularities. To make sure this happens, the author suggests being extremely careful in selecting the case to write about (making sure it is interesting enough) and providing an insightful conceptual framework to help the researcher to focus while gathering data and writing its conclusions. Other authors also provide arguments against selecting cases randomly as a way to ensure that their extreme or

unique nature provides much more insightful information for the purpose of the research (Flybjerg, 2006) and due to the fact that they are used to develop theory, not to test it (Eisenhardt and Graebner, 2007).

Following the arguments from the previous paragraph, a first answer to these sources of criticism related to the present case study comes from the idea that generalization is not one of the objectives that the present research work intends. Instead, the extraction of valuable insights that may provide new avenues for the topics of Development, Knowledge management and Social entrepreneurships as evolution of their respective academic path is sought. This same argument is valid to respond to the issue of representativeness: The unique character of the case studied presents enough interest to consider it a one of a kind, interesting enough experience to learn valuable lessons that may be used as a model that may be replicated in other contexts. The following paragraphs shall dig into the critiques and limitations that come from using case-studies as a research strategy and the responses on how to overcome such limitations.

On this topic, Kathleen Eisenhardt, an elected fellow of the Academy of Management, presents a roadmap intended to build theory from case study research. Her overall argument departs from the premise that “development of theory is a central activity in organizational research” (Eisenhardt, 1989; p. 532). The author acknowledges the strengths of case study research related to its novelty, testability, and empirical validity, which are particularly relevant in new areas of knowledge or in those for which current theory may seem inadequate. However, her general conclusion for these advantages to be realized is that a single case study does not suffice, and only a multiple case design (using from 4 to 10 cases) with a thorough process of eight steps and fifteen activities from defining the research questions to reaching closure by arriving to theoretical saturation shall accomplish the purpose of theory building. In following papers, the author acknowledges the usefulness of ‘individual cases’ as a source for independent corroboration of specific propositions built from previous works, a property that she refers to as ‘replication’ (Eisenhardt, 1991), and as a source to richly describe the existence of a ‘significant phenomenon under rare or extreme circumstances’ (Eisenhardt and Graebner, 2007). She however, reinforces the idea that it is multiple

case study design that yields more 'robust, generalizable, and testable theory' than single case study research.

Contesting Eisenhardt's (1989) article, Dyer and Wilkins (1991) presented a critique revalorizing single case studies over multiple-case study design with the contention that it is better 'stories' rather than better 'constructs' that are more useful in building theory. Their line of argumentation compares classical studies based on single cases (most of the time) or couples of cases (in some instances) and stresses their effect on building theories that are currently at use versus studies based on multiple cases that might be stronger in constructs, but offer only 'surface' descriptions of multiple contexts communicating less 'contextual insight'. Eisenhardt (1991) counter argues their reasoning by saying that on one side, the studies cited in the critique are classical works published around the 1960's, when most of the academic fields they contributed to were nascent and captured the "extraordinary skills of their authors"; additionally, she expresses that most of the cited cases fall in the multiple-case category since at different points they use other contexts to enrich their descriptions. Moreover, Eisenhardt questions whether 'better stories versus better constructs' is a false dichotomy establishing that these are not two concepts that are separated and again, most of the cited examples follow rigorous methods like the ones she proposed in her original paper. With these arguments, she concludes that "the theoretical insights of case studies arise from methodological rigor and multiple-case comparative logic" (p. 626). The personal conclusion of the writer of this dissertation on this matter is to think that the two arguments are not mutually exclusive: a single case study may have a very solid methodological design and serve for building theory, and a multiple case study research may also be poor in rigor of methods and not serve the purpose.

On a different order of ideas, Flybjerg (2006) refutes five misunderstandings about research based on case-study, namely: a) general, theoretical knowledge is of more value than concrete, practical one; b) it is not possible to generalize from a single case-study, therefore research based on this approach does not contribute to scientific development; c) case studies are useful in the early stages of the research process, particularly to generate hypotheses; d) with case studies there is a bias in verification (a tendency to confirm the researcher's pre-conceptions); and e) it is difficult to develop

general propositions from specific case studies. Although all five contentions are relevant, a point of interest in the arguments that support the choice in this dissertation relate to the first two of them. Firstly, the author argues that “to make rule-based knowledge the highest goal of learning is regressive” (p. 223), pointing out that “context-dependent knowledge and experience are at the very heart of expert activity” (p. 222). Case studies bring the context to learning and research, according to the author. To him, developing theory from case studies brings a ‘nuanced’ view of reality and reinforces the idea that human behavior cannot be understood only as a set of acts governed by established rules. This view is highly consistent with the pragmatic view of John Dewey when he opted for a situated and reflexive understanding of the elements that produce action: thought, emotion and habit. This point was contested by Herbert Simon as the foundational ideas for the ‘Carnegie school of thought’ that placed much emphasis on decision-making rules and scientific treatment to the issues that managers face in organizations (Cohen, 2007). The basis to arrive to this rational school is the distinction between means and ends as independent entities. Again and as stated in previous chapters of this dissertation, the pragmatic stand considers means and ends as being in a complex, reciprocal and situated interdependence and the reflection on them in our acts is the source of our meaning. This spirit is captured in Flybjerg’s argument in favor of context-dependent knowledge.

To illustrate the second misunderstanding from the previous list, Flybjerg turns to Karl Popper’s concept of falsification referring to case studies as ‘black swans’. In his early works, Popper described ‘falsification’ as a rigorous test for scientific propositions: if only one observation (spotting a black swan) does not fit with the tested proposition (all swans are white, in this example), it is enough proof to consider it ‘not valid generally’ and should be rejected or reviewed. Flybjerg presents some examples of single cases that were good enough to falsify well accepted theories, such as Galileo’s contention of traditional Aristotle’s laws of gravity. Furthermore, the author argues for an overvaluation of generalizability as a path to gain knowledge. To him, “that knowledge cannot be formally generalized does not mean that it cannot enter into the collective process of knowledge accumulation ... A purely descriptive, phenomenological case

study without any attempt to generalize can certainly be of value in this process and has often helped cut a path toward scientific innovation” (p. 227).

Coming back to the issue of falsification, in a recent e-mail exchange among professors of Hull University Business School, discussing the validity of case studies as sources of knowledge, Professor Gerarld Midgley reflected that Karl Popper changed his view on falsification between 1959 and 1972 from a stand point where spotting a ‘black swan’ falsified the statement that ‘all swans are white’ to a position where finding a swan with a color other than white may open the discussion of whether one may have found a completely different kind of bird. In this later view, the potential contribution of case studies to knowledge comes from the possibility of falsifying a commonly accepted conception, or opening for a whole new avenue of research.

### **3.2.3 Reliability and validity**

Reliability in research implies that if a new researcher in the future follows the same research design and procedures that the investigator describes in a study, the conclusions from this new work shall be the same as the original ones; that is to say, the study is replicable. However, and as stated in the section of research strategy, single case studies are selected for their unique character, and the aspects of the case that will be highlighted are very much related to the researcher abilities and interest. With this features in mind, Janesick (2000) argues that “the value of the case study is its uniqueness; consequently, reliability in the traditional sense of replicability is pointless here” (p. 394). Given this characteristic, Yin (1994) presents some tactics to assure reliability in case studies, that served as guidelines of the present research. The author suggests conducting research ‘as if someone were always looking over your shoulder’; to accomplish this suggestion, the author argues for the need for a well-documented case study protocol with the instrument (data collection and analysis techniques) and also the procedures to use it, on one hand; and the development of a case study data base with the documental evidence of all the data compiled, on the other. Both elements shall be presented in the following section of this chapter related to data collection and analysis.

Validity as a measure of research quality is concerned with the extent to which the instruments used in a study provide a fair depiction of whatever they are supposed to measure. According to most authors who write on qualitative research in general (Corbin and Strauss, 2014, Gephart, 2004; Denzin and Lincoln, 2000; Patton, 1990) and on case study strategy in particular (Yin, 1994; Eisenhardt, 1989) the use of multi-methods is an intrinsic characteristic to assure validity. One particular way to achieve this is through triangulation, which can be understood as the “process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation or interpretation” (Stake, 2000). Actually, when discussing the issue of triangulation, Flick (1998) argues that it is not a tool or a strategy for validation, but an *alternative* to validation. Digging into this concept, Miles and Huberman (1994) present Denzin’s (1978) four different forms of triangulation (p. 267): a) data triangulation, which implies the use of a variety of sources of data in a study; b) investigator triangulation, which involves a number of different researchers; c) theory triangulation, where the author suggests the use of different perspectives to interpret a single data; and d) methodological triangulation, involving the use of a variety of methods to research one particular problem.

The issue of triangulation has been thoroughly sought during the conduction of the present research. As it will be discussed in the following section, different methods of data collection were used in the present research work, and within the same method, a diversity of sources was also used to confirm or confront personal points of view, covering the first and third forms of triangulation proposed by Denzin (1978) and presented above. Theory triangulation was also covered from the performance of the literature review until the development of the conclusions presented in chapter 6 using some elements of grounded theory, as it will be described in the Data analysis section of this chapter. Only investigator triangulation was not utilized in this research work, due to the fact that a single candidate performed it as a PhD dissertation.

One additional aspect that helps in assuring reliability and validity relates to the individual abilities of the researcher. Yin (1994) describes the following skills as critical when performing a research based on the case study approach: a) the researcher should be able to ask good questions and interpret correctly the answers; b) listening skills are

basic so the researcher does not get trapped in his preconceived ideas; c) adaptability and flexibility are crucial to deal with unexpected situations; d) need for a firm grasp of the issues studied to stay in the correct path during the investigation process; and e) lack of bias particularly those that may arise from preconceived notions given by theoretical preferences. Despite the fact that the researcher from this dissertation, as a PhD student, is developing research skills (including some from the previous list), his background and experience as a college educator has included writing other case studies through interviews and archival research, which has helped him in working on these skills. Moreover, the previous list was used as a reference in the process of research that is reported here.

### **3.2.4 Data collection**

Revisiting the principles that pragmatism as a research philosophy present, the idea of 'knowledge is action' stated at the beginning of this chapter implies being able to observe directly what happens in the natural setting of the context researched and to hear from those directly concerned about the issues related to the phenomenon that is investigated. Moreover, bearing in mind (as stated in chapter one) that pragmatism refers to experiencing and changing life conditions with emphasis on the day to day personal initiatives of the incumbents in relationship with their social environment with solidarity, the relevance of being 'situated' in the place of the research setting is fundamental.

With the pragmatic foundations as background and recalling that when using a case study strategy in research, validity can be enforced through triangulation, different data collection techniques were used in this research work. The step of the process where each one of them was applied and its depth of use is presented in the following section of this chapter that describes the case study protocol. Prior to that, a description of each technique and its purpose in relation to the research process is introduced. Particularly and due to the nature of the research setting, three forms of data collection were used in this dissertation: observations (both, direct and participant), in-depth interviews, and document analysis.

Observation in research is relevant when the issue that is researched is not historical and its environmental conditions are relevant to the study. The main advantages from this technique is the possibility to cover the events in real time and in the context where they occur. According to Yin (1994), gathering observational evidence in case studies may be done either through direct or participant observations. On one hand, direct observation as a technique allows the researcher to gain the opportunity to get a 'full-picture' of the research setting since it implies to take an 'outsider' stand in the process. It requires the researcher to be in a position such that his presence does not interfere with the process, to avoid biases. On the other hand, participant observation as a data collection technique implies that the researcher participates as a member of the community in its quotidian live and activities, not only observing what is happening, but also grabbing a feeling of it through his participation in whatever happens. It requires the participant to assume specific roles in the context of the situation that is studied. The main advantages from this technique include the fact that it allows to get an "insider" view of the case study and the possibility to gain insights on the interpersonal behaviors and motives of the people involved. Its disadvantages include the possible bias that the presence of the researcher may bring to the phenomenon, the natural tendency to take sides or become a supporter in the studied process, and the risk to unbalance the participant-observer role, giving more relevance to the former (Yin, 1994; p. 86-89). Creswell (2013) considers the use of the observation technique as a continuum that may go from full observer to full participant. The author considers that the type of observation technique varies in this continuum over the time of the research activity and he suggests to begin as a complete outsider in the process and moving slowly into the participant role to gain more insightful information.

Continuing with the research techniques, interviews are one of the most important tools to get information in case studies, due to the fact that they allow to address directly issues that are central to the focus of the study, instead of having to extract what is useful from what is not from general observations. A number of authors accounts for the relevance of talking to people and its effect on research due to the power of language to clarify meaning (Burges 1982). Generally speaking, interviews are conversations with a purpose. Returning to the pragmatic stand point, this purpose



relates to a 'fundamental process through which knowledge about the social world is constructed in normal human interaction' (Rorty, 1980). The main difference between day to day conversations and interviews is their purpose and the roles that researcher and interviewee play. Interviews may be structured (also called focused) or unstructured (also known as in-depth interviews) according to their duration and the process followed in the conversation. Structured interviews tend to be shorter and have a fixed set of questions from the beginning, while unstructured interviews are longer and have only general topics of discussion as a starting point and allow for freedom in the direction that conversation may take. Due to the nature of the phenomenon studied in this dissertation, in-depth interviews were used as a source of information. In in-depth interviews the interviewees plays the role of an 'informant' rather than a 'respondent' (Yin, 1994) in the sense that they provide both, insights of the matter of study and also sources for corroborating evidence. Thanks to the nature of the conversation, this kind of interviews allow access to the meanings that interviewees give to their experiences and problems and to causal inferences they may assign to events. Additionally, to be successful as source of valuable information, in-depth interviews require design and conversational skills from the interviewer to avoid response bias and to receive from the interviewee only what the interviewer wants to hear.

Finally, the third strategy to collect data used in this dissertation was document analysis. According to Yin (1994), the most relevant use for documents in conducting case study research is to corroborate evidence obtained from other sources; that is to say, triangulation. One more relevant use from these sources of data according to the author is to find topics to investigate further in the research process. The main advantage of relying on documents is that they can be consulted over and over and will not change over time; they are unobtrusive in the sense that they were not created for the purpose of the case study, nor will they be affected by the case itself; and they normally cover broadly the time span and events that are relevant to the case. One limitation of using documents as data sources comes from the fact that documents were written for purposes and audiences different than those relevant to the case that is studied. Thus, using these sources of evidence also requires a degree of criticality in interpreting these subtleties and not only sticking with what is strictly stated in the documents.

Accessibility to the documents may also be a limitation, particularly with documents that are not publicly available.

### **3.2.5 Data analysis**

Moving onto the analysis of the extracted data, a typical inductive approach implies a recursive procedure to review the data that is obtained from the observed phenomenon and the existing literature of the field (Denzin and Lincoln, 2000; Miles and Huberman, 1994). Particularly in case study research, data obtained through observations and interviews is confronted with the original literature considered and new avenues of inquiry are opened to find new findings from current theories and to further investigate in the field. This implies an overlap in the data collection and data analysis activities in research (Eisenhardt, 1989). This recursive process was performed in this research work, helping to refine the areas of knowledge that were considered at its inception (which were Development theory and Knowledge management in a general account) and to expand to integrate other areas that revealed themselves relevant as the process progressed. In this way Social entrepreneurship and Distributed agency were revealed as important theoretical insights that accounted for many of the details observed in the field.

Although it has been stated that the main objective of this research work is not generalizing its findings into new theories, some elements of the grounded theory methodology (Glaser and Strauss, 1967) were considered to provide light into the process used to analyze the data obtained in observations. In this methodology, theory is generated from the data; or when there are theories already in existence, the application of the methodology may arrive to their elaboration or modification if the data plays against them (Strauss and Corbin, 1994).

According to Hutchinson, Johnston and Breckon (2010), grounded theory presents six distinctive characteristics that describe the process performed when using this approach, namely: a) it requires an iterative process, which, as expressed above, implies that data collection and analysis overlap; b) sampling is performed with the idea of theory generation and follows the research question stated; c) creating analytical codes and categories from data, which is the step where research question, existing literature

and data integrate; d) advancing theory development throughout the research process; e) making systematic comparisons among the different sets of data and between the data and the literature to establish analytical distinctions; and f) theoretical density, that is an evidence of the depth of the observations presented until saturation is reached (a point where new data no longer reveals new theoretical insights). The characteristics related to the analysis of the data presented in points a), c) and e) were used as guidelines in the research process of this dissertation.

Particularly, the process of analytical coding was performed with the help of a computer-aided qualitative analysis software (CAQAS): NVivo version 10. This kind of software is useful in data handling and analyzing, but is not a replacement for the opportunity for the researcher to learn from the data obtained (Bazely and Jackson, 2013). Typically, the initial use of the software in the research process implies importing all sorts of documents related to the data collection stage, from both, primary and secondary sources. NVivo allows to integrate nearly any kind of document into the research project. When using interviews, like in the case of this dissertation, transcribing the conversation is suggested to capture all the elements that the interviewee offered. With this idea in mind, all in-depth interviews obtained as sources of data were transcribed and the written documents were integrated in the software. Furthermore, NVivo has the option to include in the project audios, videos, presentations, web pages, PDF files and many different types of electronic documents and to attach categories to each of them. In the present research project all these kinds of documents were integrated; this includes those obtained by the researcher (such as videos and audios obtained from the observations, and transcriptions from the researcher diary), and secondary elements (like presentations, brochures, web pages and other documents) produced by the company and facilitated to the researcher.

The most important element that a CAQAS brings in the research process is coding. This concept refers to the process by which the researcher gives meaning to the obtained data. Corbin and Strauss (2014) explain this activity as '*mining*' the data; digging beneath the surface to discover the 'treasures' contained in data. In concrete terms coding means labelling segments of data to form nodes. These nodes typically relate to the conceptual elements that are relevant in the process. The nodes developed in this

dissertation served to identify the density of evidences attached to the conceptual elements provided by the three areas of study.

Finally, a CAQAS facilitates the process of arriving to conclusions related to the concepts of theoretical density and saturation through the construction of reports and matrices that show the relationships among nodes and between nodes and categories. These elements represent the evidence that the data gathered provides in the theoretical concepts that are used, individually and in their relationship with the rest of the concepts. These reports are fundamental to construct the information presented in the chapter of the dissertation that presents the general analysis of the evidences obtained in this process.

### **3.3 The case study protocol**

Yin (1994) suggests the development of a case study protocol as a means to ensure the reliability of a case study. Following the structure proposed by the author, the protocol of the case study of this dissertation is presented in the following subsections.

#### **3.3.1 Overview of the case study**

The overall goal of this dissertation is to analyze the case of development of a Mexican community based on three main bodies of knowledge: Development, Knowledge management and Social entrepreneurship. In this aim, there are two elements of analysis that must be considered in the case: Huixcazdhá, the Mexican community that belongs to the state of Hidalgo that experienced in the last 30 years a relevant experience of development, and San Miguel de Proyectos Agropecuarios (San Miguel hereby), the company that arrived to the community in 1986 with an innovative approach of social entrepreneurship that implies a full immersion in the community and a total symbiosis with it.

San Miguel is a food production company that manufactures and distributes dietary supplements targeted to segments of population at risk based on amaranth. Amaranth is an ancient crop that was one of the main components in the diet of the Aztecs, but was forbidden after they were conquered by the Spaniards; it has lately been rediscovered and used thanks to its superior nutritional characteristics. This company's distinctive characteristics is its social focus. Its manufacturing plant operates in

Huixcazdhá, a rural community of the Mexican state of Hidalgo that presented many deprivations when San Miguel first arrived there in 1985, and has experienced an interesting journey of development along with the growth of the company ever since. San Miguel only hires for its manufacturing plant personnel from Huixcazdhá, despite the fact that its population has only 8 and a half years of official education. With these characteristics the company has been established as a Mexican leader in production of food supplements based on amaranth and Huixcazdhá has achieved levels of wellbeing hardly found in other communities with similar characteristics.

Having these two elements as units of analysis (the company and the community), and taking advantage of the researcher's access to the company due to its relationship with the Mexican university that he works for, the natural path in the research journey was to begin by observing and making sense of the processes and activities of the company, some of which are strictly related to its business operations and some that belong to its social purpose and have effect on the community, to become insightful in the community's dynamics and main issues. With this idea in mind, the researcher spent the period from February to August 2013 visiting Huixcazdhá on a weekly basis (normally each visit included Thursdays and Fridays, although according to the relevant events of the company and community in some weeks the visiting days changed) and gathering data both from the company and the community according to the data collection procedure that is presented next.

### **3.3.2 Data collection procedure**

The process of data collection began after presenting the interest and protocol to the CEO of the company and gaining access from him to all activities from San Miguel, related both, to the production process, and to the social initiatives that were developed at that particular time. The researcher was given the status of an insider in the company, was uniformed as any other worker of San Miguel, and was introduced to a weekly company meeting as a researcher who would remain for several months in the company observing its processes and asking questions regarding its activities.

Concerning the data obtained in relationship with the company's activities, the first two months were devoted to observing the different elements of the manufacturing process,

the production planning activities, the quality control department, the research and development initiatives, and the maintenance responsibilities. In order to gain understanding of these activities, direct observations were performed during the time that corresponds to one full shift in each section, and for the more administrative tasks (such as quality control and research and development) after observing the activities performed by their workers, a general interview was performed to understand their overall responsibilities and procedures.

Regarding the unstructured and non-repetitive activities from San Miguel, several processes were observed during the field work period of the research: First, the company obtained its certification under the Hazard Analysis and Critical Control Points (HACCP) standard as a requirement established by some of its customers. In this process, two meetings from the internal quality committee to review the areas of opportunity and potential non-compliances produced in the initial external auditing visit were observed. In this same line, the meeting with the external certifying team to review the actions undertaken to fulfill these points was also observed.

Second, during the observation period, two visits from potential partners to explore business opportunities with Sand Miguel took place in Huixcazhdhá. On both occasions, the journey started with a full presentation from San Miguel, beginning with its origins and philosophy and arriving to the variety of products they have produced in different periods of time. Later, the potential partners presented their intentions and finally they visited the manufacturing facilities of the company. All these processes were observed and provided sources of interesting insights of the competitive vision of San Miguel.

Third, the process of annual review of performance also took place during the field study. In this process the human resources committee met to analyze the individual performance of all employees from the company, resulting in a relevant administrative task that the researcher had the chance to observe. Additionally, and linked to this process, the general meeting where the employees were acquainted with the instrument used for their evaluation took place and was also observed. Finally, as a result of this training session, a new instrument was developed by the employees to

evaluate their supervisors. The researcher was asked by the CEO to facilitate this process, in which a participant-observation role was taken to get to the expected result.

Finally, a number of training sessions given either to all employees or to target groups of them and related to different topics of interest for the company or for the workers were observed. These included sessions of training in automobile mechanics addressed to the workers of the company that owned cars and directed by the owner of the mechanical workshop that maintains the vehicles of the company; one session of instruction on pest control given by a pest consultant to the quality control personnel; and a general session on health and gastrointestinal diseases prevention conducted by the CEO of the company directed to all personnel.

Moving along to the activities that the company performs to fulfill its social Mission which gave the researcher the opportunity to observe how the community organized itself around topics of their interest and were led by San Miguel, different processes took place during the observation period. First and most important, a project to help local farmers to begin with the production of amaranth was observed. This project is linked with the agricultural cycle of the crop, which begins in March with the seeding and finishes around August when the amaranth is harvested and the grain is obtained from the plant. In this cycle three activities of knowledge transfer from the company to the farmers were observed. The first one, seeding, took place in the plot of one particular farmer. The other two that referred to growing the plant and harvesting and cleaning it implied the participation of farmers from different states of Mexico who gathered to exchange experiences of their own plantations. In these events academic researchers were also invited to conduct a seminar where the farmers could learn about the potential expansions that amaranth offers as a crop.

Other sets of activities relate to the intention of San Miguel to develop social entrepreneurship initiatives among the people from Huixcazhdhá. Here, a number of projects were under planning and a few were already in operation. The researcher observed these initiatives in different settings and also interviewed their entrepreneurs. These settings included processes performed with one of San Miguel's partners, a local

university, which provides help in developing the entrepreneurial initiatives through the work of its students during summer internships and weekly visits to the community.

Related to the partnership of San Miguel and this university, a third element of action in the community implies the organization of internships where Mexican and international students spend several weeks of the summer researching about a particular topic and organize workshops where they teach the community members arts, crafts, sports, and some academic topics like Mathematics and English. In this particular project, the researcher again took the role of participant-observant leading a group of these students into their summer activities.

A fourth element of interest in the relationship of San Miguel with the community refers to the use of amaranth as a source of nutrition by its reintroduction in the daily diet of families. In this line, during the period of field work, the researcher observed a number of weekly sessions of training through a cooking workshop directed by personnel from the company and addressed to a group of ladies from a neighboring community who eventually developed their own recipes and shared them in the sessions to exchange the experiences commented on previous paragraphs.

Fifthly, San Miguel has developed a particular strategy to integrate the children from Huixcazhdá through activities that they find interesting aiming for their involvement in the community life. At different times of the previous years, the participation has been more or less active. The researcher observed the process to integrate a new group of children into these initiatives.

Lastly, another set of communal activities relates to the participation of San Miguel along with other non-government organizations in projects aimed to disseminate the knowledge on amaranth to make it regain a principal role in Mexicans' diet and to allow other rural communities to develop skills to transform its grain into products that could be commercialized. In this line, one visit from farmers from the state of Oaxaca to Huixcazhdá and San Miguel was observed. Also a technology transfer process was scrutinized involving the transferal of a production machine that pops grain amaranth into rural communities of the same state.



Related to all these social activities, a number of their planning sessions were observed. Here, the persons in charge of the projects detailed their previously discussed operations, challenges and directions into the future.

To conclude with the description of the elements of observation in the data collection procedures, some activities of the community that have no relationship with San Miguel were also observed. The most relevant was a community council session where most male and some female adults from Huixcazhdá discuss topics of the community life that affect them and arrive to decisions on how to organize their activities to improve their living conditions. To gain access to this session the CEO of the company requested permission from the leaders of the community for the researcher to gain access to their council session, to which they agreed gladly. Additional to this session, the general life of the community was also observed in their daily activities such as work on their farms, participation in communal labors, and the like.

According to the relevance of the observed elements in the research process and also considering the availability of means and feasibility conditions present, most of the processes described in previous paragraphs were audio recorded and some video recording and photographs were taken. The intention in so doing was being able to keep evidence of the situations in the environment where they happened giving relevance to the expressions, inflections and reactions of the people involved as they occurred. For the elements where recording was not possible, the researcher made notes in his research diary. For all recorded elements (audios, videos, field notes, photographs) a screening process was performed to identify the most relevant, which were then used as evidence of the observations. The most relevant audio and video evidences were transcribed and the written version was integrated in the coding process using NVivo. The rest of the elements were integrated in the NVivo software as files and their most relevant portions were also coded into the project.

The second major component of data came from in-depth interviews. After understanding the dynamics of the company and community for almost three months, the field work continued with more observations of the relevant processes present at the time, but also the phase of in-depth interviews began. The intention of this phase

was to listen from the workers of the company (who are all either from Huixcazhdá or the neighboring community) about the effect that their participation in San Miguel had brought into their daily lives. Thirty in-depth interviews were conducted during the months of May and June with persons having very diverse characteristics in terms of gender, age, and time working for the company. According to the ethical principles in social research, all persons who participated in the interviews received first an invitation by the researcher and then, prior to the beginning of the interview, their particular concerns were discussed. At this time an informed consent form was signed where the objectives of the research were stated, the anonymity of respondents was ensured and the freedom to decline at that moment or at any stage of the process was offered. Only when they understood the intention of the interview and the context of the research project did the conversation begin. It is relevant to say that some of the workers who were invited to participate in this process refused the invitation and were not considered as interviewees. Finally, all of those who agreed on their participation signed the consent forms.

All thirty interviews were audio recorded with the exception of two because the respondents stated that they preferred so. The recorded material is kept safely in the computing equipment of the researcher with file names that do not include the names of the respondents to ensure the confidentiality and anonymity in their responses. At a later stage of the research process, all of the interviews were transcribed into text documents that served as input for the coding phase using the NVivo software.

Finally, the third source of data came from company documents. The most relevant ones that were facilitated by the CEO and other administrative staff of the company to the researcher included: PowerPoint presentations used by the CEO in public speeches; company brochures, catalogs and other communication elements; photographs of relevant moments of the observed processes that the researcher did not have opportunity to attend, and also from historical moments of San Miguel; videos, newspaper articles and other materials that have been published in the media regarding the company; and relevant documents related to the characteristics of amaranth from the academic point of view, as well as the issues related to its commercialization in Mexico.

Presentations, photographs and videos were also introduced in the NVivo software with their proper codifications. All the rest of documents were used as sources for the writing of the narrative of the following chapter that presents the case study.

### **3.3.3 Data collection questions**

The original areas of concern that were established at the origin of the field work of this dissertation centered on two main topics: the dynamics of the company in relationship with its commercial activity and its social purpose, with particular focus on the role of knowledge there, and how these dynamics had an impact on the partaking community. With this in mind, the questions that guided the observations and conversations that the researcher established in the first weeks of his presence in the community were: a) What are the main activities that San Miguel as a company performs to operate as a commercial entity? What are the main activities of the company in relationship with its social mission? b) How all these activities are performed? What are their main processes? What are the organizational arrangements that facilitate them? Who are the main actors in these processes? c) What are the characteristics of these main actors? What are their concerns and sources of happiness? d) How do they see their lives as members of their community? What is their perceived relevance of being part of San Miguel in their daily lives? e) What other actors are impacted by the activities of the company? What is the real impact of San Miguel on their lives? How do they relate with the company?

In the recursive and dialectic process of data gathering and literature reviewing that happens naturally as long as the research project advances, two additional academic areas were revealed after a couple of weeks of interaction with the company and the community: social entrepreneurship and the capability approach. Related to the first area an additional set of guiding questions were developed to understand the phenomenon of social entrepreneurship, including: a) What are the main characteristics of the social entrepreneur that make him appealing to lead a venture like San Miguel? b) What are the main events in the life of the social entrepreneur in relationship with the social venture? What are his main models? c) What was the process that the entrepreneur followed to establish his company? What were the main obstacles that he had to overcome? d) Who have been the main partners at the different stages of the

company? What have been their role in the realization of the process? e) What are the main satisfactions of the social entrepreneur? What are his main areas of unrest? What are the plans of the social entrepreneur for the future of the company?

Regarding the capability approach, the main topics extracted from the literature helped in preparing the areas of conversation during the interviewing process, although the sets of questions presented in the previous two paragraphs also gave direction in this phase. The particular questions related to this academic area included: a) What is the perceived reality of the interviewee regarding the instrumental capabilities (Economic conditions, education, health, employment, social interactions, and gender issues)? What is the potential improvement that the interviewee foresees regarding these capabilities? b) What are the main elements that the interviewee considers when speaking about the notion of 'development'? c) How does the interviewee compare the life in Huixcazhdá with other communities? What are the main advantages and disadvantages that he/she observes? d) What are the main concerns of the interviewee regarding his/her future? How could life be improved in Huixcazhdá for the coming generations? e) What elements learned in the company are adopted into his/her daily life? What is the role of San Miguel in the current reality of Huixcazhdá? What may be its role in the future?

### **3.4 The case study database**

In this section all the data that was collected in the field and used as source of evidence in building the case study is organized and presented. First, all the evidence collected from direct and participant observations is shown. Next, the summary of the transcribed interviews is presented. Finally, the list of documents in possession of the researcher is exposed.

Following the same order of description introduced in the previous section of the case study protocol, table 3.1 summarizes the evidences that were collected around the operations of San Miguel as a company. The list presents an internal code corresponding to the name of each resource as it is found in NVivo, the second column presents the description of each piece of evidence, the third column makes reference to what type of activity was observed (operations, relationship with partners, planning activities or

training sessions), the fourth column states the date of observation, and the last column describes the type of document.

**Table 3.1. Sources of evidence related to the business activities of San Miguel**

<i>Internal Code</i>	<i>Description</i>	<i>Type of activity</i>	<i>Date</i>	<i>Type of Document</i>
<b>OSM_TRAIN_01</b>	Description of the training process in general auto mechanics	Formal training	25/05/2013	Transcription from the researcher's diary
<b>PART_DRINK</b>	Meeting with a potential partner (a world-leading food company) in the development of an amaranth based drink	Relationship with partners	18/04/2013	Transcription from audio files
<b>DIARY_FEB_MAR</b>	General observations on the process from quality and maintenance areas	Manufacturing process	1/03/2013	Transcription from the researcher's diary
<b>DIARY_FEB_MAR</b>	Direct observations of the manufacturing process	Manufacturing process	14/03/2013	Transcription from the researcher's diary
<b>OSM HRM</b>	Human resources committee meeting to execute annual performance evaluation	Administrative and planning process	2/05/2013 3/05/2013	Transcription from the researcher's diary
<b>OSM HRM</b>	Training session with all employees about performance evaluation	Formal training	3/05/2013	Transcription from the researcher's diary
<b>OSM HRM</b>	Participant observation session to develop an instrument to evaluate superiors	Administrative and planning process	17/05/2013	Researcher's report
<b>OSM HRM</b>	Average characteristics of workers from San Miguel	Administrative and planning process	22/08/2013	Researcher's report
<b>OSM PROD</b>	Description of the manufacturing process of San Miguel	Manufacturing process	Along the period of field work	Transcription from the researcher's diary
<b>OSM PROD</b>	Work load planning and assignment of shift roles	Manufacturing process	14/03/2013 21/03/2013	Transcription from the researcher's diary
<b>OSM PROD</b>	Description of each activity in the manufacturing process (Packaging, mixing, die-casting, popping, milling, and kits preparing)	Manufacturing process	14/03/2013 21/03/2013 16/04/2013	Transcription from the researcher's diary
<b>OSM PROD</b>	Description of the process to formulate new products (food supplements)	Manufacturing process	12/03/2013	Transcription from the researcher's diary

<b>OSM QUAL</b>	Plague control issues	Quality control process	1/03/2013	Transcription from audio files
<b>OSM QUAL</b>	Certification process under Hazard Analysis and Critical Control Points standard. Planning for the visit and actual auditing visit	Quality control process	7/03/2013 2/04/2013	Transcription from audio files
<b>OSM03 R&amp;D</b>	Description of the activities related to Research and Development	R&D process	7/03/2013	Transcription from audio files and researcher's diary
<b>STP_UNIV</b>	Visit to the manufacturing plant from a group of Chilean business people interested on learning the potentialities of amaranth	Relationship with partners	7/06/2013	Transcription from audio files

Table 3.2 summarizes all observations performed during the field work period around the social activities that San Miguel performs to develop new farmers interested in growing amaranth, reintroducing the cereal in the diet of Mexican families, developing social entrepreneurs from Huixcazhdá, and integrating the children from the community in interesting activities, among many others.

**Table 3.2. Sources of evidence related to the social activities of San Miguel**

<i>Internal Code</i>	<i>Description</i>	<i>Type of activity</i>	<i>Date</i>	<i>Type of Document</i>
<b>EXE01 OAXTRIS</b>	Visit from social entrepreneurs that farm and produce products based on amaranth from Oaxaca	Relationship with partners	28/03/2013	Transcription from audio files
<b>EXE02 CYCLE CLOSE</b>	Exchange of experiences session around the growing of amaranth with academic lecture from leading researcher	Project of farmer's development	03/06/2013	Transcription from audio files
<b>EXE02 CYCLE CLOSE</b>	Exchange of experiences session around harvesting and post-harvesting handle of amaranth	Project of farmer's development	23/08/2013	Transcription from audio files
<b>HUIX_GRAL</b>	Views on the development of social entrepreneurship projects among the community (egg production)	Social entrepreneurship development	16/04/2013	Transcription from the researcher's diary
<b>OABC</b>	Cooking courses using amaranth given to an organized group of ladies from neighboring community	Project of nutrition development	8/03/2013 26/04/2013	Transcription from audio files
<b>OABC</b>	Knowledge transfer process to teach farmers how to grow amaranth	Project of farmer's development	22/03/2013	Transcription from the researcher's diary
<b>OABC</b>	Visit of farmers who own large plots interested on growing amaranth	Project of farmer's development	2/05/2013	Transcription from audio files

<b>OABC</b>	Planning and evaluating social activities. Establishing the boundaries for workers from the company participating in social activities	Planning social activities	12/04/2013 2/05/2013	Transcription from the researcher's diary
<b>DIARY_FEB_MAR</b>	Personal reflections from the researcher about similarities and differences in the contexts of the two partner communities (Oaxaca)	Relationship with partners	28/02/2013	Transcription from the researcher's diary
<b>PSM00 THX</b>	Reception of a thank you letter from a cancer patient and occasion to reaffirm in group the social mission of the company	Project of nutrition development	7/03/2013	Transcription from audio files
<b>PT_HIST_NEW</b>	Description of the historical activities performed by children of the community under Pequeña Tribu and process of conformation of a new generation of PT	Role of children	16/05/2013 22/08/2013	Transcription from audio files and researcher's diary
<b>STP_UNIV</b>	Process of planning, execution and evaluation of the summer internship by Mexican and US students in Huixcazhdá	Relationship with partners	24/05/2013 17/06/2013 22/08/2013	Transcription from audio files and researcher's diary
<b>STP_UNIV</b>	Visit from an academic researcher from Yale's School of Public Health	Relationship with partners	2/08/2013	Transcription from audio files
<b>STP1478</b>	Presentation of a consulting process done by a group of students from a Mexican university to a group of social entrepreneurs from Huixcazhdá regarding their project	Relationship with partners	22/05/2013	Video

Table 3.3 presents the list of evidences gathered through direct observations of issues that have to deal directly with Huixcazhdá as a community.

**Table 3.3. Sources of evidence related to the community of Huixcazhdá**

<i>Internal Code</i>	<i>Description</i>	<i>Type of activity</i>	<i>Date</i>	<i>Type of Document</i>
<b>HUIX_GRAL</b>	Understanding about the organization systems in casts in Huixcazhdá as a community	Organization in the community	8/03/2013	Transcription from the researcher's diary
<b>HUIX_GRAL</b>	Description of the participation of the parents in the life of the schools of the community	Participation in community life	16/04/2013	Transcription from audio files
<b>HX04</b>	Community assembly	Organization and participation in community	5/05/2013	Transcription of key parts from audio files
<b>HX0420130505</b>	Community assembly	Organization and participation in community	5/05/2013	Audio file

Continuing with the in-depth interviews as sources of data, 30 employees participated in this stage of the process. Table 3.4 condenses their general characteristics highlighting gender, age and time they have collaborated with the company, as well as their area of work.

**Table 3.4. Characteristics of the interviewees**

<i>Internal Code</i>	<i>Gender</i>	<i>Age</i>	<i>Time at company</i>	<i>Working area</i>	<i>Date of interview</i>
INT01	Male	56	25	Maintenance	16/05/2103
INT02	Male	24	5	Production	16/05/2103
INT03	Female	26	7	Production	16/05/2103
INT04	Female	42	11	Production	16/05/2103
INT05	Female	28	13	Production	17/05/2013
INT06	Female	27	4*	Production	17/05/2013
INT07	Male	21	1	R&D	23/05/2013
INT08	Male	39	23	Maintenance	23/05/2013
INT09	Female	22	0	Production	23/05/2013
INT10	Male	27	3	Quality	23/05/2013
INT11	Male	54	5*	Maintenance	24/05/2013
INT12	Female	25	8	Supervisor	24/05/2013
INT13	Male	82	25	Maintenance	24/05/2013
INT14	Female	30	12*	Production	6/06/2013
INT15	Male	29	7*	Exc. operator	6/06/2013
INT16	Male	27	5	Quality	6/06/2013
INT17	Female	27	2.5	R&D	6/06/2013
INT18	Female	31	14	Exc. operator	7/06/2013
INT19	Female	18	0	Production	7/06/2013
INT20	Female	36	17*	Supervisor	7/06/2013
INT21	Male	62	21	Maintenance	27/06/2013
INT22	Male	52	14*	Production	27/06/2013
INT23	Male	51	22*	Maintenance	27/06/2013
INT24	Male	33	7*	Exc. operator	27/06/2013
INT25	Female	27	4	Quality	27/06/2013
INT26	Female	26	5	Utopia	28/06/2013
INT27	Male	23	5	Utopia	25/07/2013
INT28	Female	32	11*	Utopia	25/07/2013
INT30	Male	35	3*	Utopia	23/08/2013
OSM01	Male	NA	NA	Quality	01/03/2013

\*Means that the worker has been in the company in two or more different periods of time

Additional to these interviews where the respondents were employees of San Miguel, two long in-depth interviews were performed with the social entrepreneur; one at the beginning of the field study, on March 7, and the other one towards the end of it, on August 22. They were focused on understanding the personal motivations of the social



entrepreneur, the process of creation and growth of the company, the relevant obstacles that they faced, and his concerns looking into the future.

As a final element of integration regarding the third source of data used in the field work (documents), the most relevant documents obtained by the researcher during the field work that were used in the writing of the case study presented in the next chapter of this dissertation include the following: Three PowerPoint presentations, one on the commercialization of amaranth and two on the experience of San Miguel and its social mission, that were delivered by the social entrepreneur during the field work in different academic congresses; one transcript of a speech that the social entrepreneur delivered in the past at a national nutrition congress reflecting on the relevance of agriculture of indigenous communities; one video presented on a national TV channel reporting the experience of the company and Huixcazhdá; one video prepared by San Miguel postulating the project of the Pequeña Tribu as a candidate to receive the national youth award in Mexico; one video of a TEDx Talk given by the social entrepreneur; two brochures with the products of San Miguel; two articles published in newspapers with national coverage; two academic books considered as the bible of amaranth in Mexico; one report of a consulting process picturing the market of amaranth in Mexico; and a series of photographs presenting images of the following topics: activities of exchange of experiences (13 photos), daily life in Huixcazhdá (8 photos), social activities performed by personnel from San Miguel (25 photos), manufacturing activities of the company (20 photos), in-company training sessions (6 photos), and activities involving children under the Little Tribe project (2 photos).

## **Chapter 4. San Miguel and Huixcazdhá: A Case Study on Social Entrepreneurship**

To tell the story of Huixcazdhá, a Mexican community that has experienced an amazing journey of development over the past 25 years it is central to begin by understanding the person whose vision was so fundamentally shared by the community that embraced it to make it a happy reality. This chapter shall present the profile of the social entrepreneur who decided to make a difference in a small Mexican community by devoting his whole life to it. The following section of the chapter will focus on describing the entrepreneurial firm that has been developed in the community and the dynamics of knowledge that were observed by the researcher during a six month period spent there. Finally, the last section of the chapter shall present the current conditions of Huixcazdhá with emphasis on the impacts that the social entrepreneur and his venture have had on it.

### **4.1 Benito Manrique: When making a difference becomes a modus vivendi**

Benito Manrique de Lara y Soria was born in a family of doctors who worked for the World Health Organization (WHO) of the United Nations. His parents moved along the globe quite frequently due to the nature of their job, but returned to their house in Mexico once a year. For the family, composed of Benito (born in Colombia) and his brother Diego, along with their parents (his dad from Mexico and his mom from Ecuador), when they spoke about home, their thoughts were in Mexico.

A family with this kind of dynamics built extremely strong bonds even by Latin-American standards. These bonds meant the permanent support for the projects undertaken by the members of the family and putting them at the forefront with very little concern on financial repercussions. Benito Manrique blamed his father for his later poor decisions in terms of finances due to the fact that never in the history of his family did they experience the control over material possessions: Everything (including the bank accounts) belonged to the whole family and was accessible to all of them without even

a slight discussion. His father never even taught them the tie between one's job and the salary expected in return.

One of the strongest memories of Benito's childhood happened when his family just moved to India when he was aged six. There he was very strongly confronted with experiences of poverty and malnutrition. The images that he saw included children dying from hunger in the street and being taken away as garbage. These ideas got stocked in his mind forever. Trying to understand what he saw he asked his father why anybody has to die from such a deprivation, to which he received an answer that tried to make him aware of the fact that the reality need not be that way; that it is people through their decisions who can make a difference in the world. The reflection of such an answer that merged the injustice of losing a human life to hunger with the helpless sensation of not being able to do anything about it coming from Benito's *total figure of authority* – his father, had a tremendous impact on his future decisions.

At his early age of 15 he graduated from high school by skipping a couple of academic years thanks to his brilliance as a student. At his graduation ceremony from a Danish institution he was in charge of giving the speech on behalf of his generation. He took the opportunity to remind everyone at that momentous occasion about how fortunate and blessed they were to have had the chance to get an education and to live in such a developed country; however he stressed the great responsibility that it implies for their future decisions considering the great inequalities and injustices that our world presents.

One of the first important decisions in Benito's life was made when he had to select a college degree to pursue. At that time, his vocational interests ranged from Social Anthropology to Biomedical Engineering to Neuro and Cognitive Science; in any case whatever he decided to study would have to satisfy the genuine concern of making a difference for the poor and malnourished people he met in his younger years. Discussing this matter with his father he advised him on the field of Medicine as the only area that touches all these interests even if not in depth, but provides a general vision from birth to death of the human being. So Benito decided to become a Medical Doctor from the UNAM (National Autonomous University of Mexico), the top public school in his country,

not with the desire to become a world-known neurosurgeon or to establish a well-accepted practice in a large city, but with the honest interest in understanding the human body and reflecting how the life of a human being could be improved.

It was during his journey at UNAM when Benito discovered one of his major passions in life: being an educator. Again thanks to his brilliance as a student, he was invited when he was 17 to become the teaching assistant for the course on Human Ecology. The nature of the topic, focused on the relationship between human beings and their social, natural and created environments, echoed with his interest of finding ways to fighting poverty and malnutrition. After he graduated as a Medical Doctor, he was invited as permanent professor of this course, where he remained for five years teaching his students and learning from them, discussing with his colleges and exchanging ideas with them.

For new professors, UNAM offered courses on pedagogy as part of its induction program at its Center for Research and Educational Services (CISE, due to its name in Spanish). The first module on General Didactics questioned the new professors about the model of man and society that they believed in, with the provoking idea that you could not teach unless you had a clear idea of such a model for yourself. In this context, Benito was confronted with the ideas of Critical Pedagogy that were the cornerstone of Paulo Freire's methodologies. This Brazilian educator and particularly his main work, *Pedagogy of the Oppressed*, had an enormous impact on Benito's future; Freire's experience in adult literacy programs and his reflections on how the educational process is never neutral, but a means for men and women to make sense of their problems and a door to the 'practice of freedom' to participate and transform their realities, became integrated in his conception of society and the role of education in it. Derived from this author, the ideas of open pedagogy (learning does not happen in the classrooms, but in the place where the application may be achieved), learning by doing (where failure is regarded as an opportunity rather than something to punish), and the individual responsibility of the learner (where the genuine interest of the learner for the process is a prerequisite and the path to follow) remained forever engrained in Benito's conception of the process of education.

A couple of years after graduating from medical school and with his teaching practice as his main concern, Benito began a spiritual journey that eventually took him to a complete change in life style. With an interest of accessing a state of higher consciousness he started the practice of meditation and inner search with the support of a guru who took him as his apprentice. One of the readings that reached his hands was *In search for the miraculous. Fragments of an unknown teaching*, by P.D. Ouspensky. Here, the author describes the journey that a person should follow until his complete self-development following the teachings from George Gurdjieff, a famous guru of esoteric doctrine. Traditionally, esoteric schools presented three possible paths to achieve enlightenment: the Way of the Fakir (concentrating on the physical body); the Way of the Monk (focusing on emotions); and the Way of the Yogi (centering on the mind). Whichever way is chosen, all three coincided on the need for full seclusion from the ordinary life. Gurdjieff introduced a Fourth Way that Ouspensky carried out in detail, its main difference lies in the fact that it does not call for seclusion, but takes place in the common environment of the person. Through this Fourth Way, the person learns to master his physical body, emotions and mind at the same time that he lives an ordinary life. So, this was the way on which Benito embarked in his personal search for the miraculous.

This spiritual practice implied for Benito to question all forms of external life and to experience a lack of sense in all the material demands it implied. This questioning took him to lose interest in his academic practice, encountering no internal fulfillment in spending time in the library to find the latest journal articles on his topic and processing them just to disseminate them to his students proving that he was the most up to date professor at the university. Along with these doubts, Benito took interest in the entropic crisis of humanity thanks to Jeremy Rifkin's book called *Entropy* based on Nicholas Georgescu-Roegen's idea of Economic Ecology. The conclusions of the book in terms of how all kinds of systems (particularly energetic, social, economic and environmental) tend to move from a state of order and harmony into one of chaos (a systemic decomposition), mainly due to a wrong vision of human progress, resounded in his head. With all this in mind, Benito soon decided to declare a major rupture from his form of life, resigning from his academic practice and beginning a journey of inner search with

no clear destination. The problem now was how to communicate this decision to his total figure of authority.

Being colleagues of profession, Benito and his father exchanged clinical cases to discuss and keep their medical practice up to date. This habit was initiated by his father as a pedagogical tool for his son. Normally this happened during his father's holidays when he spent time at home in Mexico. One such occasion was close to happen when Benito was ready to communicate his rupture decision. He received his father at the airport and expressed that there was an important announcement to be made. His father said that there would be enough time for that, but for the time being he wanted Benito to analyze a clinical case he had prepared for him. This practice was like a little game that they both enjoyed, so Benito took time to analyze the case and arrived at the following conclusion: This patient suffers from colon cancer with metastasis in his liver. The spread of the cancer gave him a 100% chance of mortality within the following year. Bravo! said the father; excellent analysis and diagnosis; what you need to know at this point, he said, is that this patient is no other than me.

After learning about the terminal condition of his father, Benito hesitated about communicating such an important decision to him. He pondered its effect on his health and whether it would be a better idea not to give him a reason to worry during his last months of life. He specially doubted because his father was an atheist, so his response to the beginning of a spiritual journey to who-knows-where was everything but clear. Despite all this (or perhaps because of all this), Benito decided to tell that same night the decision he has taken and the reasons that led him to it. His father listened attentively and at the end all he could say was: My son, I did not understand a word you said and I do not have an idea about what you are trying to do; however, the only thing I will say is that everybody thought that Theodor Herzl (father of modern political Zionism) was a lunatic; I wish your craziness will be at least at the same level as his. Not too long after, as predicted by two brilliant physicians, his father passed away.

Determined by all these events, Benito's next step was to leave Mexico City to a long retreat: meditation, seclusion, solitude. The place where he could practice all these elements was a land owned by the family in the state of Hidalgo: one that was

considered a curse by his family since none of them ever wanted to move there and joked about being the place to be sent as the worst punishment; one that was presented as a gift to Benito's father by a good friend in exchange of a financial loan that allowed him to find water there; one that has a very difficult name to pronounce: Huixcazdhá. Benito arrived at the place around 1985 and, following the tradition of the masons, built with his own hands a 6 square meters hut that would become his home for six long months of retreat.

His days of seclusion passed quietly at Huixcazdhá. Long periods of meditation and fasting helped him to give shape to the project that he was about to begin. Watching the local children and ladies walk for two or three kilometers to get fresh water in buckets made him realize the conditions of the community. Soon, they learned that Benito was a medical doctor so they started to approach him with health enquiries, which began the real connection between them. Being in a community of around 400 people, with no electricity, no running water, no connecting roads, 65% of children malnourishment, Benito arrived at the conclusion that it was the perfect setting to make a difference. He would build a project in Huixcazdhá to help locals to improve their reality by fighting poverty and malnourishment through a business venture that incorporates logics different to return on investment: solidary economy, rural development, personal development and deep humanism. He labeled his project a *concrete Utopia*, reflecting on a phrase by Eduardo Galeano (Latin-American writer recently deceased): "Utopia lies at the horizon. When I draw nearer by two steps, it retreats two steps. If I proceed ten steps forward, it swiftly slips ten steps ahead. No matter how far I go, I can never reach it. What, then, is the purpose of utopia? It is to cause us to advance".

Coincidentally enough, around that time the land owners from adjacent properties to the place of Benito's fortress of solitude (wealthy people from Mexico City who owned land in the country side) joined together to start a company in Huixcazdhá under a figure that Mexican law establishes to help develop rural areas (Rural Production Society) with the main intention to increase the value of their properties. They invited Benito's family to be a part of the project and he decided to take the lead on writing a business plan and presenting it under the name San Miguel de Proyectos Agropecuarios (San Miguel

hereafter) to funding organizations. It was no surprise that he put so much effort in the process that the project did not find any trouble to access important funding from a private bank. Benito was so confident of the project that he did not hesitate to sign as the only warrantor for the loan. Soon enough he realized that the rest of the business partners had no real intention to get involved in the project especially when one of Mexico's big crises took the interest rates on this kind of credits from 40% to 120% in the blink of an eye. So he found himself with a huge loan to repay and no support from his 'partners'.

A moment for big decisions arrived for Benito. As it had always happened, he had complete support from his brother Diego. Since they both had full access to their father's inheritance funds (their mother never wanted to have any say on how to use them), they arrived at the decision of using almost every penny from that account to pay back the loan of the original project and use the infrastructure developed for it into a new venture. The only consideration of Diego was that if using up the money would serve for Benito to become a man, it would be put into a good use. Hence, Benito and Diego became the only partners of a new business venture and he would devote his future life to make it succeed, with the pressure of understanding that their father's entire life savings (and their family patrimony for that matter) would be placed there and the responsibility to put it to a good use.

The first attempt that the brothers undertook to start a business implied making use of the local resources from Huixcazdhá, adding value to them and manufacturing some kind of consumer product for the large market of Mexico City. The very few vegetables that abounded in the dry land of the region included a nopal cactus (prickly pear) that is traditional in Mexican culture; they researched about its properties and found that it has good digestive effects and it is traditionally associated with positive effects on people with diabetes. So they decided to put to work their business hiring local people from Huixcazdhá, drying out prickly pears, milling them and encapsulating the resulting powder into a natural medicine aimed to help people that suffered from gastric malfunctions or diabetes; they went on with this project for two or three years without much success.



Yet another fortunate coincidence (karma, as Benito perceived it) happened at the time the brothers were struggling with their first product in the market: Benito was invited to a national conference in Zihuatanejo, Mexico, where the expectations and realities of a grain that was widely used by the pre-Columbian civilizations of Mesoamerica, but had been long lost in Mexico -Amaranth- were discussed. The main speaker in the conference was Dr. Alfredo Sánchez Marroquin, a Mexican scientist who had obtained a large grant from the U.S. National Academy of Sciences through the U.S. Agency for International Development to research about the diverse characteristics of the grain. From him (first at the conference and in their long relationship afterwards) Benito learned that amaranth was characterized by FAO as one of the proteins that has a balance of essential amino-acid closest to the optimum values for human diet; that it was vastly used by the Aztecs combined with corn and beans providing a great nutritional content that provided Mexican culture with the nutritional foundation for its long-lasting prevalence; that it was also used in ceremonies related to fertility and the agricultural cycle where the Aztecs prepared a dough figure formed with popped amaranth combined with water, honey and human blood that was consumed in the rituals; that due to the similarity of these practices to the Catholic Holy Communion, after being conquered by the Spaniards they banned all cultivation of amaranth in Mexico; and that only recently the grain has started to gain interest from the academic community as an alternative to fight malnutrition. In brief, based on historical facts and current research findings, amaranth had the potential to become the new agro-industrial frontier in the world. As logic dictates, Benito introduced himself to Dr. Sánchez after his lecture and a long relationship began that day.

Dr. Sánchez had patented a technology that isolated the functional portion of the grain with potential uses as food supplements for diverse population groups and needed a business partner who would be ready to use the technology with a social benefit. Benito was looking for a product that allowed him to fulfill his desire of making a positive change for the world, while becoming a viable business to recover the initial investment that he and Diego had devoted. The conditions were established for a synergetic collaboration. Dr. Sánchez transferred his technology to San Miguel and became its technical director until his death in the year 2000, while the company would devote its

activities to promote the growth, processing and commercialization of amaranth under the principles of *Ethice*, *Praxis* and *Humanitas* and pursuing the following strategic objectives:

1. Develop amaranth as a staple crop worldwide to bring the nutritional, economic and social benefits of this resource to the population of Mexico in particular and human beings in general. Thereby allowing the United States of Mexico, through the company San Miguel, to be at the forefront of production, industrialization, marketing and research and development of this crop.
2. Using the resource of amaranth, the company aims to compete in the national and global market economy and achieve corporate primacy in the field of food, based on the criteria of excellence and quality, while adhering to ethics and humanism in its dealings.
3. The company will develop and deliver products and services of superior customer value and pledges to continuously improve its operations.
4. The company will promote business activities that benefit:
  - the social system in which the San Miguel Project operates;
  - the social, human, biological and physical environment in which the company works;
  - the individuals who participate in the company's work, recognizing that human happiness derived from work depends on activation of all human potential, and comprehensive needs of satisfaction, in which the material plane has a primary but not dominant role.

These founding block of San Miguel have guided its activities ever since. From the beginning, Benito and Diego decided to hire almost exclusively people from Huixcazhdhá, despite their low level of formal education. At first, the locals were very suspicious about their real intentions and saw the company as an opportunity to obtain temporary employment while it lasted there; however their skepticism was soon eroded when they

realized that Benito's intention was truly to make the project work in the long run and that it implied a total symbiosis with the community.

Indeed, for the first ten years of operations or so, Benito literally lived in the office of San Miguel. The only closed room in the company's administration area was used by Doctor Manrique to give free medical consultation, first to all workers from the company and their families, and soon after to all residents from Huixcazhdhá. The same auscultation cot where he checked his patients was used as his resting bed at the times when he could find a couple of hours to sleep, since he divided his time between solving matters related to the business and accommodating the medical needs of the population.

A major worry of Benito linked to his childhood experiences in India and Africa relates to children malnourishment. When San Miguel began its operations in 1986 Benito found that 2 out of every 3 children from the community suffered from some sort of malnutrition. At the time, there was a government program (Programa Integral de Atención Nutricional - PIAN) designed at the National Nutrition Institute that consisted of surveillance activities where officials would provide poor families with food supplements and measure the height and weight of the children with certain frequency to keep track of their development. Benito saw the problem in Huixcazhdhá as a great opportunity to test the nutritional value of grain amaranth. So he designed a local program similar to PIAN with certain particularities that overcame the natural hesitation that government programs provoke in the population: the persons in charge of doing all activities of connection with the community would be their own teenagers. They would visit all houses with infants to talk to their mothers, measure the children, distribute the products based on amaranth and explain how they should be consumed.

To make it work, Benito had to attract the young population from Huixcazhdhá with some strategy. He had always trusted that the younger a person learns to get involved with the social needs of his community, the easier it will be to continue with this responsibility in his future life. Also Benito had high confidence in the power that children have in a community. So he started inviting some of the sons and daughters of its workers to visit the company since they were naturally attracted to know its activities. Little by little,

word started to spread in the community about the Doctor who liked to teach children about different and exciting stuff in the factory. After a while a steady group of youngsters hanged around the company on a regular basis. That is when Benito invited them to be organized as a group, choose a name and suggested some activities that they could perform with support from San Miguel: The Little Tribe (Pequeña Tribu - PT) was born at that moment. They defined as their main Mission to perform activities to transform Huixcazdhá into the most beautiful place on earth. The first activity they decided to do was to build a main square for their town. San Miguel lent them tools like wheelbarrows, shovels and picks and the kids went up in the mountain to collect stones, brought them down to the town, traced their square and started building it. A second activity that attracted the PT was a permanent cleanup campaign in Huixcazdhá. So the company gave them garbage bags and lent them tweezers and the kids put hands to their endeavor. Evidently, one of the following activities that PT undertook was the campaign to fight malnutrition which resulted after many years of continuous work from different generations of PTs in the complete eradication of malnourishment among children in the community.

Another area of major concern for Benito was education. When he arrived at Huixcazdhá the community had only an elementary school (grades 1 to 6). As he got to know the locals, he realized that most of them did not even finish their primary school, and those of them who decided to continue their education after grade 6 had to take a one-hour walk each way to the middle school of the nearest community. On rainy days this walk occurred on muddy roads with terrible consequences for the health of the adventurous who decided not to miss one day of school. Some others who decided to commit more resources to attending the school and had family members on communities with more access to formal education sent their children to live with them at a very early age, and almost as many found opportunities for development away from Huixcazdhá, never coming back to their home town.

Benito's connections with government officials opened the door to build first a kindergarten in Huixcazdhá, and years later to create a middle school based on TV classes –a model that Mexican government developed to bring education to communities that are away from urban centers-. For these projects, San Miguel provided

some materials for the construction and most of the work force to make the projects a reality, but most important, the leadership to show the community how, through social organization, they were able to sketch a large project such as the construction of a school and make the project a reality. Years later, with the support of a large Mexican private university –Tecnológico de Monterrey- the community built a learning center that offered a variety of training programs to develop particular skills and one on-line high school degree offered by the Virtual University of the institution. With these efforts the community integrated local institutions that allowed their children and teenagers access to decent education up to grade 12 with the option of remaining at home and integrated in the family dynamics up to the age of 18.

All these activities occurred in parallel with the growth of San Miguel until its establishment as a national leader in the market of food supplements based on amaranth protein. This rise, however, did not happen without its complications. After teaming up with Dr. Sánchez Marroquin and receiving the technological package that extracted the functional portion of the amaranth grain a number of challenges had to be solved. First, the arrival of the machinery in Huixcazhdhá made Benito realize that there were no conditions in the plant to set it up and put it to work (he refers to this incident as a rookie mistake for a fledgling entrepreneur). For that reason, he had to hire a new group of locals with the objective to build a working plant as soon as possible. He learned at that point that a fair number of people from the community had experience in this field since there had been a regular migration of its male population to large cities where they teamed in construction sites. He took advantage of the fragmented experience from the few persons who were back in Huixcazhdhá and began to build San Miguel's maintenance crew, which later helped so much in the construction of the different projects both from the company and the community. Not too long afterwards the first company working plant was ready to produce.

A second question mark had to be solved then: The company was ready to produce, but what to produce? The protein concentrate of amaranth (its only product) was a brilliant idea, but very few people knew about it and even less were ready to use it as a supply in the food processing industry. So Benito understood that they needed to integrate the

concentrate into an end product of their own, so they could begin to test it in the market and build upon the need to consume amaranth from the consumer's experience.

Once again, returning to the malnutrition problem in Mexico, the government had programs that aimed to fight children's malnourishment by distributing among the population at risk breakfasts through their schools. Normally those breakfast packages included one sweet that tried to catch their attention and make them continue with the rest of the food. The problem was that the sweet did not have any nutritional value and often times the children stopped there leaving the rest of the breakfast untouched. Benito then thought of a sweet-like product that could integrate the amaranth as a main component. This is how he arrived to San Miguel's first successful product: a marzipan made of different components, including the amaranth protein that was sold to the government so it would distribute it through its scholarly breakfast program.

This was the beginning of a long relationship between San Miguel and government programs, which up to date accounts for more than 60% of the company's business. Indeed, San Miguel saw the "official" market as a great opportunity and started to develop capabilities around the different activities required to be a government supplier: bidding, formulating, producing, delivering and financing a number of food supplements that the government required for its diverse population at nutritional risk: pregnant women, nursing mothers, young children and seniors. The regular process to capture a new project in this market starts when one state government calls anyone interested in bidding to become a supplier of a particular product (normally the technical specifications of these bids are too broad). The companies that are interested in participating in the process have to formulate the product and present a complete file that includes the nutritional value of the product offered, its production plan and the pricing for the required amounts. San Miguel did not have troubles in meeting the technical and financial standards of such bids, but the problem to obtain such contracts relates to corruption practices that are common in Mexico ("commission fees" or other forms of kickbacks to government officials), with which the company did not agree or participate in by principle.

Despite these issues, San Miguel managed to secure enough contracts to keep the company running and growing at stable (but not spectacular) levels. With government programs San Miguel developed a line of concentrated protein products in the forms of marzipans, protein-vitamin supplements, and atole (a traditional beverage made from a starch powder combined with water); all of them using mainly the amaranth protein, and combining them with other components such as oatmeal, soy, rice, and artificial flavors among others. With this expertise the company began to produce a line of products under their own name (Amarantum), first targeting the same populations as their government line with almost the same mix of products, and later focusing on markets such as the sports enthusiasts and dieters offering them powder supplements and a new line of shake-like beverages.

A second family of products offered by San Miguel is based on popped amaranth. This presentation is much more common to Mexicans since one treat found commonly in the country –alegría- (which literally means ‘joy’) is prepared with this ingredient combined with honey making a cookie-like bar. Preparing alegrías in the traditional manner requires some skills particularly in the popping of the amaranth. Its seed, being so small, easily burns or is lost in the process. San Miguel purchased an industrial popping machine that allows the processing of large amounts of amaranth seed into popped amaranth ready to be consumed or used in other products. With this technology, the company developed a base of products that included popped amaranth to be used in cereals and granola-like products and a snack made of popped-amaranth clusters with different flavors (sweet and savory).

One big customer of popped amaranth was Kellogg’s, the cereal company. In their process of developing new products this giant explored new and innovative ingredients and decided to introduce into the market a new cereal based on amaranth. They started to look for suppliers of popped amaranth in Mexico and abroad and after their meticulous selection process they decided that San Miguel was their best option, mainly due to their current process technology and their willingness to comply with the high quality standards of food security. Benito was very much interested in becoming a supplier of Kellogg not because they represented a big business opportunity (popped amaranth has a much lower profit margin compared to the products based on amaranth

protein), but because it meant that San Miguel would had to take a quantum leap in its processes and quality standards to achieve Kellogg's certification. So a new era for the company began: one that implied the complete documentation of their processes and full traceability of their products from raw materials to end users; one that involved to completely open their operations to Kellogg's quality inspectors; and one that took the company into an external accreditation process under the "Hazard Analysis and Critical Control Points" international standard. Not without its problems, San Miguel raised to the challenge of becoming a fully certified supplier of Kellogg, obtaining year after year its Tony, the Tiger award for full compliance with their requirements.

A third major challenge for the development of the company related to the supply of amaranth grain that San Miguel required to cope with its production needs. In this particular area, the major issue has been to reconcile the large needs for grain that come with a steady demand from the market with the ideals of solidary economy and rural development that gave rise to San Miguel as a company. Typically, agricultural products have a very limited value chain in Mexico. Take, for instance, the example of maize: This is one of the largest crops in this country, however its value chain in rural areas is limited to harvesting the corn and turning it into tortilla; the most audacious users then use tortilla to make tacos and multiply the corn value by a factor of five. On the other hand, in larger value chains that start with agricultural products going into industrialized processes, most of the profits are kept by intermediaries or the final transformers, leaving the primary producers with a very marginal revenue. This behavior goes against the principles that Benito had in mind when he setup the company. Instead of working under these traditional models, he decided to develop a system that focuses mostly on the development of the capabilities of the growers, instead of just buying from them an end product (the amaranth grain in this case). With different approaches and models, San Miguel has worked to train producers from different parts of Mexico in the growing, distribution and transformation of grain amaranth first to be reintroduced into the Mexican diet (under the principles of food sovereignty) and later as a possible source of income for families. These programs include normally working with both men and women from the countryside providing them with the seed to grow amaranth; accompanying them in their first cycle with technical support on the stages of sowing,



growing, harvesting, and post-harvest handling; showing them the different uses of amaranth to be introduced in their daily diets and the options to eventually transform and give value to the grain; and securing an offer to buy the seeds that they may produce (after procuring their family supply) at a price established at the beginning of the cycle. Certainly most of the grains that San Miguel uses in its products come from large farmers, but little by little the communities that are integrated into their development programs are using more amaranth in their diets and at some level are starting to be a part of the value chain with their small production.

With all this experience built upon twenty-five years of working with amaranth at different levels, Benito Manrique and San Miguel are considered as Mexican leaders in the field. Benito is constantly invited and participates in different conferences around the topic. Not only has his expertise on amaranth been of interest; also his experience as a social entrepreneur has led some organizations to invite him to share his ideas, including a TEDx talk in the State of Oaxaca. He is also the chief of advisors on nutritional matters to the government of the State of San Luis Potosí and his vision has been fully integrated in different programs on nutrition and agricultural aspects.

San Miguel's expertise has also been the source for government norms: The Mexican norm for amaranth cleaning and handling was developed thanks to the systematic study of the different kinds of impurities that the grain may carry conducted by the company. Its files were given to the government officials in charge of developing the norm and were fully used as public policy. Additionally, San Miguel has the largest private collection of amaranth germplasm that is used by research agencies to investigate the different varieties of the grain and its effects on quality when used in the food industry. So close is the relationship of San Miguel with Mexican research groups, particularly INIFAP, the leading government research agency for agricultural matters, that one of the varieties of amaranth developed by them was named "Huixcazdhá" to honor the community where San Miguel works.

With his authority on the matter Benito is lobbying at different government levels to give amaranth the status of priority crop by including it in the *Ley General de Desarrollo Rural Sustentable* (General Law for Sustainable Rural Development) along with existing

products: corn, sugarcane, beans, wheat, rice, sorghum and coffee grain. Products belonging in this category enjoy in Mexico a number of subsidies and government incentives. If this status was granted to amaranth, the whole value chain would be benefited and the consumption of the grain would increase many folds. Should this come to a reality, Benito's vision for San Miguel is an exponential growth in a very short period of time that would lead to the building of a new plant facility, still in Huixcazdhá, to handle the production and commercialization of amaranth-based products.

All these examples are a vivid testimony to Benito's ideals of making a positive change in the world with business logics that do not rely only on financial aspects, but integrate organically social aspects. Benito sees himself as responsible of homeostasis of the system where he participates: his task, he claims, is to assure the dynamic equilibrium of the ecosystem created around San Miguel and Huixcazdhá with three axes that are as important as the others: the consolidation of the business around grain amaranth, the sustainable development of the community where it operates (Huixcazdhá), and the development of the individuals who participate in it. When asked about his position in the organizational structure of San Miguel, Benito refers to himself as the CEO of the company: the Chief Equilibrium Officer.

#### **4.2 San Miguel de Proyectos Agropecuarios: The face of a world-class company located in an otherwise lost community**

San Miguel is a food processing company with world-class standards and in many aspects operates like any other company of the industry elsewhere. This means that it maintains very high levels of innocuousness in all its activities and infrastructure. The factory walls are sharp white, with all kinds of devices that prevent external contamination from affecting the production process. The workers wear clean scrubs and footwear that is exclusive for in-factory usage. The activities to clean all production equipment and the tools used to manufacture their products are quiet rigorous and are performed at the end of each shift. The quality control measures are very strict and seek to assure the full traceability of the products from raw materials to packed goods; this implies the use of a complex batch system division for the products at all stages of

production (amaranth grains, in-process preparations and end-products) and keeping the records in an organized manner. In an ordinary setting, planning and operating these activities require highly qualified and experienced technicians and engineers. However San Miguel and Huixcazhdhá have nothing of the ordinary.

Let's not forget that San Miguel defined the policy to hire almost exclusively local people from Huixcazhdhá or neighboring communities with similar conditions. Considering the reality of rural education in Mexico and particularly in the settings of Huixcazhdhá, the average schooling years of the people working for the company is 8.4, meaning that the norm for a San Miguel worker is to have finished primary school and two years and a half of middle school. If one focuses on the workers who are 47 years or older at the present time (those who were already 18 or more when San Miguel arrived to the community), their years of schooling are only 6, barely having finished primary school. Evidently, there is a group of workers who are 26 years old or younger (roughly one quarter of the total) who have enjoyed the efforts that the company has made over the years to improve the education conditions of Huixcazhdhá; this group has an average of 9.3 years of schooling, having finished at least high school. Despite this improvement, it is evident that the profile of the population does not fit the strict human resources requirements that the food industry imposes.

Faced with this paradox, the question then is how Benito has solved this puzzle. The answer goes back to the teachings of Paulo Freire that he learnt when he started as a teacher in UNAM. Benito's interpretation of the *Pedagogy of the Oppressed* led him to implement a number of practices that can be abbreviated in the idea of 'the factory as a school', since this setting provides a real opportunity to learn in the practice, regarding failure as a source for learning, and believing in the social responsibility of the integration of newcomers. Some of the particular actions related to this idea are presented now.

One of the first noticeable aspects of San Miguel's organizational structure is how lean it is. In the production area the company only uses three hierarchical levels: line workers, excellence operators, and coordinators. Any worker begins at the plant in the first level. After many months or even years of continuous work, they may move to the second

level when the human resources committee (integrated by the coordinators and Benito) observes the worker with an outstanding performance in the following aspects: knowledge of the job; quality, responsibility and initiative on his activities; ability to work as a team member; respect to superiors; and a positive general attitude.

Excellence operators are given more responsibilities in the production line, such as filling in the production control sheets. Another option for excellence operators is to move to the quality assurance or research and development departments. In the area of quality assurance the activities that are performed are diverse: to receive the daily control sheets from production and file them into the massive folder systems, to solve minor quality issues that may be presented in the production line; to inspect the raw materials (both amaranth grain and the rest of the supplies) to assure conformity with the norms; among others. In the R&D department the kind of tasks very much depend on the projects in hand. If a bid for a new formulation is in order, the R&D workers should produce the different alternatives that are developed on a minor scale to test them for nutrition content compliance. Once they are ready to go, they should prepare samples to accompany the bidding files. On the other hand, when new products are being developed in house, their task is to setup the different experiments to methodologically try different combinations of components and keep track of the alternatives generated to finally arrive to a final result.

The final step in the small organizational ladder is the level of coordinator. There are only a few of them in San Miguel: three for production, one for R&D, one for quality assurance, and two for maintenance. These positions are very much stable and have extremely little rotation. However, it is known that if an excellence operator is thinking of growing in the organization, he has to wait for one of the current coordinators to leave San Miguel. It is also known that the level of responsibility for coordinators is much higher than the rest of the workers: they are accountable for all activities under their command towards the achievement of the objectives of their areas: to meet the production requirements with the quality standards of the company; to present with new options of products or the improvement of the current ones to help the company grow; to keep track of all stages in the manufacturing process in case a quality issue

arises; or to keep all equipment in a working condition never to stop production. Activities that are easy to summarize, but imply quite a lot of effort to deliver.

Another aspect that attracts the attention when touring around the company is its layout, particularly for the administrative areas belonging to the production facility. The common areas where the coordinators perform their job are totally open. Even Benito's desk is located in this same space with no walls that isolate it from the rest of the company. This is planned deliberately to allow a true policy of open doors. Not only for the purpose of full disclosure of all activities and situations around the company, but for a more important reason. Benito believes that if everyone has access to conversations of different areas of the company, they will become knowledgeable of the whole operation to be aware of their reality and also to have options to better understand all areas and work more harmoniously. If for instance we are having a meeting with the quality committee, he argues, and everyone outside the committee is allowed to listen to the issues that are discussed, they will become aware of the challenges we are facing and will try to reflect on how they may contribute to solve them. Another example comes with the human resources committee: if the employee evaluation process is performed openly, even if not all of them are present, they will understand that the factors considered to assign their evaluation for a certain period are objective and that their evaluation is the result of a consensus and not the subjective view of only one person.

One more element that contributes to the idea of having the factory as a source of social learning relates to the division of tasks that a particular line worker performs in a shift. When any production employee arrives at San Miguel for his working day, he doesn't know what activities will be assigned to him, nor is he aware of the team members he'll be working with. This assignation is done by the production coordinators prior to the beginning of each shift with certain considerations: First and foremost, the production requirements for the day. Activities related to the production process are divided into its main phases (cleaning grains, popping amaranth, preparing the different supplies for various products, grinding amaranth, mixing components for the different preparations, and packaging the end products that may be in the form of pouches, cans, or marzipans) and vary according to the production plan. Every day requires a different mix of activities

related to one particular product or process since San Miguel is recognized for its flexibility to respond to diverse demands. Next, the quotidian activities that must be performed in the company are filled. Some of them involve cleaning all external facilities (including bathrooms and the multi-purpose room), guarding the main entrance to keep control of visitors, and reviewing all external pest control points. Afterwards, the other activities that the company performs, especially in relationship to the community are taken care of. On some occasions, for instance, doing construction activities in the kindergarten or carrying out maintenance work in the main road may be the activity for the shift. Finally, the characteristics of the shift are taken into consideration. The production coordinators consider gender, age and experience issues to balance the teams that will be assigned. They also take into consideration special arrangements that some workers may have negotiated with them or with Benito that may imply the exchanging of shifts with other workers or into different days of the week. In brief, this is a good example of a quotidian problem of assignation with multiple variables.

This is the reason for all workers to meet at the beginning of each shift with their production coordinators. Only at this moment will they learn what will be their task for the day and who they will be working with. Once they realize their assignation, the teams meet to coordinate the particular tasks that their responsibility involves. Some assignations have different levels of seniority attached to them and others denote the same involvement for all team members. In the former case, the coordinators already took into consideration this factor when assigning the team members. In the latter case, normally the team members leave to their luck the particular assignment by drawing a kind of lottery.

To make this system work a fundamental prerequisite is that all workers know all activities of the production process and reach a level of performance that is acceptable to all of them. This also calls for every worker to be assigned to every activity on a regular basis to be kept up to date, which is the job of the coordinators. A very relevant issue is how the workers get to know all activities when they have just joined San Miguel. Here is another good example of social and on-the-work learning process. Any newcomer will be taken to the production line as soon as he enters the company and will be assigned for his first couple of months to all activities on a regular rotation. The rest of the workers

are aware of the relevance to 'teach' the newcomers, so they understand that if in a particular shift there is a new worker on their team, their task for the day, besides performing their activity, will be to make sure that the rookie understands their activities, first by observing their techniques and later by trying to replicate them according to the level of complexity. Thus, the training period is not fixed in time, and involves the social learning of the newcomer by observing and interacting with different people performing the same task until he or she feels comfortable with the activity. This system also suggests that all workers must be open to improve on their technique since they are constantly exposed to different team members performing the production tasks and should be permanently in search of excellence.

This training scheme has not always worked as such. Not too long ago, the company followed a mentorship program where every newcomer was assigned to an experienced line worker (an excellence operator preferably). During a couple of months the apprentice shadowed the mentor on all activities and the mentor had the responsibility to explain them to him or her. Although the system worked fine, it was also the case that having a single source of information, the newcomers learned some activities with certain flaws (the same that the mentor presented when performing them). Also the issue of knowledge sharing responsibility remained only in the hands of a few. With the new system Benito thought of spreading the idea that every worker of San Miguel is responsible for sharing his knowledge and also for continuously challenging his way to perform the activities. The results have been a higher performance by the newcomers in shorter periods of time and a shared idea that every worker is responsible for the preservation of the company's knowledge base.

The company takes every opportunity to give the workers the chance to grow in their abilities, whether it will have a direct impact on San Miguel or on their daily lives. Once every other month an auto mechanic arrives from Mexico City to perform maintenance activities on the company's cars. On these occasions, all workers that may drive San Miguel's vehicles as part of their activities are called upon. Also all other workers who have vehicles of their own are invited to participate. The auto mechanic conducts a class where he teaches all the participants the basics of auto repairs aiming for them to

develop skills to be used if any breakdown happens with the company's cars or their own vehicles.

Yet one more proof of commitment to learn as an organization is the way that errors are seen in San Miguel. In the production process, most errors do not lead to scrapping product. When they happen, stopping the line does not imply to stop all production, since the activities are quite fragmented as explained before. The responsibility of such mistakes lies on the team and the team has first to provide a solution to the situation. If they are not able to do so, the production coordinators or quality assurance workers are always at hand and together they proceed to analyze the situation and find a solution. When an error does lead to scrap some product, the workers know that the company does not punish that, since normally the reasons leading to the situation do not imply that the product is faulty (normally they have to do with using incorrect labels or not calibrating correctly the machines, producing supplement pouches with weights off the norm). All the products falling into this category go to the food bank of San Miguel that is distributed at the end of the week among the workers to consume at home or used in the nutrition surveillance program for the community.

There are some processes that imply performing less repetitive activities, and as a consequence demand higher skills from the workers in charge of them. Two examples are the processes of developing new products and new manufacturing equipment. For these activities Benito is proud to acknowledge that his teachings have proven successful the introduction of the scientific method in a rural setting. His approach to them has been to make sure that the persons involved understand the systematic method that is needed to establish hypotheses, design experiments, conduct them, gather data, analyze it and finally accept or reject the original hypotheses.

In the development of new products one story stands: that of Rosario Martínez Yáñez. Rosario was 6 when the company arrived in Huixcazhdhá. As she was growing, she became attracted to the activities of San Miguel and became a member of the Pequeña Tribu generation 1 and was very active in its projects. At the time she finished her elementary school, the closest middle school was located at a one hour walk from Huixcazhdhá. She spent her three years of junior high walking two hours a day in the



midst of the dusty roads (or muddy when it rained) just to arrive to and from school. When she finished this education level she was attracted to study computing, since at that time, Dr. Benito had brought a couple of PCs to San Miguel and taught the PTs the basics of its use. She moved with one of her sisters who worked in Mexico City and followed a one-year course of technical computing which she combined with activities in San Miguel commercial office there. Rosario disliked very much the rush of Mexico City and as soon as she finished her course moved back to Huixcazhdhá and joined San Miguel as a line operator.

In the shop floor, Rosario quickly stood out from the rest thanks to her attitude and skills and was invited as an excellence operator to create the R&D department with the challenge to formulate the first powder supplement targeted to the sports enthusiasts. With the teachings of Benito and the scientific method as a guide, Rosario created the formal process of developing new products. For this particular task Benito gathered a group of four excellence operators who spent two years or so in developing their product. First, they took samples of the existing products in the market that were similar in nutritional content to the one they were trying to create. They developed an evaluation table that compared products like *Ensure* in terms of flavor, texture, nutritional content, price, among other variables. Later, when they understood the main nutritional characteristics of the products, the group started to experiment with different combinations of nutrients with the addition of amaranth protein keeping control over the same variables they evaluated in the competing products. Next, they tried different flavors that would give the supplement a competitive taste. And finally they designed the packaging (name of the product, imaging, nutritional contents) and chose a presentation in a can to be competitive in the market. This was the first canned product that San Miguel introduced, since all the previous ones had pouch-like presentations. The company decided to invest on new packaging technology and this was the birth of a full new line of powder supplements led by Rosario that is kept up to this day.

Another story that illustrates the development of a person within his job thanks to his commitment to learning, this time related to process technology, is that of Apolinar Martínez Zamora. Apolinar was born in a community away from Huixcazhdhá, but

belonging to the same municipality. He had the chance to study at high school specializing in mechanical maintenance at a Conalep (a Mexican education system of technical studies at high school level). After graduating there, he was invited through his school placement office to join San Miguel's maintenance department (one of the few positions that the company sourced outside the community due to its specificity in profile).

Apolinar got excited about the challenge that represented joining a company that was just integrating brand new equipment and required a large variety of maintenance activities. His first tasks in the company required him to perfectly understand the functioning of all production equipment to make sure that it worked at the expected levels. In this process, he began to realize that the equipment had chances for improvement, so he started implementing small modifications that grew into larger changes that improved the productivity of the production process. For instance, the industrial popping equipment that the company had been using for a while was based on an analog control for temperature and had a very large hopper that lost quite a lot of amaranth. Apolinar began experimenting and arrived to a fully automatized control system for temperature, a new design for the hopper and a completely innovative feeding system that extracted amaranth grain with suction principles. Particularly for the design portion of the improvement, Apolinar decided to use AutoCad (a leading software) which was installed in a computer since the architect who designed the plant used it; there was only the small problem that he had never used it and no one at the plant had as much as heard about it. So he got hold of a book on the software and began to teach himself the use of AutoCad until he was able to design almost anything in two dimensions. Benito saw the passion to learn in Apolinar and agreed to send him to Mexico City for a one-week course on AutoCad in three dimensions. So he took advantage of it and became the leader in the region in this skill, which he has frequently used in the company.

One of the most impressive results from Apolinar's experience is the full development of a mini-popping machine. As expressed earlier, popping the amaranth requires experience and control of different factors. To do it domestically it implies investing hours and losing a fair amount of grain that burns or jumps away from the hotplate.

Benito realized that to expand the value chain of amaranth in rural communities, this step of the process was critical, since small producers who wanted to use amaranth commercially would definitely need to pop their grain. So he presented Apolinar with the challenge to design a mini popper that would be transportable to small communities. Using the industrial machine from the factory as a reference, Apolinar experimented with the different factors in the process (air temperature, time of exposure, air volume) until arriving to a first generation of electric mini poppers. The first machine was taken out in the communities only to realize that many of them did not have the electric requirements to make them work. Soon he began to develop the second generation of mini poppers, this time based fully on gas. They solved the limitations of the first generation, but were much heavier and costly in operation. So a new generation was developed, combining both technologies and solving the major drawbacks from the previous two. Apolinar is very proud to see how his mini poppers are fully operational now in the state of Oaxaca and other parts of Hidalgo and the positive effect that they bring to the communities that are able now to commercialize products based on popped amaranth.

When asking Benito about the opportunities for improvement in San Miguel that he identifies in relationship with the persons that collaborate there, he has on top of his mind the issue of wages. It is true that the company pays salaries that are above the minimum wage in the country, but the fact that this kind of salary allows only enough income to cover the basic daily expenses for a family (food, clothing, basic health issues and essential transportation) is also true. There is almost no possibility to save some part of the salary to buy a house or a small car with this kind of wage. Benito plans that if amaranth demand grows exponentially (thanks to a shift in government policy or to securing much larger customer bases), the company would be able to work at its full capacity (currently it works far below 50%) and this would allow San Miguel to multiply by a factor of three or four the salaries that he is currently paying. Such a situation would discourage people from Huixcazhdhá from trying to cross illegally to the US, which currently is a big alternative for someone who wants to build a house or buy a car.

There are, however, a number of great benefits that a worker from San Miguel enjoys. Perhaps the easiest to ponder are related to the fact that the company is located right

next to the community. There are no transportation costs that the employees must incur to commute from home to their working place since the furthest homes from San Miguel are located only at a 10-minute walk. This proximity also has an impact on the issue of meals and saving on the cost of food. There are two meal breaks during the working shifts: one at 11 AM and the other at 5 PM. A couple of minutes before these breaks, a procession of people from the community (regularly wives and mothers of San Miguel workers) comes to the place to provide the employees with freshly cooked, warm meals to be enjoyed in an almost family style. Finally, for lactating mothers this closeness allows to continue breastfeeding their infants in a regular manner and for parents with school children it permits to attend parents-teachers meetings and other projects where the school requires their presence.

Another area where San Miguel offers advantages relates to the flexibility that the company allows when it comes to activities of the community life-style. For instance, many of the workers own agricultural lands that must be taken care of. When the different activities in the farming cycle require the presence of the workers, the company makes arrangements such as exchanging shifts or working longer hours during certain days allowing their farms to remain productive, while they keep earning their full weekly wage.

On the topic of health and nutrition San Miguel tries to expand the benefits of amaranth to its workers. The company keeps a bank of its products to give away among them for their family's consumption. On health issues, Dr. Benito gives free consultation to the workers and their families. Of course, the San Miguel community enjoys social security with access to clinics in Huichapan (the head municipality), but on most minor diseases the solution remains in Huixcazhdá with Benito. On more serious matters, he directs the workers to good medical attention, to the point that once, a worker was diagnosed with severe kidney malfunction and Benito moved all his connections until the worker got a transplant and the medical care required to fully recover. Currently, this worker is completely reintegrated in the company's activities and he even participates in San Miguel's soccer team in the local tournament.

If one compares all the benefits offered by San Miguel that have been presented in purely monetary terms against the economic conditions that prevail in large urban centers, at first the difference in wages may be too much in favor of the cities. However, on a closer look with all the money that is saved on housing, transportation, and food expenses, this makes up for the original difference in wages. Moreover, the social gains coming from allowing the families to remain together in their traditional conditions are very difficult to quantify and here is where San Miguel has made all the difference for the people from Huixcazhdhá who collaborate in the company.

Up to this point, the activities that have been discussed belong to the business domain of San Miguel. Nevertheless, there is a different set of initiatives that the company has undertaken in the social level, benefiting Huixcazhdhá and other rural communities. Many of them take advantage of the capabilities that San Miguel has built upon the value chain of amaranth and have implied the direct participation of its workers as part of the many outreach activities that they perform. Only lately has Benito seen the need to draw a line between the business and social activities that San Miguel performs, especially due to the need to account properly for both domains and its resources. As a consequence, he has started the incorporation of a non-for profit organization under the name of Utopia Huixcazhdhá, inspired by Galeano's idea that utopic thinking, when he expresses that utopias, even though far in the horizon, allow us to walk towards them.

Perhaps the most evident effect of San Miguel in the social realm relates to the activities of the Little Tribe (PT). It has already been stated that this group of children and young teenagers tends to gather freely and spontaneously, but it has had a big push from Benito. Diego Manrique explains this disposition to work with the youngsters with the idea that Benito has thought of himself as a Greek philosopher, sitting under the shade of a tree, and sharing ideas and discussing them with people interested in listening. Maybe the persons who are more open to 'learn from the master' are precisely the children. That is how in the past, Benito has managed to motivate them into working in the nutrition surveillance project, or the permanent cleanup campaign.

One additional component was introduced since the birth of PT: a business-like activity. Benito pointed out that PT would need financial funds to perform its activities, so a little entrepreneurial venture would be a good idea. He offered them the use of San Miguel's resources to manufacture a product of their choice as long as they are organized in production and commercialization activities. That is how PT came up with the idea of producing a flavor powder to mix drinks that they called Moby. The R&D department of San Miguel helped the PT in developing their product, the company helped with the initial stocks of supplies and the Little Tribe began the production of its first batch of Mobys that were sold in Huixcazhdhá and the neighboring communities. Ever since, PT keeps the production and sales of Mobys as one of the activities that attract the children of Huixcazhdhá to keep wanting to be a part of it.

Although the activities of PT have remained stable, from time to time Benito needs to get somehow involved to keep the momentum going. Not too long ago it was customary for children finishing their elementary school to organize a day out in one of the neighboring water parks with their generation, but for some reason the tradition stopped. The latest generation that was close to finishing its elementary studies approached Benito telling him that they would love to go out somewhere all together, since almost half of their groupmates would not continue middle school in Huixcazhdhá (their parents preferred to send them to other communities to continue with their studies). Benito saw a great opportunity to get started with the generation 5 of the Little Tribe (PT-5) since it was a while with no activity from the children. He responded positively, but asked them to organize some activities to raise funds for the trip; he also offered to organize the whole escapade and suggested Mexico City as the destination. For most of the kids, that would be their first visit to the nation's capital city, so they got pretty excited and organized a lemonade stand over a couple of Sunday's soccer matches. Benito took the whole group for a three day tour of the big city and during the visit spoke to them about the previous generations of PTs and all fun activities they organized. The young kids returned much energized and not too long after they were manufacturing Mobys, selling them to families and neighbors and starting to plan for a manufacturing facility of their own to be fully independent from San Miguel.

Many social activities that San Miguel performs around amaranth are integrated into a project called ABC (*Amaranto para el Bienestar Comunitario* or 'Amaranth for communitarian wellbeing') and integrate other two non-for profit organizations based in the State of Oaxaca that share San Miguel's vision of establishing amaranth as a source for food sovereignty in rural communities. During the two previous years, this project received funding from Ford Foundation to complete its strategic goals that include: building capabilities among rural growers to cultivate amaranth, reintroducing amaranth as a main ingredient in the daily diet, and facilitate the process of expanding the value chain around amaranth transformation and commercialization.

Related to these goals and particularly in the State of Hidalgo San Miguel integrated a group of farmers who are interested on experimenting with amaranth as a crop. Traditionally, this group produces corn in their land, but they heard about the benefits of amaranth and decided to give it a try. In the process San Miguel provided them with free amaranth grain or amaranth already germinated (two-week seedling) at a subsidized price and helped them in the process of sowing; during the whole agricultural cycle the technical experts from San Miguel visited the plots of the farmers to monitor its growth and give advice on how to keep the crop healthy; finally when it was time to harvest, San Miguel showed them the process from cutting the plant to drying it out and extracting the grain. Related to the second strategic goal of its social projects, San Miguel has helped to establish a group of ladies from a neighboring community who gather weekly to cook new dishes using amaranth and learn how to grow it in their home garden; this group has organized a number of gastronomic shows in diverse communities to share their knowledge about amaranth in cooking. Finally, related to the third strategic goal, San Miguel has participated providing the mini poppers developed in-house to be taken into rural communities allowing them to pop their amaranth to use it later to produce alegrías and other treats for their consumption and commercialization; the company has also given consultation to organized groups that intend to build a small factory to process the amaranth, including a visit to their production facility in Huixcazhdhá.

Since these projects integrate different communities from diverse states of Mexico, San Miguel has organized a number of sessions where the actors get together to exchange

experiences around amaranth. In these gatherings it is customary to visit a couple of plots where the local growers and visiting farmers share their experiences around watering the plant, using natural pest controls, or suggesting which variety of amaranth is more suitable for them, among many topics. Later in the day, they would visit San Miguel where they may receive a lecture on the academic development of amaranth, conducted by Dr. Eduardo Espitia, a leading Mexican researcher who shares with Dr. Sánchez Marroquin his passion for amaranth. The last part of the agenda would be a meal where the ladies who have gathered to cook with amaranth present their dishes and give advice on how to use the plant in all its presentations: grain, popped, as flour, and even the foliage for salads.

Besides this comprehensive strategy around amaranth that benefits different communities and the positive effects that the activities of the Little Tribe bring to Huixcazhdá, San Miguel has been a major player in the development of the community. In terms of infrastructure it has been stated that when the company was first established the community did not have electricity, running water, cobblestone streets, or even a paved connecting road with the neighboring communities. With the support of Benito, the community organized themselves to provide labor to overcome these deprivations. Of course, the presence of a steady source of employment that required supplies was also an important factor where government support was required. The support of San Miguel in building a kindergarten and a middle school has also been discussed. Some other community projects supported by the company include the building of a health clinic and a multi-purpose hall.

To expand the benefits of the activities around San Miguel beyond infrastructure improvements Benito has understood that the development of individual capabilities is the path towards new possibilities. Here, the example of inviting anyone from the plant who may be interested to attend the course on basic mechanics makes more sense. He thinks that eventually, with the cumulative experience generated someone may decide to setup a small car shop and become an entrepreneur. On a more structured approach, Benito initiated a particular effort to help people interested in opening a business to develop the skills and get the initial funding to do so. Particularly, he is interested in helping women who are heads of families and teenagers in their projects. The teenagers



are an interesting group, especially those who have finished their middle school, since many of them do not continue studying in the formal education system. In Mexico, there is even a name for youngsters who neither work nor study; they are called *NiNis* (double no's). Benito tries to offer teenagers from Huixcazhdhá an alternative to this situation and he has coined the name *TriSis* (triple yes') for those who answer: yes to continuing their studies; yes to venturing into a social business; and yes to caring about their situation and that of the others. For them a community learning center was established that offers one on-line high school program, and for them he secures support for social entrepreneurship startups.

One example regarding the projects that are supported under this initiative illustrates Benito's approach to developing skills to become a social entrepreneur. When this initiative was announced, a group of ladies from the community decided to setup a small farm that produces organic eggs to be sold in Huixcazhdhá and the neighboring areas. Benito offered the support from San Miguel into buying the first flock of thirty organic chicken. With his connections he got in touch with a supplier who offered a fair price and also technical support to help the ladies in getting started with a small farm of their own. Benito also offered them a piece of land right next to the factory to establish their operation. To develop their business, Benito invited a group of business students from Tecnológico de Monterrey to perform their community service, teaching the ladies the basis of administration and developing with them their plan. Finally, once the eggs were being produced, Benito offered the ladies a space at the point of sale for amaranth products to distribute their organic eggs.

With a similar approach other social entrepreneurship ventures have emerged in Huixcazhdhá. There is the example of the teenagers who found in amaranth a great ingredient to cook desserts, so they are now selling healthy cakes and other sweets. Also a group of teenagers realized that in the project to develop amaranth growers, San Miguel had to buy the amaranth seedling from a place that is some 400 kilometers away, hence they decided to start an agro-business that produces this supply. Finally, the group of ladies who wanted to take advantage of the dry corn leaves that are normally wasted and found that they were a great element to make decoration flowers and other

centerpieces when painted, thus they started a business that is offering their services in all kinds of events in Huixcazhdhá and the region.

These are some ways in which San Miguel and Huixcazhdhá are integrated with one another. At this point we can only wonder if when the strategic objectives of the company included the promotion of business activities that benefit the social system in which San Miguel Project operates; and the social, human, biological and physical environment in which the company works; Benito had really in mind how deep the connection between the two would become. What is very evident now is that one could not exist without the other. However, one of Benito's current concerns is how to reduce the dependence of Huixcazhdhá on San Miguel to allow the community to fly with its own wings.

### **4.3 Huixcazhdhá: a rural community like many others?**

Graham Greene (1904-1991), English writer, among his many journeys around the world, visited Mexico in 1938 and as a result wrote a book called *Lawless Roads* describing his experience in this country. In this travel account, the author makes reference of a place called Huichapan where there is a train station having the worst misery conditions that he has ever seen; a place where “[t]he whole long platform was given up to beggars, not the friendly Indian women veering tortillas and legs of chicken..., who pass at every station down the train, not even the kind of resigned beggars who usually sit in church porches waiting dumbly and patiently for alms, but get-rich-quick beggars, scrambling and whining and snarling with impatience, children and old men and women, fighting their way along the train, pushing each other to one side, lifting the stump of a hand, a crutch, a rotting nose, or in the children's case a mere bony undernourished hand” (Greene, 1939; p. 65). This passage is presented to give account of the extreme poverty conditions that prevailed for a long time in this region. Indeed, the State of Hidalgo in Mexico has remained in the bottom seven, out of 32 federal states that integrate this country regarding the social gap index (CONEVAL, 2010) and in the bottom 4 in the competitiveness index (EGAP-ITESM, 2007).

Huichapan hosts the county seat (municipality) where Huixcazhdhá belongs to. This small town has certain historical relevance due to its location on the road that traditionally

connected Mexico City with the north part of the country (hence its train station was a mandatory stop to travelers such as Graham Greene). Currently, this town hosts a couple of world-class industrial facilities including two major cement production companies; however, the vast majority of its inhabitants remains economically active in farming activities or in the informal economy. Some characteristics that are common in the municipality include high levels of poverty, malnutrition and migration to the United States due to the lack of local opportunities.

Huixcazdhá is one of the small communities that belong to this municipality. By Mexican standards, normally communities that have less than 1,000 inhabitants present nowadays similar conditions to those that Huixcazdhá experienced 25 years ago, when San Miguel landed (only a primary school, no health clinic, very poor public services). So far the previous paragraphs have introduced the process that this community of only around 440 inhabitants experienced to the point that it is now one of the success stories of the State of Hidalgo that is bragged about in different forums. Some characteristics related to the way Huixcazdhá is internally organized and the general conditions and challenges that people from the community enjoy nowadays are presented in the following paragraphs.

This community belongs to the *ejido* system in Mexico. This refers to a form of communal ownership of the land and collective responsibility over the tasks that must be performed to keep the community progressing. This system has evolved over time. Originally, after the Mexican Revolution (1910-1917) the land was given back by the landlords (*hacendados*) to its rightful owners (the peasants) with the mediation of government. The *ejido* land was mainly assigned to agricultural activities, and a small part of it was meant to be used for housing. All land properties belonged to the community, and the community had the right to assign it to its members, with a full communal approach. However, in the early 1990's president Carlos Salinas argued that this kind of system led Mexican agriculture to a major decline of productivity since it did not allow the peasants to use the land as collateral when applying for credits due to the lack of individual ownership. It is also acknowledged, though, that the main reason to change this system in Mexico came as part of the negotiations of the North America Free Trade Agreement with the U.S. and Canada. Under these circumstances, president

Salinas passed a reform to the *ejido* system in Mexico, keeping the communities organized around their current land, but assigning ownership to individual *ejidatarios* distributing all land among them.

This was the case of Huixcazdhá. It was created around 1940 under this system and for many years it kept a true communal spirit in its organization. After the 1991 reform the land was assigned to the original 49 *ejidatarios* (or their next-of-kin) who became land owners of a portion of agricultural plot and a portion of housing land. At this moment, the communal land that was assigned for housing was not fully occupied by the *ejidatarios*. So in the following years, when a new couple was formed in the community either because they got married or because they would become parents (this is the official circumstance to become a 'citizen' of the community), they were entitled to ask the Assembly to assign them housing land. People in this condition (owners of housing land, but no agricultural plot) are called a *barón*. As the community grew, little by little the housing land was assigned until it was fully used and another group of around 50 *barones* was formed. Finally, with the continuous expansion of the families in Huixcazdhá, and with no housing land to be given, the new 'citizens' who needed a place to settle were graciously assigned a portion of their family's housing plots to build their houses as a borrowing. They become a third major group in the community called *acasillados*, accounting for a number close to 30 and growing, having the particular characteristic that they are not land owners.

The organization of the community revolves around this categorization. The main decisions are discussed and taken in an Assembly that gathers every first Sunday of the month. Normally, their meetings begin with the presence of *edijatarios* and *barones* and topics related to the whole community are discussed and decided upon (infrastructure development, community celebrations, among many). *Acasillados* are welcome to attend, but very few are there. The Assembly feels that since they are sons of *ejidatarios* and *barones*, their parents should take the responsibility to represent them in the Assembly and make sure that they are informed about the decisions that are taken and act accordingly. After a couple of hours, when the agenda moves to issues that relate only to *ejidatarios* (such as agricultural programs that the government offers, community activities related to agricultural or farming land and the like), *barones* and

the few *acasillados* who attended the meeting leave. Generally speaking, *ejidatarios* have the right to speak and vote in all matters. *Barones* have the same right, but only in topics that relate to the community. Finally, *acasillados* have only the right to speak in debates related to the community, but have no right to vote.

This division produces tension within Huixcazdhá, particularly on matters that are understood differently by *ejidatarios* and the rest. For instance, if *ejidatarios* perceive that there is a reason for the community to work on the improvement of the small communal dam, but it implies the collaboration of all people in Huixcazdhá. They may argue that the small dam is a property of all the community, but the *barones* and *acasillados* know that the use of this resource benefits only the first ones, since they are the only members of the community allowed to take their farming animals on communal land. A particular source of conflict comes when the collaboration that is decided upon implies the monetary cooperation of everybody or the communal work by all citizens from Huixcazdhá.

Another example of stress in this system refers to the perception about the future among *acasillados*. These citizens, typically the younger ones, find no incentive to remain in Huixcazdhá performing the communal activities since they have no chance to possess land of their own. The only way to become *ejidatarios* or *barones* in the present conditions is by inheriting from a family member or buying out land from current owners, but no one is willing to sell. So they see no reason not to migrate to the cities where the ownership of land is open to the free market.

Benito Manrique blames this unnecessary tension on the government decision to change the scheme of land property. He calls this kind of stupid judgement and its consequences 'structural violence' coming from the outside. He compares how the community functions now (when private property is at the forefront of the decisions) with the way they organized themselves when all properties were communal and he finds definite differences that made life much more efficient for Huixcazdhá back then.

Despite this source of tension, all citizens from Huixcazdhá understand their responsibility to the community and act accordingly. There are a number of communal appointments that every citizen must perform in their lifetime. Some of them are

related to their status in the community. For instance, *ejidatarios* must be at some point *Ejidal* Commissariat or Secretary (they are the official representatives of the *ejido* before the authorities); and parents of school children must definitely become part of the Parents Association. Others are civil positions, such as Delegate to the municipality (the commissioner of the whole community in Huichapan) or Communal Police (mainly performing activities that ensure that everyone is participating in the commissions where they are assigned, including the participation in assemblies). Finally, a last portion of appointments are derived from the traditions of the community. In this category they may be assigned responsibility for the activities related to the church (cleaning it, opening it at certain hours, and calling to celebrations) or to conduct catechism courses despite their religious beliefs.

For all these activities there is an official directory that establishes what will the individual responsibilities be during one year for all citizens from Huixcazdhá. This catalogue also keeps record of the past and future activities that each one performs. In the event that a person is not in the position to execute her appointment, she is responsible to find someone else who will act on her behalf during the whole period of time. This system creates an internal flow of work positions, since normally there is a payment involved in these situations. There is even a salary rate associated to each appointment according to the amount of responsibility that is required.

Yet another set of responsibilities that all citizens from Huixcazdhá assume comes from the activities that the community undertakes to improve its infrastructure conditions. Many decisions taken in the Assembly related to this matter imply the need for citizens to get involved by offering their labor. They call these activities *faina*, from the voice *faena* which literally means 'labor'. This practice comes from the communal tradition that requires all members of a community to get involved in projects that will result in benefits for everyone.

For instance, a project was established to finish cobble stoning all streets in the community. The community managed to secure from the local government part of the materials and the trucks needed to transport it, Dr. Benito helped to obtain the stones from a neighboring Hacienda, and the community provided the workforce. To complete

the project every citizen of the community (men and women) was required to contribute an average of one day of labor per week over a period of three months. The Delegate generates the roll of participation and communicates it to everyone in the community. Every day, the Police representatives pass the list to check whether all persons assigned to the task are present and reports to the Assembly. Those participants who are not able to work during the day that was assigned offer someone from the community a monetary payment to cover for their labor day. There is no lack of people willing to do so and even some are 'almost permanently employed' in the communal activities, constituting another source of economic activity in Huixcazhdá.

If someone just disregards a call to a *faina*, the Assembly assigns this person a fine. A fine is also given to those who do not attend the Assembly without a justification. Generally speaking, every case of citizens not contributing to the work or financial participation that is expected from them is settled in this instance. In most of these cases the persons involved pay their fines or make a commitment to do so. Social pressure plays an important role here, since no one from Huixcazhdá wishes to be embarrassed in front of the Assembly. A special arrangement regarding contribution with *fainas* and participation in Assemblies is made for one particular group: those who have decided to migrate as illegal workers to the U.S. For them, the Assembly assigns a grace period of two years, where they are excused from these duties.

As mentioned before, there is a regular flow of people from Huixcazhdá as illegal immigrants to the United States. When talking of this subject it is interesting to find that almost every man above the age of 25 has at least once been in this condition, and everyone below this age has the idea to do it sometime in the future. It is also remarkable to notice that many of them have been there only in periods of two to three years, and after that they came back to the community; this behavior goes against the behavior of people who migrates from Mexico to the U.S. and never come back at a large percentage.

This is the reason for the Assembly to assign a grace period of two years for someone who decides to cross the borderline to the north. People from Huixcazhdá understand that this may be the only chance for them to be able to build a house or to buy a car.

But they also wish their people to come back once they have accomplished these goals, hence the limitation in time is allowed for these adventures.

San Miguel as a company also has a provision for workers who decide migrating north. The company keeps them as official employees during the whole process of crossing the borderline (it may take a couple of months), and separates them only if and when they are settled in the U.S. and have obtained a job there. This allows them and their families to be covered by social security during the dangerous journey towards the north. When they come back to Huixcazhdá after reaching their economic objective or been deported, if the company still has a position open, they are welcome to join San Miguel again.

In Huixcazhdá, as it happens in many communities of Mexico, the U.S. immigration flow really reflects the possibility to fulfill a dream of progress. Despite the presence of San Miguel and the economic stability that it represents, the option to build a better tomorrow regularly implies for its inhabitants making a trip north for a couple of years. When expressing their concerns about their future, men and women speak about the possibility to give their families better opportunities for education, housing, and health. For this to happen the first option they see is spending two to three years in the U.S. knowing that half a day of work there implies earning the same amount as a whole week in San Miguel. Their plans are made bearing in mind that they will always come back to their community to enjoy the fruits of their work with their families. Most of the people from Huixcazhdá in this situation do come back after a certain period of time, but the journey is not easy at all.

The itinerary is more or less fixed for immigrants since there is a fair amount of people who have followed it before. Most families from Huixcazhdá have relatives in North Carolina, Florida or Georgia. Those are the common places to go and the activities to perform correspond to tobacco harvesting, orange production, or construction works, respectively. The journey begins when they convince a family member who is currently in the U.S. to 'sponsor' their crossing. The amount of money they must put in ranges from 5,000 to 7,000 U.S. dollars. In the U.S. their relatives contact the *coyote* and make the cash advance (perhaps 1,000 dollars) to begin the process. Sometimes one associate



from the U.S. *coyote* picks the crosser up in a community near Huixcazdhá, or in different arrangements they are required to travel north by themselves to a Mexican community near the borderline. By whichever means they reached this community, they are kept in a security house or hotel until the crossing group is gathered (normally groups are formed with around 15 people from all over Mexico, young and old, men and women, and sometimes even parents with small children) and the U.S. *coyote* sends the signal that the situation with the U.S. border patrol is steady.

When the crossing time begins they are advised to take the basic supplies with them: water and food for a couple of nights of walk in the desert. They leave their temporary shelter at night and begin the hardest part of the process. They will spend from three to five nights of walking to get to the corresponding security house in the U.S led by a *coyote* who has expressed very clearly that he won't stop if someone is too tired to continue walking or even injured in the path. And this is not just a phrase to scare the crossers, some men from Huixcazdhá comment that when they were crossing, along in their group was an overweight person or a not-too-fit lady who after the second or third night could not cope with the pace of the group and was left behind with the instruction that the following morning he or she should catch the attention of the border patrol and they would send them back to Mexico. Whether this happened as predicted by the *coyote*, they never knew. The rest continue with the walk at night and the hiding away in the desert during day time until they reach their meeting point.

When this happens, a minivan stops by the road where they are hiding and all of them jump into it. It does not matter if there are fifteen of them and the car has space only for seven, they are crushed one on top of the other, but happy to see that the exhausting journey is over. They are now taken to a security house in Arizona where they will remain for any time from three days to a couple of weeks. The logistics team of *coyotes* now faces a major challenge: they have to organize groups and routes to make sure they will deliver their crossers in the right spot, since it is only upon delivery when they will be paid in full. Some crossers go north, to Chicago; others go west to Los Angeles; very few go to the same place as others in the group. So they wait for their route to be ready to leave and when that happens, they climb on their corresponding minivan where they are told to lay down and keep still during the journey that will take a couple of days.

They will be stopping only once or twice a day in a gas station apart from the main roads to use the toilet and if they have some money left, to buy something to eat. Finally, when this journey comes to an end, they will be delivered to their family members to begin their jobs.

If everything goes as planned, at this moment they have reserved a position in the tobacco or orange plantation, or at the construction site where their relatives are currently working. As it happens in these jobs, most positions are temporary and people are hired on a day-by-day basis. The first few weeks they have to learn how to cope with the lifestyle of an illegal immigrant in the U.S. moving only from their work to the place they stay and avoiding been 'visible' as much as they can. Regularly, the wages they receive for the first six months are used to pay back the money their relatives lent them for the crossing. After this period of time, they are more used to the routine of their situation and start to feel a little more 'free' in their surroundings. It is also at this point when they perceive that the money they are receiving is really put to the original purpose: Be sent back home to build a house, help their children or younger siblings in their studies or contributing to solve medical problems for their parents or other relatives. Some years back when there was no telephone at Huixcazhdhá, the only way to stay in touch with their families was through a weekly phone call. They established a certain hour to call back and the family took a journey to a neighboring community that held the nearest public telephone to receive it. If for any reason they could not establish communication on that day, the immigrant and the family would be wondering one whole week if everything is all right. Of course, this issue is nowadays solved with cellphones and the Internet. Finally, after two or three years of hard work and much deprivations, the way back home is much easier, since they know that crossing the border down just implies taking a bus to the borderline and literally cross by walking to their beloved Mexico.

The journey described in the previous paragraphs, with all the difficulties that it implies, presents the best-case scenario for someone going as illegal immigrant to the U.S. There are unthinkable incidents that may arise at each stage of the journey. The most obvious relates to the process of crossing the borderline: Someone may be left behind in the walk across the desert, the *coyote* may feel threatened by the border patrol and decide

to abandon the group in the walk or in the middle of the minivan journey, the relatives may have used the money for other needs and be unprepared to pay the *coyote*, among many others. Other groups of episodes relate to the job situation: The need for positions may be unstable due to the nature of the work itself, or to concerns from the employer to hire illegal immigrants; this may imply that there are periods of time with no opportunities at all, or that positions are opened only a few days per week. A third major possible source of worries during the journey relates to the U.S. forces of order and their actions to prevent illegal immigration. Definitely the border patrol is the most feared figure in this category, but immigrants who have survived some time as workers have been deported after being stopped by traffic police for committing minor offenses and being asked for their documents. Many of these stories include a two-week to one month stay in jail before being deported. Finally, and on a more general account, the U.S. government is putting in place different actions to discourage people trying to illegally cross the borderline and it has had an impact on the decision making process of people who otherwise would not have hesitated about it.

Are all these dangers worth the effort of trying to cross to the U.S.? People from Huixcazhdhá certainly think they are. The Assembly and even San Miguel feel that there must be support for the adventurous who are willing to give it a shot, hence the provision of two years of being excused from communal activities established by the Assembly and the push from the company to help with social security in the process. Evidently these resolutions are thought to make sure that anyone who goes there has a reason to come back sooner rather than later. The fact that the family left behind has the support from San Miguel (whether because the mother of the family works in the company or because there are relatives who do and can provide some kind of support) is a good reason to be confident that the family will remain together until the return of the immigrant. The results of the dynamic of migration are evident in the community. The kind of house materials and the size of the constructions that one can see there would not be explained if it were not for the economic activity that remittances generate. Just knowing that there is a possibility to do it in the future is a piece that plays an important role in planning for the actions to come of people and their families.

Interestingly enough, when persons who have had this experienced are asked about the effects brought to their lives, the vast majority only thinks of it in terms of the economic benefits. They may answer, for instance, that thanks to their two years in the States they were able to build the second floor of their house, provide for the treatment of a serious disease for their mother, or buy a pickup truck that they use to help transport people from their community. Very few connect the experience with an opportunity to develop skills that may be useful now when they are back home. Even on matters related to agriculture, if they are asked if any of the techniques that they saw there may be applicable in their plots their answer is that these are two complete different worlds. For them everything in the U.S. is massive: The plots are enormous, there is general use of technology in all stages of the agricultural cycle, and the activities that they performed were very repetitive and insignificant in the understanding of the implications of such a large operation. On the other hand, in Mexico they perform most agricultural activities by themselves, with only a few persons helping in the process; they do most of them manually; and most importantly, their focus is only to obtain a few grains for their own consumption, never to make a business out of it.

Benito tries to make them see the experience from a different perspective. With the efforts to support local social entrepreneurs he pushes them to make use of the unique skills they have developed to find an alternative way to improve their lives. There is the example of one worker from San Miguel who spent two years doing construction work in Atlanta, specializing particularly in house gardens. He learnt landscaping and taking care of different varieties of plants. Now when he is back in the company, he has been invited as technical advisor in all social projects around amaranth cultivation. He also encouraged her daughter to begin the social entrepreneurship project that is producing amaranth seedlings as input in San Miguel projects and is offering his experience to make it work. In the plant itself some experiences that were obtained in migration journeys are also put to a good use. Apolinar (whose skills were presented earlier) for example, spent a year and a half in Chicago working in a shop where he became a welding master after a couple of weeks of arriving. His experience was very much used in the development of the mini poppers, not only to weld the device, but also through

his understanding about topics of electronic control and fluid dynamics that he learned back then.

Generally speaking, there are a number of positive aspects that make Huixcazhdhá a community that stands out from the rest of places with similar characteristics. Many of them refer to infrastructure development and have been covered in different spaces in this case. Others relate to social interactions and the ways the community organizes itself. The following paragraphs present some of the general characteristics of the community and the challenges that may arise in the future to continue with the path of progress where they have embarked.

On the issue of education, the fact that Huixcazhdhá has managed to secure the existence of schools from kindergarten to middle school is a huge accomplishment, so is the possibility to pursue the on-line high school program in its community learning center. One important issue needs to be addressed in the coming times: how to improve the quality standards of the schools. Some examples that show that there is room for improvement on this issue, particularly regarding the middle school, is the fact that it is considered as a second option for those parents who are worried about the level of education that their children will receive, and sometimes prefer to enroll them in neighboring communities where the level is perceived to be higher. Also the general level that is achieved after nine years of schooling in schools from rural communities is very questionable. At this point, many children are very weak in their reading skills, not to mention their mathematical abilities. The answer may be too complex to even begin discussing alternatives to improve on this matter, since it spans Mexico's educational system; however some actions that have been taken in the community and may be built upon include the involvement of parents in school activities, the enlargement of collaboration options with other institutions (educational, companies, government), the development of local people as teachers to have incentives to remain for long periods of time in the community, among others.

Regarding economic conditions in general, and particularly the issue of working opportunities, the community also has an important advantage due to the presence of San Miguel there. For a community of 440, where 166 inhabitants out of this total are

reported as economically active, having around 80 jobs in the company is a huge relief. Especially since these are permanent positions because despite the market fluctuations, San Miguel does not fire anyone. All the rotation that the company experiences comes from migration to the U.S. or to large cities in Mexico. There is also the topic of informal employment that circulates around the *faina* and communal positions system, but these are not permanent positions and are normally given on the basis of friendship and family membership. So what is there as a possibility to improve on these conditions? Definitely the option to become an entrepreneur is an alternative. This may be the case even for small commercial activities. In the community there are only a couple of small stores that sell basic supplies. Two days per week a small farmer's market is set in Huixcazhdhá, but only external sellers are part of it. These are options to make sure that the commercial flows do not leave the community unnecessarily. Of course the alternative to build some products to sell outside Huixcazhdhá are options to be further explored.

Related to the topic of economy, housing conditions, as expressed above, are above the norm for communities like Huixcazhdhá; the materials used and the size of the houses in the community correspond to higher levels of income. However, the main flow of money to use in construction activities is received from remittances from the U.S. One alternative that has only recently been explored is to use the government housing lending system (INFONAVIT). This institution lends money on mortgages to people working in the formal economy. Workers from San Miguel qualify to receive loans to build a brand new house or to remodel or expand their current one. However, two obstacles interfere for workers to apply for such loans: first, the extensive list of requirements asked by INFONAVIT that includes credit history; and second, the fact that these loans are signed for periods of 15 to 20 years, and people from Huixcazhdhá are just not used to commit for such long time spans. Only recently workers from San Miguel have applied for these loans and got them, but still they correspond to minor projects of home improvements.

When it comes to health issues, the reduction to zero malnutrition among the children from Huixcazhdhá is a colossal accomplishment. The speed by which this was obtained related to the nutritional vigilance program based on amaranth is also worth noticing (in only two years, malnutrition was reduced from 65% to only 25% of the children

population, and by the next few years it came down to zero). The construction of the health clinic was also an interesting achievement. However, one pending subject relates to the lack of permanent presence of a doctor in the clinic. Indeed, the clinic hosts the presence of a doctor only once in a month, where he has to check all the patients from severe illness (such as diabetes or cardiovascular disease) and perform health campaigns in the community. Dr. Benito Manrique, as discussed earlier, performs the functions of the permanent doctor, but whenever he is not in the plant, or in the cases of illness that require longer treatments with medications that are not available, people from Huixcazhdá have to travel to Huichapan to the Social Security Institute, or to the neighboring community to be treated by a private physician.

On the question of social interactions, Huixcazhdá offers a good example of simple living related to the peasant's alternative proclaimed by international movements such as Via Campesina. Being a small community where most of the inhabitants belong to four or five founding families many of them are somehow related. As it happens in the majority of families, this is a source of closeness, but also a potential cause of conflict. In the community, however, this factor has helped to establish a quite calmed environment. People from Huixcazhdá proudly claim that they are a healthy and safe community, with no problems of drug addiction or criminality whatsoever. Their main distraction during the weekends is to gather around the soccer field to cheer the two local teams supported by San Miguel that leads the municipal soccer league, or to join them into the neighboring communities when they play as visitors. Families also enjoy taking a walk up the hill and picnicking in the outdoors to celebrate birthdays or special occasions. From time to time, their social distraction takes them to the larger towns nearby to buy some supplies that are not found in Huixcazhdá and walk around their urban parks.

One period of the year that they expect with excitement is summer. Thanks to San Miguel's relation with Tecnológico de Monterrey, for the last three to four years a group of international and Mexican students have stayed during a period close to a month in Huixcazhdá organizing a number of social activities. The group combines a research topic that may be sustainability or health to be worked on within the community, or business related to be dealt with in San Miguel, with an immersion in the community. For the latter part, according to their personal interests the students organize workshops

around physical activities (sports, aerobics, among many), cultural interests (music, dance, for instance), crafts (pottery, embroidering, as examples), and even academic topics (mathematics or English as a second language). All the community is invited to join the workshops that run for a month in which the community multi-purpose hall becomes truly the hub of all activities in Huixcazdhá. Although most of the workshops are designed for children of school age, in the last summer a couple of them related to handcrafts were directed to the ladies from the community, with a great response from them since they found it a good opportunity to get together with the people they have lived with for so long in a completely different setting. It is interesting to see how after the summer ends, students from Harvard, Yale, MIT and Tecnológico de Monterrey keep in touch with the youngsters from Huixcazdhá through their social media, allowing them the chance to realize the concerns from the 'educated elites' from North America.

Finally, analyzing the alternatives to participate in the decision making process of the community, the categorization system that was explained earlier dominates the present and near future landscape of Huixcazdhá. As discussed before, this system favors *ejidatarios* and leaves *acasillados* with little hope for their future. Also the assignation of the communal positions by list to everyone regardless of their interests or abilities is something to be considered as an area of opportunity. Despite the fact that this system is far from being perfect, it is worth noticing that it has worked for a long time and has allowed the community to move forward in the projects they have undertaken to progress. Many other surrounding communities acknowledge the decision process of Huixcazdhá's Assembly as a standard to be followed. The challenge at this point is to move the Assembly forward into a model that balances better the individual aspirations with the communal objectives (which at the moment take most of the efforts) and to allow for a better assignation of roles according to individual profiles that may motivate those persons who have the desire to become more active in the politics of the community.

As Benito has expressed it, the first 25 years of San Miguel in Huixcazdhá have been enough to build the proper infrastructure for the development of the community. Now the time has come to engage in efforts that address their value system. It is necessary to help them think of activities that allow the development of a more solid social fabric



that is ready to face the challenges of a global society, but at the same time keeping their roots and maintaining their happiness that comes from a life that balances their economic aspirations with their solidarity. Many efforts have already been taken in this direction and many more are yet to come. As long as there is the will from people in Huixcazhdá, the future looks promising for everyone.

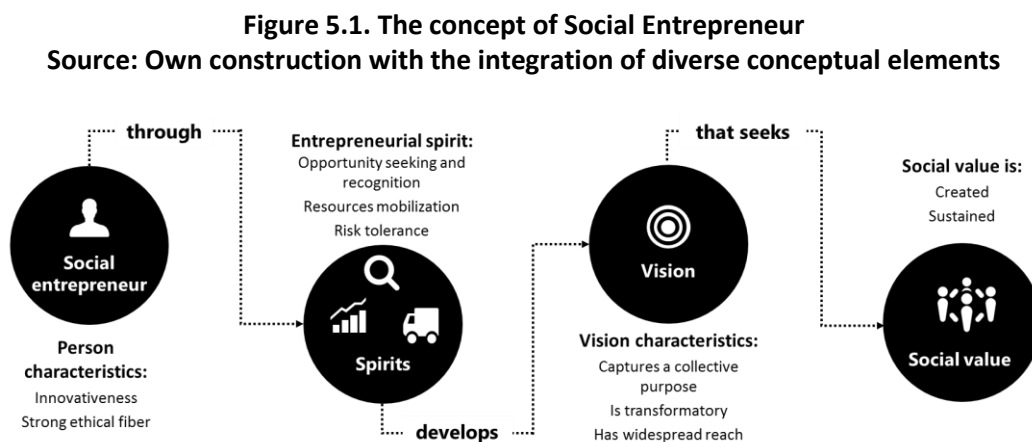
## Chapter 5. Analysis of the case-study

The present chapter analyzes the case-study of Benito Manrique and the company he developed (San Miguel) in the context of the community where it has operated since its inception (Huixcazdhá). To do so, the first section of the chapter will confront the main elements on Social Entrepreneurship that were introduced in chapter 2 with the evidence that was obtained during the observations and interviews that the researcher experienced during his presence in the company and community. The following section shall focus on the company, identifying the focal elements of knowledge found in the literature review with the ways that San Miguel deals with them in practice. Finally, the last section of the chapter shall analyze the community of Huixcazdhá within the knowledge development context and particularly identifying the elements of capabilities improvement under the approach developed by Amartya Sen (1999).

As expressed in Chapter 3, the data gathering process for this dissertation included a period of observation by the researcher, a series of in-depth interviews, and the review of company documents, as a basis for triangulation. Evidently, the vast majority of the sources of data were obtained in the mother language of Mexico: Spanish. Only very few interactions were conducted in English and represent the opportunities that the company and community had to interact with international actors: One visit from international officials of a multinational food company; the agenda of interactions that a researcher from Yale University on the topic of Public Health took when relating with Huixcazdhá; and the process of preparing the activities that the group of international students from Yale, Harvard and MIT, along with students from Tecnológico de Monterrey undertook in Huixcazdhá during their summer stay. As such, most of the quotes and accounts of the observations will be presented in Spanish, as they were originally obtained, with a free translation from the researcher into English. This decision seeks to account for a possible “lost in translation” that some ideas may suffer and readers who are bilingual may notice. When the quotes come from interactions that were conducted in English, the text will acknowledge it.

## 5.1 Social entrepreneurship in a rural context

From the second chapter we consider a social entrepreneur as an individual who implements a solution to a relevant social problem; through opportunity seeking and recognition, resources mobilization, and risk tolerance; developing and sustaining a strong social vision that captures a collective purpose, is transformatory, and has widespread reach; with innovativeness and a strong ethical fiber. Figure 5.1 captures these elements of the concept of a social entrepreneur as guidance in the analysis of how they are present in the case of Benito Manrique de Lara, the entrepreneur who created the idea behind San Miguel.



Using this framework as a basis, the following sections shall analyze the relevance of its elements in the context of Benito Manrique as social entrepreneur and whether there are other aspects that may be revealed as more relevant using his experience.

### 5.1.1 The personal characteristics of the Social entrepreneur

Innovativeness as a concept related to entrepreneurship was first established by Joseph Schumpeter when the author described the process of economic growth thanks to the "creative destruction" through the introduction of new products or services that mobilized resources away from current companies thanks to entrepreneurship, which the author defined as the "competitive entry of innovative 'new combinations' that propelled the dynamic evolution of the economy" (Lumpkin and Dees, 1996; p. 142). In this original sense, entrepreneurship was tied to a high degree of innovation focused on a number of aspects (new service, quality, process, market, source of supplies, or

industry) excluding different cases of entrepreneurial activity that imply the creation of new organizations but which may not be significantly innovative if we evaluate them in the list of aspects cited above (Spear, 2006). To account for this fact, more recent studies on entrepreneurship have focused on the innovative aspect of the entrepreneur's personality and his intention to adopt (not necessarily create) innovations. On the personality side of innovativeness, a construct is present in the academic world that relates to the openness and creativity of individuals, to how ready they are to follow new paths, and to the degree of creativity in their cognitive style (the way they process information, take decisions, and solve problems) (Marcati, Guido and Peluso, 2008). This construct has often been operationalized in the academic literature following the Kirton Adaptation-Innovation (KAI) Inventory (Kirton 1976) who describes a person's proneness to innovation in a continuum that ranges from being an 'adaptor' at one extreme (a person who tends to do things better, utilizing existing methods, rules, and schemes, and being precise, systematic, cautious, disciplined, and risk adverse), to being an 'innovator' at the other (someone who does things differently, who introduces radical changes, thinks tangentially, approaches problems from different angles, and violates the existing rules with a personality that is flexible, impulsive, immune to others' criticisms, and welcomes risk).

Analyzing the case of Benito Manrique, it is clear that elements from both personalities (adaptor and innovator) have emerged at relevant moments of his entrepreneurial journey. Perhaps the most representative action that reflects his innovative personality in the sense that the KAI index depicts, and that has a direct relationship with the company that he eventually undertook, was the decision of a rupture with his traditional life that he took after a couple of years of graduating from medical school and working as a university professor. Benito expresses this rupture in the following quote:

*"...hasta llegar al sin sentido de la actividad docente de ir a la biblioteca, bajar los últimos artículos, leerlos, procesarlos en un rollito también de vanidad, de ser el más informado, contra mis pares y ta ta, llegar y vomitarlo, medio procesado, al día siguiente; es un sinsentido de la labor docente, entonces esa actividad que era muy relevante para mí, que era la docencia se fue quedando auténticamente sin sentido."*

“...up to the point of arriving to a non-sense of teaching activity of arriving to the library, downloading the most recent articles, reading them, processing them into a little speech of vanity of being the most informed against my peers and bla bla bla, until arriving [to the classroom] and vomiting it, half processed, next day; it became a non-sense of teaching activity, that very activity that was so important to me became authentically meaningless” (from INT29).

After this reflection, his action of leaving behind the life he knew and deciding to go on a retreat in the countryside, building a hut with his bare hands and meditating for half a year, definitely implied thinking things differently, introducing a radical change, and violating the existing rules; which are the main characteristics of an innovator according to the KAI inventory.

On the other hand and related to this same passage, but reviewing an earlier stage of his life, perhaps the decision making process that he went through when he decided to study Medicine portrays him as an adaptor in the sense that he followed a process that implied for him doing things better (he came to be one of the best students in his class), utilizing existing methods, rules, and schemes (his father, as a Medical Doctor, was his main influence in this process), and being precise, systematic, cautious, disciplined, and risk adverse (all of these components were present in the discussion of the topic with his father). The following quote exemplifies this process:

*“la orientación vocacional de papá en términos de cuando hablábamos de qué iba a estudiar, finalmente Medicina fue porque de todas las carreras [de tu interés], ... (tenía interés en antropología social, en informática ... tenía interés en medicina por la parte tanto de pobreza, como la parte biomédica, la parte de neurociencia ...), entonces un poco lo que mi diálogo con papá fue: primero [Medicina] fue la única carrera que te da una embarrada de todo y te permite desde como lo decía, [analizar] desde la vida hasta la muerte y en cualquier aspecto [posterior] que quieras es medicina; entonces un poco era ese acercamiento a una, ¿duda vocacional? planteada desde el positivismo comtiano, de que el hombre*

*se estudia en la materia ... y eso es realmente el origen del interés médico, mucho más que voy a ser cirujano, voy hacer la terapéutica, realmente eso solo nos empezó a interesar aquí [en Huixcazdhá mucho tiempo después].”*

“the vocational orientation from my dad related to our discussions about what was I going to study, finally we arrived to Medicine because from all areas [of your interest] (I was interested in Social Anthropology, in Informatics ... in Medicine but from the aspect of poverty, like the part of Biomedics, Neuroscience...), so a little of my dialogue with dad went: first, [Medicine] was the only area that gives you a general overview of all and allows you, as he said, to [analyze] from life until death and in any aspect that may interest you [later]; so this approach of a ‘vocational doubt?’ established from Comte positivism about how man is studied in the matter... and here lies really my medical interest, much more than the idea of later becoming a surgeon, or a therapist, really that only became an interest here [in Huixcazdhá, much long after]” (from INT29).

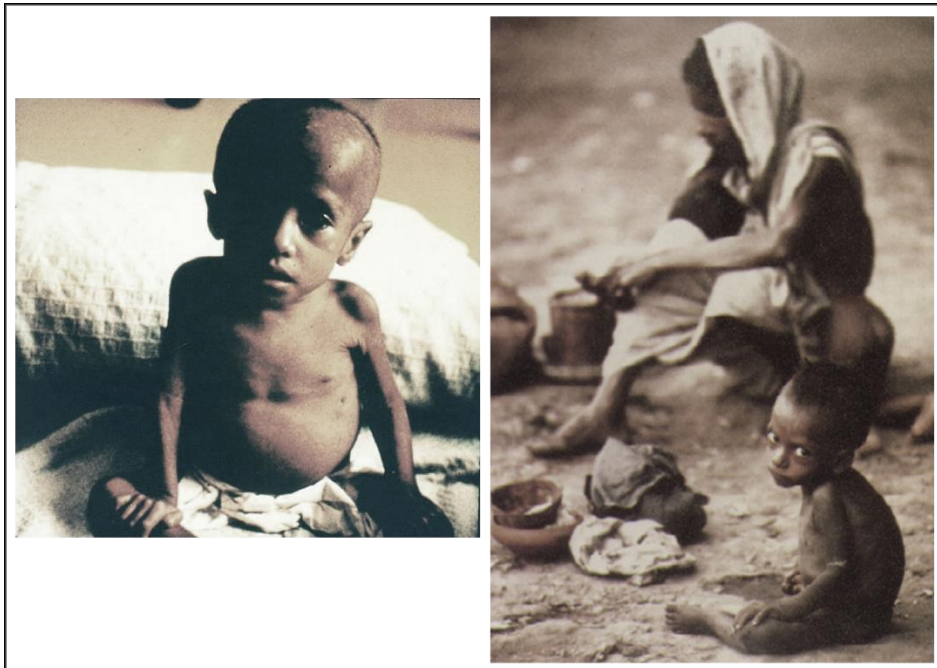
From both examples it is clear that a far more relevant issue related to the personality of Benito Manrique (beyond the continuum from adopter or innovator) in his decision making process relates to his moral foundations. Firstly, when declaring a rupture with his traditional life, the questioning of how his daily activities were leading him to transcend was the main component of that decision; and secondly, in the decision of what to study, again, the leading aspect that took him into medicine was his interest in studying something that in practice was related to fighting poverty and its terrible consequences (like brain damage).

These moral aspects are much more significant in the second aspect of the social entrepreneur’s personal characteristics shown in Figure 5.1: the strong ethical fiber. In chapter two of this dissertation, the issue of understanding compassion as a process that leads to defining a mission related to the alleviation of a social issue was presented with four steps: a) observing and understanding the suffering in others; b) enhancing the awareness about the vulnerability of others; c) understanding the issues that have

led to that suffering; and d) defining as personal goal to take actions to alleviate that suffering (Miller, et.al., 2012). In Benito's case this process began at a very early stage of his life and took a significant amount of time and intermediate decisions to finally arrive at a resolution on how to make a difference in the social issue he decided to: malnutrition.

Recalling his journey as a son of a family of Medical Doctors from the World Health Organization that had the chance to know different realities by moving around the world, and particularly being confronted in India with death from starvation literally outside his doorstep, Benito was presented with very clear occasions to observe the suffering of others. Even before deciding to study Medicine, Benito's awareness of the implication of the problem was very high thanks to his interest in studying the terrible consequences of malnutrition in the development of children and the prevalence of malnutrition in the world. Even more shocking for him was to realize in one of his travels in Mexico that the conditions in his home country were no different from the rest of the world. Up to this moment, one of the most shocking images that he uses to justify his decision to devote his professional life fighting malnutrition in his many public speeches is a comparison of two photographs of malnourished children taken by himself in very different settings: the first from a child in India and the other from a kid of a similar age from Oaxaca, Mexico (see image 5.1); Benito's manifestation when reflecting on these images is that there is no difference from both children and that they both were doomed to a terrible future.

**Image 5.1. Two photographs: Malnourishment in Mexico and India.  
Presented by Benito Manrique in an academic congress.  
Source: PowerPoint presentation in case study database**



His concern about malnutrition increased when he studied the effects of this problem in the brain development of children. It was basically this concern that led to his decision to study Medicine and has remained as a permanent preoccupation of his activity as social entrepreneur and as Medical Doctor in his future activities. Furthermore, his awareness of the causes of the problem led him to understand the symbiotic relationship between poverty and malnutrition and becoming clear about the fact that any project that he may undertake in the future had to tackle both issues with a systemic point of view. Finally, and just at the moment of his rupture, he decided that “if you are not part of the solution, you are part of the problem” as a driving force to commence the creation of a path towards the direction of establishing a social venture that offers solutions to both issues: poverty and malnutrition.

Benito experienced a similar process of observing, understanding, generating awareness, and acting, when he arrived to Huixcazdhá, his spiritual retreat. Let’s remember that he left his life in Mexico City with a deep existential void to meditate about how his future could be meaningful for him. The place where he arrived was



merely incidental: it just so happened that his father was given land there as a thanking gesture from a friend. However, soon enough at his retreat, Benito started observing the locals (women and children specially) walking a couple of miles to get some clean water and having to carry it in buckets back home. Just from saying hello to them (or rather from returning their '*Buenos días*') he started a communication process where they learned that he was a Medical Doctor on retreat and he began realizing their poverty and malnourishment conditions (at that time, two thirds of children in Huixcazhdá suffered from some degree of malnourishment). Rapidly enough he got involved in the community life offering initial care as a doctor in extreme cases. It was not difficult to understand how this observation, awareness and involvement, made him decide that Huixcazhdá was the perfect setting to make a difference and start being part of the solution.

### **5.1.2 Entrepreneurial spirits**

Considering the entrepreneurial spirits in the second element of Figure 5.1, the pursuit and recognition of an opportunity, the resources mobilization, and the risk tolerance, that allowed tackling the two elements that Benito had in mind (fighting poverty and malnutrition) took time and some early failures. After arriving at the decision of staying in Huixcazhdá, the establishment of the company was not straightforward. The first attempt taken by the landlords of neighboring plots in Huixcazhdá seemed appealing and resounded in Benito's head as a collective attempt to sum efforts in the direction that he had set. He took the lead in developing the business plan, presenting it to the bank for financing (his uncle being the bank official in charge of their account), and even signing as the main guarantor for the debt. Soon he realized that the 'partners' did not have any true intention to make the project a reality, so he had to forget about them and assume the project all by himself, devoting all the life savings from his father that were left to his brother and him as an inheritance, with the full support of Diego. The following passage describes this part of his life:

*"Dato de destino de vida es: caí, otra vez, caí en el proyecto emprendedor concreto que era a partir de esa empresa S.P.R. que convocaron los socios del fraccionamiento, que llevó a que yo hiciera el plan de negocio, que yo lo llevara a mi tío en Banca Cremi ... [Que yo tuviera que firmar como aval]."*

*Entonces esa parte no es de visionario; es, de caíste dentro de un compromiso ... y por eso digo con mucha claridad interior: mi principal mérito fue ante eso, el grado de testarudez que pude demostrar ... [debido a] la carga de la culpa del patrimonio familiar apostado en una ocurrencia mía... [Recuerdo] la frase lapidaria de Diego cuando ... se pagó la deuda: 'esta es la deuda, la vamos a pagar toda con lo que nos queda en el Banco de nuestro patrimonio y si eso sirve para que te hagas hombrecito, está bien invertido'... Pero digamos hasta eso fue una jugada didáctica de Diego: ...'realmente te vas a quedar con el proyecto ..., porque [hasta ahora] te has rajado, siempre te has salido; de esta no hay salvación, lo sacas'".*

"A piece of data that forms a destination in life: I fall into this concrete entrepreneurial project from that company S.P.R.<sup>1</sup> which was created by the neighboring landlords, that led me to write the business plan, to take it to my uncle in Banca Cremi, [that I had to sign as guarantor]. So this part of the story does not belong to a visionary; it meant that I fall into a commitment... and that is why I say it with total clarity inside of me: my main merit then was, before this landscape, the degree of stubbornness that I had to demonstrate [due to the] charge of guilt related to the family patrimony bet in a sally of mine. [I remember] the lapidary phrase that Diego told me when the debt was paid: 'this is the debt, we are going to pay it in full with whatever we have left in the bank from our patrimony and if this serves for you to become a man, then it is well invested'... Let's say that this was a didactic move from Diego: ... 'you are really going to keep the project because [up to now] you have always chickened out from everything, you have always escaped; from this there is no way out, you have to make it work'" (from INT29).

In this passage the issues of risk tolerance and resource mobilization appear more from a moral obligation point of view than from a conscious decision to pursue a concrete

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<sup>1</sup> A form of ownership established by the Mexican government to promote production and development in rural areas

and well established plan. Actually, what came immediately after this passage was the first attempt of business in Huixcazhdhá: the commercialization of prickly pear (nopal cactus) that abounded in the region, had positive digestive effects and was used by persons suffering from diabetes. The opportunity to tackle a health issue and to take advantage of resources that were available in the surroundings via this idea lasted only two or three years since the market was very limited and the commercialization channels were not developed at the time.

However, the pursuit of opportunities continued and Benito maintained his academic interest in exploring alternatives to fight malnutrition. Thanks to this interest Benito arrived to amaranth; he attended a national congress that discussed the benefits of the grain and got to meet Dr. Sánchez Marroquín there. The click between the two was instantaneous since Sánchez recognized the opportunity to incorporate a life time of knowledge of amaranth into a commercial project with a very strong social component and Benito found the element that he had sought for a long time: a crop with very high nutritional value and a great potential to become the next 'agro-industrial frontier' from Mexico to the world; with amaranth, Benito found the chance to mix a project to fight malnutrition and poverty at the same time. All the technological resources that Sánchez had developed were offered free of charge to Benito and mobilized to Huixcazhdhá, including the technical assistance of Sánchez and his team.

### **5.1.3 The social vision**

Continuing with the model presented in Figure 5.1, after meeting and starting the collaboration with Sánchez Marroquín, the vision was ready to take shape. According to the three conceptual elements, a strong social vision requires to capture a collective purpose, to be transformatory, and to have a widespread reach. Benito spent a good amount of time and consciousness defining the Mission of San Miguel, that is presented next:

1. Develop amaranth as a staple crop worldwide to bring the nutritional, economic and social benefits of this resource to the population of Mexico in particular and human beings in general. Thereby allowing the United States of Mexico, through the company San Miguel, to be at the forefront

of production, industrialization, marketing and research and development of this crop.

2. Using the resource of amaranth, the company aims to compete in the national and global market economy and achieve corporate primacy in the field of food, based on the criteria of excellence and quality, while adhering to ethics and humanism in its dealings.

3. The company will develop and deliver products and services of superior customer value and pledges to continuously improve its operations.

4. The company will promote business activities that benefit:

- the social system in which the San Miguel Project operates;
- the social, human, biological and physical environment in which the company works;
- the individuals who participate in the company's work, recognizing that human happiness derived from work depends on activation of all human potential, and comprehensive needs of satisfaction, in which the material plane has a primary but not dominant role (From company documents translated into English by Benito Manrique de Lara).

In terms of the collective purpose of this vision, not only does it express a firm commitment with the collectivity that hosts the company (Huixcazdhá) in its fourth point, but it also extends its intentions into other collectivities, such as Mexican amaranth producers and commercializing companies, and in general every entity that might have an interest in fighting malnutrition. The transformatory element of this vision is captured again in the pledge that the company is establishing within 'the social system where it operates; the social, human, biological and physical environments that surrounds it; and the individuals who collaborate with it in terms of activating their potentials as humans'. Moreover, this transformation is also declared through thinking of the wellbeing of the population of Mexico and human beings in general. The third element of the vision, the widespread reach that is expected from it, is also present first

for Huixcazdhá, but also for the participants of the amaranth value chain, and the recipients of amaranth products.

Looking forward more than twenty years after this declaration was made it is clear that the vision of the company has attained in many levels what was stated: there are many groups and organizations that have been touched in different ways by the activities of San Miguel. Definitely the transformation of Huixcazdhá is evident in this period, not only from the infrastructure point of view, but also in the capabilities and freedoms that people from this place enjoy; but also the activities of the company have transformed other collectivities, such as amaranth consumers and producers from different parts of Mexico, making evident its widespread reach.

As a way to show the effects of the company's activities on a personal level, the following passage expresses how a young person with cancer disease has benefited thanks to the humanity in the actions of San Miguel. This testimony was shared by one of the supervisors to her colleagues at the beginning of a working day:

*“[Una señora] me dijo que como había escuchado mucho hablar del amaranto y de las bondades del amaranto, entonces que le preguntara al Doctor [Benito], qué producto le podía recomendar a una persona, a un muchacho joven de 22 años que tenía cáncer. ... [Le pregunté al] Doctor ... y me dijo el doctor que le preguntara si había tenido quimios o radioterapias ... ya me dijo ella y le comenté al Doctor, entonces el Doctor me dijo ... que él le autorizaba que le llevara [de manera gratuita] unas seis latas de “sport” y se las llevé, que era el consumo para un mes y medio; ahorita lleva ya casi un mes consumiéndolo y ya fue a su ... consulta con su doctor ... y la doctora estaba muy sorprendida porque está bien el muchacho, [aun cuando ] le estaban dando un medicamento que era muy fuerte, que le dolía mucho la cabeza ... Entonces [su familia] están muy agradecidos, es una familia muy grande, este fin de semana le mandó una carta al Doctor, que es esa que tiene ahí y ... nos dijo que ellos como familia ya vieron que les está dando resultado ese producto, aparte el muchacho también un día quería ... conocer ... al Doctor, pero ahorita*

*por lo pronto van a seguir comprándole su lata de cada semana porque ellos quieren y él también quiere seguirla consumiendo.”*

“[A lady] told me that she had heard a lot about amaranth and its properties, so she wanted me to ask the Doctor [Benito] what product would he recommend for a person, a 22-year-old boy with cancer... [I asked] the Doctor and he told me to ask if the boy had had any chemo or radiotherapies ... she answered me and I told the Doctor, so he said ... that he authorized me to take her [free of charge] six cans of “sport”<sup>2</sup> and I took them to him, which was the dosage for one month and a half; to date he has consumed it for almost a month and he went to his consultation with his doctor; the doctor was very surprised because she found the boy to be very well [even if] he had been taking a medication that was very strong, that caused strong headaches... So [his family] is very thankful, it is a very large family, this weekend they sent a letter to the Doctor that he has in his hands and ... she told us that their family has seen that this product is having good results on him, and besides, the boy wanted one day to ... get to meet ... the Doctor, but for the moment they will continue buying one can per week because they think it is good and the boy also wants to continue with its consumption” (From PSM00 THX).

To Benito Manrique this kind of expressions is more important in the vision of San Miguel than any financial or commercial figure of the company’s position. The time when this story was shared with the employees of the company and Benito read the thank you letter referred to in the previous paragraph, his eyes were full of tears and his conversation intended to provoke the reflection of the company’s workers about the impact that their activity had on real persons, with needs, problems, and hopes, just like theirs.

#### **5.1.4 Creating and sustaining social value**

Arriving at the fourth element of the definition of a Social Entrepreneur, the entrepreneurial activity is expected to create social value, but most importantly, to

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<sup>2</sup> One of the company’s food supplements formulated for young people

sustain it over time. Coming back to the strategic objectives of San Miguel, the social values that it expects to create are many fold. Firstly, in the lives of the people working for the company it seeks to develop their capabilities and potentials aiming for their happiness in the broadest conception of the term; secondly, for Huixcazhdhá the expectations of an integral development extend the economic axis and include the social and environmental aspects of the community; thirdly, through its economic activities it pretends to integrate a number of small amaranth producers into a high added value economic chain that is traditionally dominated by intermediaries; and finally, through the products of the companies it tries to increase the wellbeing of the population with nutrition problems. If Benito had the chance to focus only on the social aspect of his mission, he would have been happy to give his products for free, pay high salaries, build endless infrastructure projects, and so on, but he is aware that this social mission could not be sustained over time without a strong economic activity. That is why the commercial aspects of the company are taken very seriously. The manufacturing mantra in San Miguel is repeated in every employee's meeting: *"La producción tiene que salir y tiene que salir bien. Bien es igual que a tiempo, seguro e inocuo"*; "The production program must be met and must be met correctly. Correctly means on time, safe and innocuous". Moreover, when the workers express their happiness of being part of San Miguel and refer to the company as a big 'family', Benito corrects them: *"no es cierto ... lo que nos vincula es un código profesional que es tan hondo, pero diferente al familiar, al de la amistad; es igual de hondo, pero es diferente"*; "that is not accurate ... what links us together is a professional code which is as deep, but different, as the familiar or friendship codes; it might be equally deep, but it is different" (from INT29).

Once again, more important than the fact that Benito Manrique fulfills the characteristics that the academic literature expects from a strong social entrepreneur is to say that the way San Miguel was conceived and the references that he used to make the most important decisions in the life of the company had very profound ideological roots, linked to his moral references. Benito summarized them when a Professor from Yale University visited San Miguel to know about the project:

"Our vision is to construct a new value adding chain beginning with amaranth, turned into consumer products, but the logic of construction

of the value chain is the construction of multiple capitals. It is just as important to develop human capital, social capital, ecological capital and financial capital. With that model armed with the vision of amaranth and the technology transferred by Sánchez our model was basically in three axes: To develop San Miguel as the economic stand point of the project. When you are young you can be arrogant: you say everyone is talking about sustainability and they go to NGOs and they ask for money to research sustainability. One of our premises was that we would be **sustainable in our own economic terms** and that is the reason to have an economic project: San Miguel. The other axes are as important: a sustainable development project in rural Mexico with the idea to **think globally, act locally**, initially. Obviously this development has evolved in terms of theory: now we are close to **Degrowth** as an ecological-economic model which incorporates the axis of **solidarity economy**. For us, the construction of a sustainable community has those terms: the contraction of economic cycle on a global scale because we think **limits to growth** are here and we need to do something with a system that is closed (plane earth) and we need to begin to think sustainably on a community basis. Also this human capital construction linked to **knowledge society** which is the modern term for ... the social dynamics and teachings of Paulo Freire and Ivan Illich. When people come here they want to learn about amaranth, we do not present our expertise to be anything else but a case of development of amaranth and the community. San Miguel's Mission is frontal fight of hunger and poverty, our vision is Mexican amaranth for the world and our values: **Ethice, Praxis and Humanitas**. A humanitarian ethical vision carried into practice. This is why we do our value-added products and that is our link with our economic cycles" (from STP\_UNIV; emphasis added).

One account of the relationship of these ideological bases is possible after listening to Dr. Benito for some time. Perhaps his initial preoccupations of how to link an economic project with his social concerns arise from studying the ideas on entropy from



Georgescu-Roegen. His reflections about how all natural resources on Earth are limited and being irreversibly degraded towards a state that human activity with its current levels of production and consumption is just not possible and the only expected outcome is a general collapse (Georgescu-Roegen, 1971; Rifkin, 1981), resounded in his mind as a logical consequence of what he saw at the moment in the world's dynamics. At the same time, and looking for another ending to this pessimist scenario, the degrowth movement appeared as an intelligent and structured alternative in its conception. The main elements that Benito might have founded applicable are: "an emphasis on quality of life rather than quantity of consumption; the fulfillment of basic human needs for all; societal change based on a range of diverse individual and collective actions and policies; [and the] ... observation of the principles of equity, participatory democracy, respect for human rights, and respect for cultural differences" (Degrowth Declaration of the Paris 2008 Conference, 2010).

The basic idea from the degrowth discourse is to leave behind the conception of development based on increasing economic activities at the macro level and moving towards what is referred to as 'simple living'. The implications on strategies call for a change from a top-down approach where decisions and policies come from the great political leaders to a bottom-up approximation where grassroots should take the lead in defining what is desired by a social group and in acting towards accomplishing these goals. The concept of solidarity economy where the constituents of an economic cycle are more concerned about enhancing the quality of life and seeing the human face behind the products or services that are exchanged appeared as a natural concept to follow this path. Likewise, the idea of "think globally, act locally" that began as a slogan to promote grassroot movements and was adopted in protests against globalization gave a good light to the developing project.

A main concern to make these ideas a reality refers to the balance of the different 'values' involved in an economic activity under the principles of degrowth and solidarity economy. Here Benito incorporated yet another concept that he learned from physiology: human homeostasis. This idea refers to the balance that all systems need to maintain so the human body remains stable to changes in external conditions. Applying this concept to economic activities, Benito thinks that the main task of a leader is to

bring about the equilibrium of all systems where he participates (economic, financial, social, individual). He sees all cases of extreme poverty or richness as evidence of the systemic disequilibrium of our time and thinks of these as cancers that need to be removed. He says that these cases, *“estéticamente son inaceptables, por lo tanto, éticamente son inaceptables”*; “aesthetically are unacceptable, and as such, ethically are equally unacceptable” (from INT29). As a concentrating summary of these ideas, Benito has given himself the title of CEO of the company, but he translates it as ‘Chief Equilibrium Officer’.

Finally, reflecting on how to put these ideas into practice (how to implement an economic activity based on solidarity economy that focuses on enhancing the wellbeing of a social group), the Pedagogy of the Oppressed by Paulo Freire and Deschooling Society by Ivan Illich presented an interesting framework for a setting such as Huixcazhdá. In the former book, Freire spoke about Pedagogy as a means to obtain freedom among the oppressed as an ‘indispensable condition in the quest of human completion’ through a direct dialogue that starts by reaffirming our faith in the other and by understanding that ‘there is no true word that is not an unwavering union between action and reflection, and hence, that is not praxis’; and ‘praxis, if it is human and humanizing, is merely the practice of freedom’ (Freire, 2005). In the latter work, Illich criticizes the current system of education and proposes a new educational model that does not rely on a teacher – student biome, but rather works on educational webs on the social, in the relationship between equals, which gives the participants the opportunity to transform each moment of their lives into a space of learning, sharing, and caring (Illich, 1971). Elements from these two authors gave shape to the concept of knowledge creating of San Miguel that shall be discussed in the next section of this chapter.

## **5.2 Knowledge Management in San Miguel**

To analyze the aspects of Knowledge Management that one may find in San Miguel, a conceptual model based on Nonaka in his Managing Flow book will be used as a guide to identify the knowledge elements that one should consider in a ‘knowledge-based firm’. These elements shall then be scrutinized in the knowledge flows observed in the

company with the help of the pragmatic spirits that have arisen from the literature review of the three main components of this dissertation.

The 'process model of the knowledge-based firm' captures the main elements of knowledge management that the author had presented in his earlier works. This model is composed of seven components: the SECI spiral observed in two company processes: dialogue and practice; the knowledge vision and driving objectives that provide a guide to all company activities, the space-time where knowledge is created and shared (known as *ba*), a set of knowledge assets, and the environment where the company develops its activities.

According to Nonaka and his associates, the knowledge vision of a knowledge-based firm comes from responding to the fundamental question 'why do we exist?' and the answer "is based on the company's aesthetic value of truth, goodness, and beauty, [and it] defines the kind of future that the company imagines for itself and determines the collective ideal mission and domain" (Nonaka, Toyama and Hirata, 2008; p. 27). In the case of San Miguel, its knowledge vision is well established in the Mission that was presented in the previous section. This mission speaks perfectly of what the company wants to achieve and the balance between its social and business activities. This aspect was scrutinized in the previous section of the social entrepreneur and it provides the linking element from that section with the knowledge elements of a firm. In the analysis of the following paragraphs it will be more than evident that the mission developed by the social entrepreneur provides a guide for all activities of the company and serves the objective of a 'knowledge vision' as understood by the three authors.

The second component of the knowledge-based firm are its driving objectives which refer to the mechanisms established by the top management to realize the knowledge vision. Nonaka, Toyama and Hirata (2008) explain this idea by referring to concepts, goals or action standards that provide support in connecting the knowledge vision with the processes of knowledge conversion through dialogue and practice and often refer to the way they are put in practice through metaphors or analogies developed by the company leaders and 'evangelized' into the whole company through conversational processes.

The third and fourth components of the model are referred to as 'dialogue and practice, the dialectic of thought and action' and are captured by the knowledge conversion processes where knowledge shifts from tacit to explicit and back that Nonaka uses as the essence of his SECI model (as presented in Chapter 2 of this dissertation). The three authors establish a difference in the spiral of knowledge creation between dialogue (speaking and listening to others pursuing the understanding of the essential meanings of things, which is effective in creating new explicit knowledge in the externalization and combination stages of the spiral), and practice (which integrates actual action and reflection about this action, following Deweyan pragmatism), that is more relevant in the socialization and internalization phases of SECI where the creation of new tacit knowledge is expected. When analyzing the knowledge conversion practices in San Miguel, these two components shall be used as one integrated element of analysis under the category 'knowledge conversion' to allow a focus on the activities that are performed to generate, capture and share knowledge in the company.

The fifth component of a knowledge-based firm is *ba*. This Japanese concept refers to a specific context in time and space where knowledge is created and/or shared among a group of persons. It is defined as "an existential place where participants share contexts and create new meanings through interactions" (Nonaka and Toyama, 2003; p. 7). The concept is not restricted to the physical space where interactions occur, but is extended to the idea of "here-now" that was expressed in Chapter 2 in relationship with process philosophy, that connects the past (contexts) that the participants bring to the present with the intention to create knowledge for the future through sharing contexts and experiences among all persons involved.

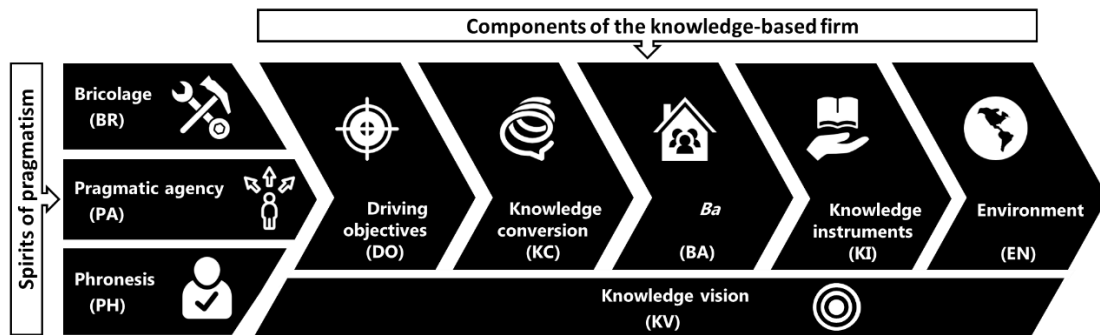
The sixth component of the model is 'knowledge assets' which, in the authors' conception, include patents, licenses, databases, and also skills, capabilities, organizational structures and other forms of knowledge (or intellectual capital). To focus the analysis of San Miguel regarding this component, it shall be used in the following section in relation with the instruments that are present in the company; that is, explicit forms of knowledge that are used by its workers.

Finally, the seventh component of the knowledge-based firm is the environment. Its relevance comes from the fact that knowledge is created in companies not only within their boundaries, but also in its relationship with other players outside the firm, such as customers, suppliers, academic institutions, competitors, governmental institutions, among others; and also that knowledge created is also reinjected into the environment. The authors express the relevance of this concept in the following idea: “the SECI model is a framework for overcoming the dualities of free will versus environmental determinism, and agency versus structure. The subject, situated in the world, engages in knowledge creation, and in making that knowledge whole gradually discloses it to the world” (Nonaka, Toyama and Hirata, 2008; p. 47).

Figure 5.2 synthesizes the elements of a knowledge-based firm that will be used in the analysis of San Miguel, and also introduces the three spirits of pragmatism that serve as a guiding element in this analysis: a) Bricolage, with the elements of making-do, combination of resources for new purposes, and resources at hand, as referred to in chapter two; b) Pragmatic agency, as presented in that same chapter using the concepts of path creation and distributed agency; and c) Phronesis, or situated rightness. Particularly related to phronesis, in the context of knowledge creating firms, Nonaka, Toyama and Hirata (2008) argue that this concept consists of six abilities that must be present in leaders: i) making a judgment about ‘goodness’; ii) sharing contexts with others to create *ba*; iii) grasping the essence of particular situations; iv) reconstructing particulars into universals and vice-versa using narratives; v) using properly political means to realize the common good; and vi) fostering phronesis in others. These abilities will also guide the particular analysis of phronesis in San Miguel.

The following sections will use the elements from figure 5.2 to analyze different aspects of the company in relationship with its knowledge elements. To perform this analysis, a description of the way the company applies this element, according to the observations performed by the researcher, will be presented, with a code that relates the component of the knowledge-based firm numerically. An example of such a code will come in the following form: [KV1], which means that the description is captured as the first observation related to the component of Knowledge Vision. This code will help in summarizing the main findings of these components in San Miguel.

**Figure 5.2: Framework for analysis of Knowledge Management under Pragmatist Spirits**  
 Source: Own construction with bases on Nonaka, Toyama and Hirata, 2008



### 5.2.1 Knowledge vision (KV)

As expressed earlier, the knowledge vision of a company captures its aspirations for the future, thinking beyond the existing products, markets, structure and so forth. In the case of San Miguel, its mission as presented in the previous section reflects the state where the company foresees its future, additionally it expresses the role that San Miguel intends to play in the social setting where it participates and in relationship with the role it anticipates for the amaranth. It is evident that realizing this mission requires a great deal of knowledge both within the company to commercialize successful products based on amaranth and outside its boundaries to become the engine of development for Huixcazhdá and the leader in the full use of grain amaranth with the potentialities related to the nutritional component and the agriculture aspect.

In developing this mission, Benito Manrique displayed mainly two pragmatic elements from the spirits that are used in this analysis: Pragmatic agency and Phronesis. The first spirit was first present in the form of ‘path creation’ when he was consciously ‘constructing his own path while walking’ (remembering Antonio Machado’s poem). Deciding to declare a rupture with his existing world and leaving for Huixcazhdá, encountering there the inspiring environment for his venture, and deciding to devote his future to the improvement of the conditions of this community, are clear elements that show the way he conceived his ‘pragmatic agency’ in becoming part of the solution to a problem that concerned him for so long [KV1]. Other manifestation of pragmatic agency in the form of distributed agency that was present in the development of the knowledge vision of San Miguel is the role that Sánchez Marroquín played here. Before

meeting him, Benito had only the general idea of doing ‘something’ to fight malnutrition and helping Huixcazhdhá at the same time, but learning from him all the potentialities of amaranth, and agreeing to team up to utilize all technical knowledge developed by Sánchez’s team, provided the integral element to change his ideals into concrete elements of the knowledge vision [KV2].

The evidence of phronetic thinking in the development of San Miguel’s mission is clearly reflected in the way the social component of the company takes such a clear and committed expression. The fourth strategic objective of the mission establishes that “the company will promote business activities that benefit the social system in which the San Miguel Project operates; the social, human, biological and physical environments in which the company works; and the individuals who participate in the company’s work, recognizing that human happiness derived from work depends on activation of all human potential, and comprehensive needs satisfaction, in which the material plane has a primary but not dominant role” (excerpt of San Miguel’s Mission). Here a clear judgement of ‘goodness’ is declared as one of the main commitments of the company [KV3]. Additionally, when Benito declares that San Miguel’s activities will help in developing amaranth as the ‘new agro-industrial frontier’ to bring its benefits in terms of nutrition but also including its social and economic aspects, he shows an ability to develop a narrative that reconstructs the universal ideal of ‘doing good’ into a particular way to achieve it that is easy to share with others to include them in the venture [KV4].

### **5.2.2 Driving objectives (DO)**

The driving objectives in the knowledge-based firms represent the mechanisms that companies utilize to achieve their knowledge vision. These mechanisms often take the form of concrete concepts, goals, or action standards that give direction to the knowledge conversion process of dialogue and practice using the knowledge vision as a guiding element (Nonaka, Toyama and Hirata, 2008; p. 29). In communicating these concepts or action standards from the top management to the line workers, Nonaka and his associates have described the use of analogies, metaphors and storytelling as an outstanding tool that requires the ability to capture the imagination of others to convince them to move in the desired direction. The use of analogies in communicating

relevant concepts is present in the story of Benito Manrique in San Miguel. Perhaps the most evident analogy used in the company refers to the use of the concept of homeostasis in establishing the job title of Benito: CEO, understood as chief equilibrium officer. His concern about the terrible effects of disequilibrium in systems, particularly in the planet Earth as a system and the analogy of the human body as a system that requires control measures to keep the equilibrium of all its subsystems led him to conceptualize his most important task as a leader in the following way: “Our economic model searches to maintain equilibriums and as the leader of the project I visualize that my main function is maintaining homeostasis of the system both internally (production with maintenance with quality), the whole enterprise with the community; and the community with our environment” (from STP\_UNIV). This conceptualization of being a CEO as a chief equilibrium officer is explained and repeated continuously both internally and externally to San Miguel, and resounds in everybody’s mind to understand what is the function of Benito in the company. By doing so, Benito again displays an evident phronetic leadership and distributed agency by bringing again the universal principles of ‘doing good’ and reconstructing them into a particular concept that captures the equilibrium of all constituents of the company as a main concern [DO1].

In terms of analogies, the presence of the smurfs in the company vindicates itself as the image that every worker relates to. As mentioned in chapter 4, the uniform color of San Miguel workers is blue. To be more precise, the color is referred to as ‘smurf’ blue. In Huixcazhdá workers from the company are known also as smurfs. Remembering the Belgian comic, smurfs are resourceful, and despite their small size, they live comfortably in the woods and manage to solve all the major problems that they encounter. For San Miguel workers, this idea that is close to the concept of ‘bricolage’ may be more relevant than the color when they feel comfortable referring to themselves as smurfs [DO2]. They use the image in different settings. In the administrative office, they keep a place to commemorate all relevant occasions that the company has lived over time. One new smurf is integrated there at each momentous occasion of San Miguel. For instance, there we may find the smurf with a computer, to remember the first PC that arrived to the company, or the footballer smurf who brings to their minds the soccer championship that San Miguel’s team won in the local tournament. All smurfs lay next to their Baby-



Jesus figure that is a token of the catholic faith of almost everyone in the company and the community, but even Baby-Jesus wears blue scrubs to be part of the company along with all the rest of the workers. Smurfs also are a very relevant component of their internal communication. Almost all visual aids in the production plant have images of smurfs to bring a joyful and cordial image to the relevant aspects of production. Image 5.2 shows a picture of the commemoration space where Baby-Jesus and the smurfs welcome workers every day and a picture of a production station that shows two visual aids to remember that quality samples of popped amaranth are required every 20 minutes and what to inspect in them, along with a warning that if efficiency falls below 95 kg/hour a warning should be reported to the production or maintenance supervisors.

**Image 5.2. The use of the smurfs as an analogy to be resourceful**  
Source: Researcher's case study database



A number of driving objectives used to operationalize the knowledge vision in San Miguel come in the form of policies. Some of them are listed now: First and most relevant is the practice of hiring exclusively local talent for the plant. This practice may appear restrictive according to business standards due to the limited formal education of the local workforce (8.4 years of schooling on average), but San Miguel finds it as a perfect way to prove in practice its commitment to Huixcazhdhá. This custom may be understood from the pragmatism spirit of bricolage of making use of the resources at

hand, but it extends beyond it and reaches again the phronetic conception of the Deweyan ideal to expand people's capabilities with a spirit of solidarity [DO3]. In this same idea of solidarity and commitment to Huixcazhdá two other policies stand out: First, regarding issues of work practices to promote gender equity, San Miguel respects the three-month maternity leave for women close to delivery, but goes beyond by allowing moms to take extra time off whenever they may need it, respecting their place in the company for whenever she might be ready to return. Additionally, lactating mothers have the flexibility of taking as many breaks from work as they need to nurture their babies, who normally stay at home with relatives and enjoy the benefits from living very close to their working places [DO4]. One last example in this respect relates to the provisions taken by the company for workers who intend to migrate to the U.S. for a short period (two to three years typically). The company keeps them listed on their payroll while they are in the process of crossing the border and are released only when they have successfully arrived to their intended destination, to allow for social security provisions should anything go wrong in the crossing process. Also in these cases, the workers are welcome to rejoin their work space in San Miguel after returning from the U.S. if the requirements of the company allow for it [DO5]. As an example of workers benefiting from these privileges one may refer to the list of interviewees presented in chapter 3 where the table that summarizes these characteristics presents the column of 'Time at company' with many cases of workers adding up in their seniority different periods of time, due to the fact that they interrupted their work at the company to migrate to the US.

A final objective that bridges the knowledge vision of the company (with the founding concepts of the social entrepreneur analyzed in the previous section) and the mechanisms to put it in place relate to the concepts of 'factory as school' that Benito imported from Paulo Freire. According to Freire, teaching should be a practical and social matter. Being practical means that people learn by doing (a bricolage principle) and being social implies that the responsibility of learning and performing lies on the groups, rather than on individuals (a principle from distributed agency). To operationalize these ideas, two examples are presented now: At San Miguel, all production workers (the vast majority) should know and be able to perform all line activities at acceptable levels. To

make sure this happens in practice, workers rotate their daily responsibilities every day and it is a task of the production supervisors to assign workers from each shift in their corresponding working cell (typically four workers) and designate which task will be performed by each cell according to production requirements and rotating schedules. Workers learn only upon arrival to the factory prior to the beginning of their shift who they will share a working cell with, and what will be their task for the day, which will be different from one day to the next one [DO6]. Finally, the way San Miguel teaches all these activities to newly hired employees also falls within the responsibility of all workers. Just as any other worker, a new employee will rotate activities on a daily basis. Whenever a working cell (their group for the shift) learns that there is a member who has just joined the company, they know that their additional task for the day will be to teach him/her the activities, standards, and documents that they perform normally. They have to do it in the practice, by doing, and allowing the newcomer to experiment, tolerating their possible mistakes and guiding them in the process [DO7].

### **5.2.3 Knowledge conversion processes (KC)**

The knowledge conversion processes are the dynamics that an organization follow to create new knowledge through dialogue and practice. The SECI spiral establishes that a fundamental distinction in this analysis is to understand the difference between tacit and explicit knowledge due to the fact that knowledge is created through incrementing processes where one is converted into the other and back. Tacit knowledge (referred to by Nonaka and associates as subjective knowledge) is formed by the experiences, insights, intuition, observations and internalized information of human beings and is reflected in practice. Explicit knowledge (also known by this author as objective knowledge) refers to articulated concepts that take the form of verbal expressions, codes, mathematical and scientific models, blueprints or any other means that can be represented in a paper and understood by a group of people who hold a shared context. According to the authors, the knowledge conversion happens through dialogue (that allows for the creation of new tacit knowledge in the Socialization and Internationalization stages of the SECI model) and practice (that leads to the formation of new explicit knowledge in the Externalization and Combination stages of the model).

The most common form of learning in the working environment of San Miguel is through socialization, where tacit knowledge is converted into new forms of tacit knowledge. As expressed in the previous section, training new employees is done in the practice, through the observation of how the tasks are performed by existing workers, conversing with them about the most critical aspects of the task, and practicing these learned elements and being observed and corrected in the practice. This form of knowledge conversion clearly captures the pragmatic spirits of bricolage, in learning by doing, and pragmatic agency, in distributed agency [KC1]. Some comments of how this form of conversion is perceived by the workers are shared now:

*“[Cuando llegas como nuevo, te dicen:] ‘te toca ir con tal persona’ y ya uno como nuevo, la verdad yo no sé hacer esto, les preguntaba más que nada, ‘¿cómo se hace? ¿qué puedo hacer? ¿en qué les puedo ayudar?’ y pues así poco a poco fuimos dándonos cuenta de lo que se hacía y pues de hecho creo que aprendimos más o menos bien.”*

“[When you just arrive as newcomer they tell you:] ‘you are assigned to go with this person’ and it is assumed as a new element that you don’t know how to do, so I asked them: how is this done? what can I do? how can I help? And little by little we came to realize what is needed to be done and I think we have learned to do it pretty fine (from INT24)”.

But this practice goes beyond the responsibility and interest of the newcomer. At San Miguel, the social responsibility of teaching others in the practice is well established; not only in relationship to trainees who just arrived, but also when opportunities of improvement in the other workers are detected. When these opportunities of extending one’s knowledge for the benefit of others are realized, a spirit of phronesis reflected in the ability to foster this spirit in order to build a resilient organization is exercised [KC2]. This following quote reflects how the workers perceive the social aspect of sharing knowledge and how they do it in the practice:

*“Uno ve a una persona que batalla y le voy a decir cómo se hace para que batalle menos y no se vaya a lastimar. Si uno lo sabe ... uno va a auxiliar en lo poco que sabe. Se va transmitiendo en plática o en acción.”*

“If you are seeing someone who is struggling, I will show him how [this task] is done so he doesn’t struggle anymore and to avoid any injury. If I know ... I will help [by transmitting] the few things I know. We transmit them in conversations or in action” (from INT02).

At the Externalization stage of SECI some difficulties are faced by the majority of San Miguel line workers, since it requires the use of some basic formal knowledge that comes from traditional school education, which is weak in them. It was observed that when a working cell is formed and their task for the shift is informed, when they divide the particular activities they normally shirk those that imply reporting the production and quality measures in the recording sheets. They even draw a lottery and the loser is assigned to this task. Perhaps the responsibility of summarizing the task of their team into a record that will be kept and referred to in case of any issue combined with the weak formal education that they have makes them timorous about the task. One possible explanation of these actions may come from a poorly understood notion of phronetic situated rightness: the line workers understand that the prevailing effects of their daily work are reflected in these records and the information reflected there carries high importance for the company; they may feel internal weaknesses to do a proper work, filling the forms and thinking that they may commit mistakes, so they rather not perform the activity to avoid a possible mistake that may carry important consequences for San Miguel [KC3]. The way that one worker reflects on the issue of the difficulty in filling in forms is presented in the following quote:

*“Han cambiado algunas fórmulas ..., formatos que se cambia, yo creo que lo que sabe hacer uno pues ya lo sabes hacer, lo que no pues ya con lo que te indican ... Más que nada son las bitácoras las que a cada rato se cambian por cualquier equis cosa ... Las supervisoras nos explican siempre todo, nos dicen ‘se les pasa nuevo formato y lo tienen que llenar de esta manera porque son nuevos requisitos’ y ya, y creo que es lo que más difícil.”*

“Some formulations have changed, recording forms that are changed, but I think that what you know how to do, you know it already, and what you

don't know, they tell you how to do it... More than other things are the records that change continuously due to any number of reasons. The supervisors always explain to us everything that is new, they tell us 'we are giving you a new form and this is how you should fill it because we have new requisites' and that is all; I think this is the most difficult task" (from INT24).

Yet another source of difficulty in generating explicit knowledge from tacit constructions is reflected in the limitations that the workers from San Miguel experience in communicating ideas in verbal and written forms. Benito Manrique refers to this phenomenon as 'the cruelest proof of the failure of the schooling system in rural Mexico'. Despite the fact that the main requirement to obtain a primary school diploma is the ability to write and comprehend reading materials (and the majority of line workers hold a middle school diploma), their capacity to 'reconstruct universals into parts and vice versa' through language as a phronetic ability is very limited [KC4]. This limitation is evident in the training sessions that were observed, where very few of the line workers were confident in responding to the questions posed by whoever was in charge of the session. Furthermore, the participant observation session where the researcher served as facilitator of a process to develop an instrument to evaluate the performance of the supervisors by the line workers showed very clearly these limitations. A comment from the report that was produced in this session is shown next:

*"Se formaron cinco equipos de cinco integrantes de manera aleatoria y se les pidió que en quince minutos obtuvieran una lista de cinco dimensiones o variables de evaluación que consideran que deberían formar parte de un instrumento de evaluación del desempeño de sus supervisores. Durante la dinámica, el facilitador se acercó a los equipos y les mostró a manera de ejemplo el 'Formato de evaluación del talento humano' con que ellos son evaluados. El proceso se alargó, teniendo cada equipo un total de veinticinco minutos para trabajar esta etapa...Es interesante observar que dos equipos buscaron definir las variables de desempeño que propusieron, mientras que los otros tres equipos no completaron las*

*cinco variables solicitadas pese a los diez minutos adicionales otorgados...”*

“Five teams with five members each were formed in a random way and they were asked to produce in fifteen minutes a list of five dimensions or variables to consider in an instrument to evaluate the performance of their supervisors. During the dynamic, the facilitator came to the teams and showed them as an example the ‘Human talent evaluation form’ that is used in their evaluation. The process went longer than planned, assigning a total of 25 minutes to work on this process. It is interesting to observe that only two teams tried to define the performance variables that they proposed, while the remaining three teams weren’t able to complete the list of five variables, despite the fact that they were given ten extra minutes to do so...” (From OSM HRM).

From a constructive perspective and having in mind the pragmatic spirit of bricolage, it is pertinent to conclude that despite these evident limitations in the very basic ability of communication of its workers, San Miguel is able to utilize the resources at hand in different and creative manners to overcome these shortcomings and becoming a leading company in the processing and commercialization of amaranth in Mexico [KC3; KC4].

Moving along to the Combination stage in the SECI model, where dialogue allows the creation of explicit knowledge using previous explicit knowledge as basis, most of the difficulties exposed in the previous paragraphs stand for the majority of workers in San Miguel. However, some outstanding stories from San Miguel are relevant in proving that whenever there is personal interest in expanding horizons, there are no barriers for the creation of knowledge. Two particular experiences that illustrate this asseveration relate to the process of handling the non-conformities generated during a previous quality audit up to the revision visit that led to San Miguel’s certification under the HACCP standard; and the utilization of the scientific method to develop a new product formulation. These experiences are explained next.

Firstly and related to the HACCP certification, during the observation period the researcher monitored the process to resolve three non-conformities that arised from a

pre-auditing visit prior to the definite certification visit. As in any quality certification process, the observations (including non-conformities) that are generated are reported officially in a written form and according to the degree of gravity, actions need to be taken. In most of the cases, these actions are taken and written reports are produced to officially respond on how the observations were attended. The following explanation was given regarding the first and second non-conformity that they received:

*[Desde que recibieron el reporte de auditoría, la empresa auditora les dio 3 meses para atender las no conformidades] “Desde que nos llegó el reporte y obviamente igual se podían ir abordando ya que nosotros íbamos tomando nota [durante la visita de auditoría]; [algunas observaciones] se podían atender inmediatamente, no necesariamente esperar a que nos llegara el reporte y tomar acciones. De hecho, la calibración de los equipos [que fue la primera no conformidad reportada] ya estaba programada, pero pues, por condiciones del proveedor que no tenía, que estaba muy saturado de trabajo no se pudo hacer antes de la auditoria la calibración; entonces nos la dejó hasta el siguiente mes. Esa no conformidad ya quedó subsanada. Lo del control de plagas [la segunda no conformidad] también creo que ya quedó. Ellos [el equipo auditor] nos comentaron que el proveedor no lo ve realmente tan eficiente, ya que hacemos muchas cosas, bueno todos los compañeros [de San Miguel] hacen muchas cosas que el proveedor tendría que hacer él como graficar, indicar si con el producto que aplicó está surtiendo efectos para [detener] la actividad de roedores o cosas de esas. Entonces a nosotros también nos ha capacitado para hacer la inspección que, pues igual la hacemos, pero realmente no sabemos qué hacer en dado caso que encontremos un indicador muy elevado de moscas o de mosquitos de fruta ... Nosotros igual y a lo mejor le comentamos al proveedor y pues sí, nos dice que es normal porque, por la estación del año.”*

[From the moment San Miguel received the audit report, the auditing company gave them three months to close the non-conformities] “Since we received the report, but of course we could have been working on



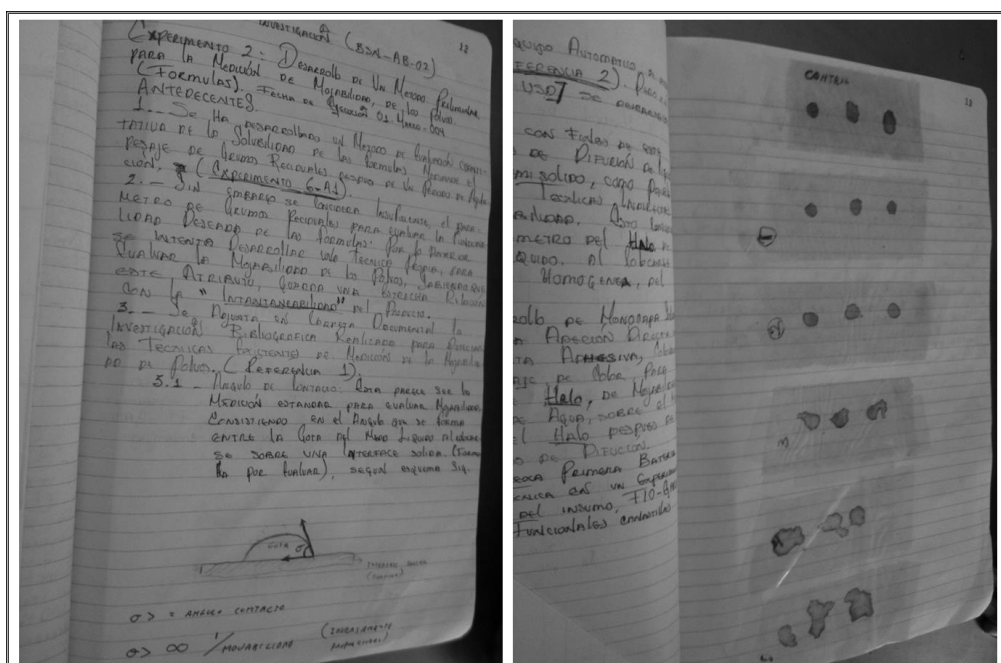
them before that, because we took notes [during the audit visit]; [some of the observations] could have been solved immediately, we didn't need to wait for the report to take actions. In fact, the calibration of equipment [which was the first non-conformity reported] was already programmed, but due to causes related to our supplier, he was very busy with work, we couldn't do the calibration prior to the visit; so he programmed the service only the following month. This non-conformity is fully remedied. Related to the plague control [the second non-conformity], I also believe that it has been closed. They [the auditing team] told us that they didn't find the process of our supplier to be efficient, because we [the workers from San Miguel] do many things that the supplier was supposed to do, like producing graphs, reporting if the product that they are using is effective in [stopping] the activity of the rodents and stuff like that. So we also have been trained to do the inspection, which is part of our activities, but we really do not know what to do in the case of finding a high level of flies or mosquitoes ... We have reported these findings to the supplier, but he says that it is a normal behavior due to the time of the year" (from OSM QUAL).

In this passage a very evident reliance on external allies (the certifying company and the supplier of pest control systems in this case) shows how San Miguel has built its capacities with a strong support of standards, documents, and other sources of explicit knowledge developed by various agents. In fact, the need for a HACCP certification was established by yet another relevant agent: Kellogg, which requires this endorsement provided by an external party for all its suppliers. A form of distributed agency is evident here to form a knowledge network that expands the capacities of all participants there [KC5].

Another relevant form of explicit to explicit knowledge conversion in San Miguel is present in its research and development department. Benito Manrique brags about the introduction of the scientific method in a rural setting when he describes the procedures used to develop new products in the company. Almost all products distributed by San Miguel are developed in-company. Benito taught the coordinators of the R&D area how

to design an experiment following the scientific method and he requires them to document all processes used in the development of products to ensure that the generated knowledge remains in the company. One example of such documentation is presented in image 5.3, where a photo of the book of experiments is presented. There, an alternative way to measure ‘wetability’ of a powder is presented. First, the document makes reference to other experiments developed previously where residual lumps are measured, stating that it is not enough evidence of solubility as needed in the manufacturing process. With these antecedents, a method of ‘wetability’ is presented where the theoretical concept of ‘contact angle’ is used. Such an angle is measured when the powder is dissolved into the required liquid; a drop of the resulting compound is placed into a rigid surface, and the angle formed between the surface and the drop is measured. The operators in charge of R&D investigated this concept from theoretical sources and learned about the presence of an analytical measuring machine that is used for this purpose, but they also learned that the cost of such a machine goes beyond a few thousand dollars, so they experimented with different powders and liquids and developed a catalog of images that produce empirically the same results of the machinery. A very evident use of resources at hand and use of resources for purposes different than they were originally planned is shown in this example [KC6].

**Image 5.3. Documentation of an experiment in the R&D department**  
**Source: Researcher’s case study database**



Arriving at the last form of knowledge conversion in the SECI model, Internationalization refers to the conversion of explicit into tacit knowledge through action and reflection. According to Nonaka, Toyama and Hirata (2008), this stage of the model “can be understood as praxis, where knowledge is applied and used in practical situations and becomes the basis for new routines” (p. 24). Two good examples of this kind of processes from San Miguel refer to the development of new manufacturing machinery and new products. They are presented in the following paragraphs.

The first example explains the development of an amaranth popping machine using the industrial equipment available as a basis, but with characteristics of miniaturization that allows its movement into rural communities that need the popped amaranth to commercialize their own amaranth based products. The person in charge of this development is the coordinator of maintenance at San Miguel, who has always been very curious about how machines operate. He was in San Miguel when the first industrial machines arrived and he took the interest to understand the industrial popping machine that came with the technological transfer package that the company received from Sánchez Marroquin’s team; he isolated the different scientific and technological concepts that needed to be understood; studied them individually; reconstructed them together into a different scale; designed a first generation of mini-poppers; and refined his designs through experimentation until the arrival to a full operational machine. Some of the scientific and technological principles concerned in this development include fluid dynamics, Computer Aided Design (CAD), or control theory. The maintenance coordinator studied them in books, managed to be sent to a CAD training course, looked for applications over the Internet, and used all these elements to design his solution to the problem of developing a working miniaturized amaranth popping machine. Next some comments on his approach to this opportunity to creating knowledge in practice are presented:

*[Respecto a su llegada a San Miguel como recién egresado de una escuela técnica] “Le pongo tanta importancia desde hacer el inventario de instalaciones y componentes ... porque en ese tiempo piensa uno cuando sale uno de la escuela que ya se sabe uno todo y no es cierto. Cuando llega uno al campo laboral resulta que hay infinidad de apagadores, de*

*lámparas; entonces en la escuela lo teórico pues nada más se ve la lámpara y el apagador, pero ya en el campo sí es una infinidad de modelos y pues todo el tiempo fue tan importante el trabajo porque va uno descubriendo nuevos elementos, nuevos componentes de trabajo y a través de ellos te vas nutriendo en conocimiento. Posteriormente viene el anclaje y montaje de máquinas entonces ya vas a nutrirte más, a manejar componentes mecánicos más complejos. Posteriormente viene el montaje de servicios hidráulicos, neumáticos y plomería y aun así uno se va nutriendo más. ... Posteriormente viene la etapa de empezar a diseñar y a tener esa bonita etapa de poder opinar y en otras opciones.”*

*[Respecto al interés por estudiar diseño asistido por computadora] “Si y por ahí tenía sus libros [el arquitecto que diseñó la planta], entonces tuve que tomarlos y darles una ojeada y empecé a dominar el Autocad en 2D y cuando ya lo dominé la empresa me ofreció un curso en 3D y ya lo tomé formalmente. Fui a la ciudad de México. Fue de una semana y ahora puedo hacer todo tipo de dibujo en 3D.”*

*[Respecto a la aplicación de diversos principios en las máquinas] “A mí lo que me interesaba era cómo funcionaban esos equipos y con qué principios para poderlo transferir; una vez investigado yo tomé los principios y platiqué con el doctor y después ya me presentó el reto y pues a ver entonces diseña el prototipo de acuerdo al principio de funcionamiento y pues ya ese fue el hornito que está en el taller.”*

*[About his arrival to San Miguel as a freshly graduated from a technical high school] “I placed the same relevance on making the inventory of equipment and components ... because at the time I thought as a fresh graduate that I knew everything but that was not the case. When you arrive to the working field it turns out that there is an infinite number of dampers, lamps; so in theory at school you learn about one damper, one lamp, but in the field there is an infinite number of models and at that moment, the job was very important because I started discovering new*

elements, new working components, and through them I nurtured my knowledge. Later the process of fixation and setting up the machines that allowed for further nurturing with mechanical components that are more complex. Lately the introduction of hydraulic and pneumatic services followed, along with plumbing, and there I nurtured even more. Later the stage came to begin designing and having the great opportunity to give my opinion and look for different options.”

[About his interest to start studying Computer Aided Design] “Around then there were some books [that belonged to the architect that designed the plant], so I took them and glimpsed at them, until I began to master 2D Autocad; when I mastered it, the company offered me a course on 3D design and I took it formally. I went to Mexico City during one week and now I am able to do any kind of 3D drawing.”

[About the application of different principles into the machines] “What really interested me was to understand how these machineries worked and under which principles so I could transfer them; once I researched about them I took the principles and discussed them with the Doctor [Benito] and later he presented me with the challenge of designing a prototype according to the functioning principles and that is that little oven that you saw in the workshop” (from INT08).

In the previous transcription one can easily distinguish elements of bricolage in making-do with limited resources. However, and more importantly, elements of path creation are present in the way this maintenance coordinator has consciously taken decisions of going the extra mile, acting on his own, and accomplishing his goals through situated elements that analyze his past, envision his future and act upon his present [KC7].

The second example that relates to the Internationalization stage of the model comes from the development of new products in research and development. The general process is explained by its coordinator in the following quote:

*“Principalmente aquí en el área de investigación y desarrollo lo que hacemos es en base a los requerimientos nutricionales que luego a veces que nos piden un producto alto en proteína, bajo en grasa, alto en fibra, bajo en azúcar entonces lo que tratamos de hacer es realizar pequeños estudios, básicamente a prueba [y error], quítale...ponle, así es como hemos ido formulando y también ... hay veces que cuando tenemos un proyecto, lo que hacemos es la consulta bibliográfica, ya sea en el internet, hay veces que tenemos algunas fuentes...de libros. Y esa es la facilidad que el doctor [Benito] nos ha dado, puesto que nos deja hacer y deshacer, entonces como que no nos impone algo y tenemos la libertad de... por lógica que lo tenemos que consultar, pero siempre nos deja abiertas las posibilidades de decirle: necesitamos tal cosa, le explicamos el motivo por el cual lo requerimos, nos dice que los pidamos a las oficinas de México, y con ello hemos ido trabajando ... Tenemos una bitácora, realizamos todas las anotaciones, llevamos una...tenemos que planear las actividades y en base a eso, pues conforme nos vamos desarrollando van saliendo nuevas rutas hacia dónde dirigirte, y cual puedes ir descartando, entonces así es como hemos ido trabajando en el área de investigación y desarrollo.”*

“Mainly here in the area of Research and Development what we do is use the nutritional requirements that they ask for, for instance sometimes we are required [to formulate] a product that is high in proteins, low in fat, high in fiber, low in sugar, so what we try to do is little studies, basically by trial [and error], less here, more there, this is the way we have formulated. And also sometimes when we have a project what we have done is the bibliographic consultation, which could be done over the Internet and some other times we use other sources... from books. And this is the advantage that doctor [Benito] has given us, because he let us do and undo, and he does not impose his ideas and we have the freedom...; logically we need to consult with him, but he is always open so we can tell him: we need this or that, we explain to him the reason for

the requirement and he tells us to ask the office in Mexico City and that is what we use to work... We keep a log, we write down everything we do, we need ... to plan all our activities and based upon this, and as we develop them we find new routes to walk and some that we can discard, so this is the way we have worked in Research and Development” (from OSM03 R&D).

Just as shown in the previous example of machinery development, the process to create new products relies heavily on bricolage as it uses different resources at hand and is open to experimenting to see different options for the products. Additionally, it also shows spirits of path creation when the way it is designed is open to make conscious decisions that allow the exploration of the alternatives that they may bring [KC8].

#### **5.2.4 *Ba* (BA)**

*Ba* is a relevant element in the knowledge creating theory of Nonaka and associates. It is often equated to the physical or virtual space of interaction, but the concept goes beyond a space. Nonaka, Toyama and Hirata (2008) define it as “a shared context in motion, in which knowledge is shared, created and utilized” (p. 34). To Nonaka and Zhu (2012), *ba* “enables participants to transcend formal organization boundaries, build caring relationships, establish a sense of purpose, open up limited perspectives and embrace the experience of others” (p. 264). *Ba* is the context where “here-now” situations (recalling the process view of Alfred Whitehead presented in Chapter 2) indwell and transcend time and space. A company’s *ba* is also connected with that of suppliers, customers, universities, local communities, governments and even competitors. The task of a pragmatic leader is to expand the boundaries of his company’s *ba* and interconnect it with that of all its constituents.

In San Miguel, Benito’s conceptualization of the factory as school taken from Paulo Freire implies that he places a great importance on benefiting all employees from every learning opportunity. Two examples are representative of this: the way the administrative space is arranged, and how a simple interaction of the company’s mechanic is turned into a learning space for a larger number of people.

When one observes the physical arrangement of the administrative area of San Miguel a large open space emerges. There are no walls, windows or any kind of division that separates the working place of the production coordinators, quality assurance workers, R&D department and even the CEO's desk. Moreover, there is a corner next to this open space where all workers from a new shift gather to listen to their assignment for the day. To Benito this arrangement allows for the relevant topics of the company to be socialized. In this way, all workers are open to listen to the concerns of the moment and are welcome to contribute with solutions. Even during phone or Skype conversations of Benito he remains close to the workers and his conversations are heard by everyone to allow them to know the negotiations of the moment. Also, this arrangement inhibits favoritism or unfair treatment to the workers, since all 'special' requests that someone may pose to Benito or their production supervisors are done openly in this space and the answers are also heard by everyone. A phronetic spirit of leadership in the use of political power to realize concepts for the common good is observed in this example [BA1].

An example of how a routine activity is turned into a learning opportunity, expanding the *ba* of the company, comes from the interaction with San Miguel's auto mechanic. The regular collaboration from this external agent is to receive his visit at the plant every other month where he performs basic maintenance activities on the company's vehicles, such as oil and filter changing. Benito thought of this occasions as a good opportunity for employees who own a car (a minority in the plant) to learn basic mechanical skills, so he asked the auto mechanic to perform his work in front of the employees teaching them how to do it and he invited first the workers who normally drive San Miguel's vehicles and next all employees who own a car. His intention is to allow them to build basic skills that may be helpful with their vehicles (to save money on these basic repair activities) and eventually to offer services to other people to earn some money from it. In this *ba* expansion a strong spirit of distributed agency is present, taking advantage of the regular presence of an external person who can provide a benefit for San Miguel collaborators [BA2].

A very interesting example of how sharing a context in a *ba* really allows for building caring relationships and establishing a sense of purpose through embracing the



experience of others is perceived by Benito when he recalls the struggles he lived in the early years of San Miguel and specially at the stage of production launch. To Benito, the first four years implied a very strong suffering because he was much aware of the fact that all family's savings were put into the company; he found no satisfaction as an entrepreneur during that time. Around the fourth year when the production machinery from the technological package of Sánchez Marroquin arrived, a great change of the vision about the entrepreneurial project happened in Benito Manrique. The following quote refers to this moment:

*“Lo que me cambió todo el proyecto, lo que le dio sentido, fue el inicio de producción; los ritmos de construcción [previos] eran con los albañiles, ritmo de albañilería, pero la producción cuando iniciamos, todo salió mal, todo. Fue la primera vez que me asomé con un hondo vínculo de gratitud a la resistencia y aguante de esta gente [la gente de Huixcazhdhá], el ver lo que estaban, podían, querían hacer, para que saliera la producción y se construyeran los edificios... Gratitud porque cada esfuerzo de ellos lo vivían como si no estuvieran haciendo este esfuerzo ... ese vínculo de trabajo en 8, 12, 14 horas en torno a una troqueladora que nadie sabía cómo funcionaba y abordarlo conjuntamente y de buena manera en un co-vínculo, eso cambió el sentido porque le introdujo la dimensión humana de docencia que había vivido durante 4 años, como la cura para mis preocupaciones de centavitos, intereses, quiebra, intereses. [Hasta] ahí sí era todo monetario, todo era monetario. [Mi preocupación era que el proyecto] tiene que dar para quedar bien con mamá y con Diego punto,... para restituir a mi familia lo que en derecho les correspondía porque había sido el punto de quebranto. Lo que sí te digo, al compartir los primeros tres meses de producción [con la gente de la comunidad], formé un hondo vínculo humano con el proyecto y me lo cambió todo, porque desde ese momento en adelante ya era no la parte negativa, sino el horizonte de todo lo que realmente se podía hacer a partir del proyecto, cambió todo... Entonces ese fue en el vínculo con los “huixcas” marginados en el desafío inter-personal de que esto funcione, [lo que permitió] darme cuenta de su realidad y sus riquezas. ... La resonancia de humanidad de, de no marginados puros, sino de personas llenas de potencialidades, de*

*capacidad. El reconocer al otro en sus riquezas es realmente reconocer las tantas riquezas.”*

“What changed the whole project for me, what gave it sense, was the beginning of production; the construction rhythms [prior to this] were with the construction workers, construction rhythms, but when we started production everything went wrong, everything. It was the first time I took a look with a very deep sense of gratitude at the resistance and stamina of these people [from Huixcazdhá], to see what they were doing, what they could do, and what they were willing to do, to make sure that production would begin and the buildings were finished... that working spaces of 8, 12, 14 hours around a dying machine that nobody knew how it worked and dealing with it jointly and with a positive spirit, that was a major change since it introduced the human dimension of pedagogy that I had lived for four years as a cure to my concerns of cents, interests, going bankrupt. [Up to that point] everything was about money, everything was money. [My concern about the project] was that it had to provide to accomplish my commitment to my mom and Diego and that was it,... to give back to my family what corresponded to them by right because that had been the point of breakdown. What I can say is that when I shared those first three months of production [with people from the community], I formed a strong human bond with the project that changed everything for me, because from that moment onwards it was no longer the negative aspects, but the positive horizon about everything that could be done in the project, it changed everything... The humanity resonance not from a pure marginalized person, but from someone full of potentialities, of capacities. To recognize the others in their richness means really to recognize so much in richness” (from INT29).

This passage shows strongly how *ba* (sharing contexts) allows for relationship building, and also gives a strong direction in distributed agency and phronesis. The former because from this point onwards Benito had every reason to trust the people from Huixcazdhá and to confirm that they would be great recipients of the benefits that were expected from the project. The latter (phronetic spirit) is shown in the possibility to

share context with others to create *ba* and to judge the goodness of others from realizing their potentialities and richness as human beings [BA3].

This change in view about people from Huixcazdhá that Benito underwent by spending long hours with them is something that he tries to share with the visitors to the company and community. Particularly relevant to him is the fact that the college students who spend a summer period in Huixcazdhá doing community service in the various programs that are described in the previous chapter, have the chance to stay overnight in the community. The first couple of years of these projects, it was not possible for students to stay in Huixcazdhá since there was no place for this to happen; students then had to arrive early in the community, spend the day there and leave in the afternoon to their hotel in Huichapan, the head municipality located at a forty-five-minute drive from Huixcazdhá. However, in the last two summers one house that belongs to a former San Miguel worker and who lives now in the US after migrating as illegal worker there has been conditioned as a 'dorm' to be used by the students. The experience that students who are able to stay in the community report is much richer than before, compared to projects where students commuted; the chance to interact almost permanently with people from the community gives them the invaluable occasion to share in a much deeper level, improving the understanding of each other and the bonds that have extended over time. The distributed agency spirit of pragmatism is present in this approach which allows for networks to be formed and cultures to be shared [BA4].

One more example of how *ba* was expanded in San Miguel to integrate the community comes from the use of the factory as a meeting place for the children of Huixcazdhá and the melting pot to integrate them into an organized group: the Little Tribe (PT). After a few months of operating, San Miguel started to be attractive to the children of the community, many of whom had relatives working in the company. Benito always kept an open door policy and allowed family members to visit the common areas of San Miguel, but his pedagogic spirit soon led him to begin a mentoring relationship with some of the sons and daughters of the employees. Word spread among the children of the community about the doctor teaching interesting stuff in the factory (Benito allowed them to use the computers and to play with some supplies of his products, for example), so a regular group visited San Miguel in the afternoons. Seeing that interest, Benito

thought of a couple of organized activities that might generate interest in the children, and this was how the nutritional vigilance project that is detailed in chapter four took shape, for example. In this manner, Benito taught the children of Huixcazdhá the very crucial fact that they could define their future and work to achieve the goals they set for themselves, which is a basic component of path creation in pragmatic agency [BA5].

Finally, one example of an intention to expand *ba* in San Miguel that has had mixed results in the objectives it seeks relates to the arrangements made by the company for the eating breaks of its employees. Since the community is located literally next to the company, the non-working family members of San Miguel employees typically cook for them at home and bring them their meals during the eleven o'clock or five o'clock breaks. At those times of the day a fair number of people walks down the community and doors of the company are opened for them to leave meals for their relatives. The very positive aspect here is that, compared with people who do not live next to their working place, the workers save important amounts of money since they do not have to spend part of their salary on buying food. In relationship with *ba*, this dynamic of open doors of the company to the community members sends the message to them that they are at 'home' and treated specially at San Miguel. People from San Miguel realize that when an external visitor arrives at the company, a registration process is performed and health questions are asked to avoid potential viruses which are critical in a food processing company. Since people from the community get the 'insider's' treatment, they are allowed at eating time in the common areas of the company and they feel that they are at home. This positive effect of *ba* allows for a distributed agency effect with almost all members of the community [BA6].

The undesired outcome in this process comes when one observes the dynamic of eating the break meal among the workers of the company. After the workers receive the warm meals from their family and say goodbye to them, despite the open arrangement where large tables are set, and expectations of taking advantage of this social moment to build relationships and using that particular *ba* to discuss issues related to their works are natural, the workers tend to form smaller groups to eat, separating men from women, they seat on the grass away from the rest of the smaller groups and tend to be silent

during the meal. Here some interesting opportunities for path creation in the pragmatic agency spirit are missed [BA7].

### **5.2.5 Knowledge instruments (KI)**

Knowledge instruments represent one subset of knowledge assets as defined by Nonaka, Toyama and Hirata (2008). To them, knowledge assets integrate two types of knowledge: explicit and tacit. The former is close to the 'structural capital' component of intellectual capital that is formed by tangible and transferable knowledge in the form of patents, licenses, databases and other documents; while the latter is close to the 'human resources' component of intellectual capital that is formed by collective capabilities found in the experience, know-how and creativity of the organization's employee base. The authors argue that despite the fact that the first category is easier to measure and value in financial terms, the second one constitutes the bases for the creation of new knowledge in the future, giving them a more prominent role. To the author of this thesis, the tacit form of knowledge assets is already covered in the knowledge creation processes described in point 5.2.3 of this chapter. Due to this fact, this section shall concentrate on describing the explicit knowledge assets found in San Miguel and hence the change of name into knowledge instruments.

The first instrument that caught the attention of the researcher in the observation process was an Excel spreadsheet that was used as a bridging document that connects the R&D department with the manufacturing process when a new product formulation is ready for production. As expressed before, the task of the R&D area is to develop new products according to the nutritional requirements defined by external agents, typically government agencies that are designed to assist specific vulnerable groups of the population. The R&D department typically works with formulations at a scale of couple of kilograms, while production batches go in scales of hundreds of kilograms. All tests are conducted at a small scale, and when a new product is ready to go to production, a conversion scale needs to be applied. At San Miguel, Benito Manrique developed an Excel spreadsheet that first converts R&D magnitudes into production scales and then separates all components needed to produce each batch of manufacturing to get exact amounts of the different components. Benito calls this instrument the result of the "challenge to extrapolate the microbiology lab into the food industry" (from INT29). Of

course there are specialized software out in the market to perform these activities, but they are worth thousands of dollars and the company was not ready to spend these amounts into a product that could be developed in-house. In this particular instrument different elements of bricolage are evident, notably the use of resources at hand (Excel spreadsheet) to accomplish new purposes that pose a problem here and now [K11].

Related to this particular topic, the production forms that every production cell needs to fill in during its shift are also a relevant example of knowledge instruments. In the design of all these production forms the hand of Benito Manrique is evident. The data that must be filled into them should be really straightforward, since it has been stated that this activity is the scariest for all production workers due to the requirements of basic schooling skills. Still, a complex array of codes is needed to ensure the full traceability of the products as a requirement of their HACCP certification. A codification system is also in place (and was designed by Benito) to properly identify and link batches of raw material from different suppliers with in-process product batches that go to the different manufacturing processes, and finally with the huge diversity of finished products. Image 5.4 shows an example of one of these production forms. All relevant warnings are there and all records that are connected with the different quality requirements are kept. The development and use of these records show again elements of bricolage and phronesis. The first is present in utilizing all resources at hand, and the second is shown when the form grasps the essence of things and captures it [K12].

**Image 5.4. Example of a production record**  
**Source: Researcher's case study database**

**Prod. G. Nuevo (Abril)**  
 16. Abril 2013  
 Primero  
 D. Eduardo  
 Jessica

**CLAVE REVENTADOR**

A	X
B	

**PRONEBIO (Kg. / Hr.)**

TERMINADA	# DE LOTE DE SUPER SACOS LIBERADOS	CERRADO CORRECTO O VALVULA INFERIOR	CERRADO CORRECTO O VALVULA SUPERIOR	SOPLETEO CORRECTO O DE SUPER SACOS	PALETIZADO CORRECTO O DE SUPER SACOS	# DE SACO	HORA DE INICIO	HORA FINAL	TIEMPO TOTAL (minutos)	CANTIDAD REVENTADO (SACO)	EFF Kg. Hr.
213	Reciculadas	—	—	—		1	5:05	5:30	25	130	78
13	Reciculadas	—	—	—		2	6:20	7:35	75	130	82
3	Reciculadas	—	—	—		3	7:35	9:10	95	130	82
1	Reciculadas	—	—	—		4	9:10	10:45	95	130	82

The arrangement of this production system reflected in a large number of forms that are filled in a complex array of binders is yet another illustration of the knowledge instruments developed by San Miguel. To keep all production information available during certain periods of time is a requirement established by Kellogg to certify all of its suppliers. When San Miguel started his supplying relationship with this multinational corporation a huge task was undertaken to fulfill the quality requirements that it established. Once those initial requirements were met, some more were integrated in each yearly cycle of certification, including the need for a third-party certification under HACCP. The great effort to keep up with Kellogg's requirement was worth not too much in terms of the business that it represented (Kellogg as a customer of San Miguel never represented more than 10% of its sales), but in relation with the knowledge dynamics that fulfilling its tight requirements implied for the company. Of course, the positive effect of putting in place a professional production system reflects a great maturity of the company and guarantees the safety and professionalism of all of its products, not only those sold to Kellogg. In these instruments a clear presence of distributed agency is present, since the requirements of one partner (Kellogg in this case) have implied a quantum leap in the manufacturing organization of the company [K13].


Related to this last certification under HACCP, one non-conformity that was found in the first audit visit showed a 'critical control point' that San Miguel was not taking into consideration in its process: The main entrance of the manufacturing facility. Prior to this audit, all visitors to San Miguel needed to register at the entrance, mainly to be directed to the person or area concerned; however, no written information was required from them, and never were they asked whether they were suffering from any disease (respiratory or gastrointestinal infection, particularly). The HACCP standard prohibits persons with these kinds of illness any kind of contact with food manufacturing processes due to the risk of contamination. After this audit, San Miguel put in place a process where all external visitors are required to fill in a form where they are asked about their health condition and these forms are kept as a historical account of people visiting the company. The 'smurfs' were very ashamed to ask visitors very specific questions about their health, but they understood the relevance of avoiding any risk, so they designed the form to be filled by visitors with an introductory paragraph where

they apologize for the questions that they are about to be asked, and explain that they have to do it due to an external accreditation. Again in this example the distributed agency of pragmatism is present. Furthermore, the implementation of this requirement shows hints of phronesis when the 'smurfs' try to be polite with their visitors and explain to them the reasons that lead them to the registration procedure [K14].

One more element of knowledge instruments that reflects the leadership of San Miguel in the amaranth picture of Mexico is a normalization standard for the consumption and production of the grain that was born in the company and was institutionalized by the Mexican government. The Ministry of Economy in Mexico is the body in charge of publishing all standards that must be met in production, commercialization and other activities present in the economic cycle. A norm was needed to standardize the handling of amaranth so it could meet the requirements needed for human consumption and a number of companies and research institutions participated in developing the norm NMX-FF-114-SCFI-2009 (Secretaría de Economía, 2009). San Miguel definitely had a relevant participation due to its experience, particularly in the process of cleaning the seeds of amaranth. During all the time of knowing the use of amaranth, San Miguel had developed a rigorous documentation about the different sources of impurities that grain amaranth recently harvested presents. The company even kept the sources of impurity in what they call "*Museo de Impurezas. Grano Amaranto*", a museum of impurities found in grain amaranth. This accumulated knowledge served particularly to define the three categories of amaranth that may be used for human consumption according to a series of variables that the company helped establishing. Image 5.5 shows an example of some impurities from the museum, and an excerpt from the norm that shows the table of standards. This knowledge instrument is a good example of bricolage in the way that the impurities that were originally kept for internal use in San Miguel were basis for the development of an official document with national reach. It also captures the distributed nature of agency when San Miguel shares its knowledge with other entities [K15].



**Image 5.5. Some impurities found in grain amaranth and the Mexican norm on the use and consumption of amaranth**  
**Source: Researcher's case study database and Secretaría de Economía (2009)**



**TABLE 1.- Especificaciones de calidad para el grano de amarantho**

Fisicoquímicas	Extra	Clase I	Clase II	Método de ensayo (prueba)
Contenido de material ferroso (%)	0 - 0,05	0,051 - 0,2	0,21 - 0,7	Véase 8.1
Retención en criba con malla 14 (%)	≤ 0,04			Véase 8.2
Impurezas fluidizables (%)	0 - 0,25	0,26 - 0,8	0,81 - 1,8	Véase 8.3
Impurezas clasificables (%)	0 - 0,05	0,051 - 0,09	0,1 - 0,5	Véase 8.4
Excretas de insectos (%)	0 - 0,01	0,011 - 0,05	0,051 - 0,2	Véase 8.5
Semilla negra (%)	≤ 0,5			Véase 8.6
Humedad (g/100)	11 máx.			NOM-116-SSA1-1994 (Véase 2 Referencias)
Proteína (g/100)	11 mín.			NMX-F-608-NORMEX-2002 (Véase 2 Referencias)
Índice de Peroxidos (meq/kg)	7,0 máx.			NMX-F-614-NORMEX-2004 (Véase 2 Referencias)
<b>Sanitarias</b>				
Aflatoxinas (mcg/kg AF totales)	<20			NOM-188-SSA1-2002 (Véase 2 Referencias)

**NORMA MEXICANA**  
**NMX-FF-114-SCFI-2009**  
**GRANO DE AMARANTO (Amaranthus spp.) PARA USO Y CONSUMO HUMANO - ESPECIFICACIONES Y MÉTODOS DE ENSAYO.**  
**GRAIN AMARANTH (Amaranthus spp) FOR HUMAN USE AND CONSUMPTION - SPECIFICATIONS AND ASSAYS**

Additional to the experience around cleaning amaranth reflected in the Mexican norm, the explicit knowledge of the plant accumulated by San Miguel has been used in academic research. Eduardo Espitia Rangel is the Mexican academic leader on the subject and an ally of San Miguel. He participates in seminars and sessions of knowledge exchange with producers of amaranth that the company has organized. He recently published a book on the preservation and use of genetic resources of amaranth in Mexico (Espitia, et.al., 2010). Some of the amaranth plants that were used in the experiments that led to this book came from the germplasm that San Miguel has kept with the different varieties of amaranth that it has used over time. Just like in the previous example, spirits of distributed agency and bricolage are relevant here [KI16].

However, as Eduardo Espitia expressed during a conference directed to local producers from the region of Huixcazhdhá and Oaxaca, doing research on amaranth in Mexico is a very hard endeavor due the lack of government resources for the purpose. Unlike other grains like corn, wheat, or sorghum, amaranth is not listed as a priority crop in the *Ley General de Desarrollo Rural Sustentable* (General Law for Sustainable Rural Development from the federal government). With this limitation, no specific support from the government is allocated to its research, despite its great nutritional potential. Dr. Espitia reflects about this fact and remembers his relationship with Dr. Sánchez Marroquin in the following quote taken from the abovementioned conference:

*“Con un millón de pesos podemos hacer cruzas para encontrar plantas que maduren en 90 días [cuando las actuales maduran entre 120 y 150]. No es tan difícil, pero requiere trabajo sistemático durante varios años. Lo que les he enseñado lo estoy haciendo con las uñas. Me están financiando un proyecto por tres años para conservar germoplasma de amaranto. Con esto hago cruzas y mejoramiento a escondidas para que no digan que estoy desviando recursos. Ese es el reto. No veo tan lejano para tener un material con las características deseables ... Si cruzamos materiales no emparentados, van a dar más tamaño de semilla; no necesitamos andar jugando con pistolas de genes [una técnica más compleja y cara]. Eso lo hicimos cuando había dinero de la Academia Nacional de Ciencias (en los ochenta). El Dr. Sánchez Marroquín desarrolló tecnología de transformación y nos presentó con Benito. Entonces no hicimos cruza, solamente selección de especies (selección basal estratificada) para quedarnos con las plantas rendidoras; así logramos uniformizar plantíos y aumentar rendimiento. Así tuvimos la primera variedad mejorada: Revancha. El nombre fue porque los españoles prohibieron su cultivo.”*

“With one million pesos<sup>3</sup> we could perform genetic crosses to find plants that could grow in 90 days [when the current ones take between 120 and 150]. It is not that difficult, but it requires a systematic work during several years. What I have shown you so far is a work I am doing with my nails [with very little resources]. I got funding for a three-year long project to preserve amaranth germplasm. With this I do genetic crossing and improvement, sometimes hiding, otherwise they may accuse me of diversion of funds. That is the challenge. I do not see that far away in the future a point where we can have an amaranth material with the desired characteristics... If we cross genetic materials that are not related with one another we are going to get more sizes of the seed; we do not need to play with gens guns [a much more complex and expensive technique]. We were able to do that [using gen’s guns] when we were funded by the

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<sup>3</sup> Around fifty thousand sterling pounds.

US National Science Academy (in the nineteen eighties). Dr. Sánchez Marroquin developed production technology [with the funds] and introduced me to Benito. Back then, we did not perform genetic crosses, only species selection (basal stratified selection) to keep the plants with highest yields; in that way we were able to make the plots uniform and increase their yields. That is how we obtained the first variety of improved amaranth: *Revancha*<sup>4</sup>. The name was given to get back at the Spaniards who forbade its cultivation” (from EXE02 CYCLE CLOSE).

In these comments two forms of knowledge instruments are referred to. First, all the technology that was developed by Sánchez Marroquin’s team in the 1980’s and that was transferred to San Miguel in the form of a technological package with patents and licenses that up to date allow the company to preserve the ownership of this technology. This approach towards developing and sharing knowledge instruments reflects a strong spirit of pragmatic agency, both in the form of path creation and distributed agency. The latter is evidenced in the role of the various agents that were present in the development and support of the technology (the academic team, the National Science Academy of the US as funder, San Miguel as recipient) while the former is shown in the way in which Sánchez Marroquin and Benito Manrique met and decided to trust each other to form an alliance that had resonance in the project life of both [KI7].

The second form of knowledge instrument evidenced in this passage is the potential effect that one government decision may have on the reach of amaranth in the Mexican and world arenas. The possible incorporation of amaranth as a priority crop in the General Law for Rural Sustainable Development would open enormous opportunities for the reception of diverse forms of official support with a very positive effect on San Miguel, but also on producers and the general population thanks to its nutritional benefits. However, the fact that this is a decision with a very strong political charge and that there is a lack of political support resulting from the low concentration of amaranth as a business in Mexico may result in many years of lobbying before this happens. In this respect, the need for a spirit of phronesis from political constituents that should

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<sup>4</sup> Revenge.

understand the implications of supporting this endeavor is evident since the potential positive effects of the eventual decision are enormous [K18].

### **5.2.6 Environment (EN)**

Considering the environment as a source of knowledge is a tendency that recent business literature has covered extensively. From ideas where customers are valuable participants in the development and improvement of products and services, as considered in value co-creation; to concepts where competitors are considered part of the company's ecosystem of knowledge; passing through the idea of the 'extended enterprise' that integrates a company with all its suppliers; the relevance of environment is evident. Nonaka, Hirata and Toyama (2008) consider universities, government and the local community where the company operates, besides the three elements listed above (customers, competitors and suppliers) as participants in the 'ecosystem of knowledge' of the company in an 'organic configuration of multilayered *ba*' that interdepend and change in the interaction of one with the rest (p. 46). Almost by definition, all occasions where knowledge is shared with external agents such as all those referred to in the previous paragraph made use of the distributed agency spirit of pragmatism that has served as a guiding element in this dissertation.

In all five previous elements of the knowledge-based firm (vision, objectives, conversion processes, *ba*, and instruments) examples have been introduced that describe the relationship of San Miguel with agents from the environment and reaffirm the idea of a 'multilayered *ba*' that allows for knowledge expansion. The most relevant examples are recapped in the following paragraphs.

In relationship to customers, examples [KC5] and [K13] both refer to how the standards in terms of quality and organization imposed on San Miguel by a customer (Kellogg in this case) have resulted in the development of capabilities in his workers both in tacit and explicit knowledge. The tacit form is expressed by the way that the company's workers conceptualize their work and understand the relevance of their participation in the production of food stuff that have the potential of benefitting all end users, but also the risk of affecting innocent people in case it is not done properly. The explicit form of

this knowledge expansion is reflected in the quality system that they have developed with all quality records and batching scheme they have in place.

The role that current competitors have on San Miguel was not observed during the period the researcher spent in the company. No interactions or evidences where hints of a possible interconnection with them were present during the six-month observation period. However, two interactions happened during this period with potential strategic partners that eventually could turn into indirect competitors: One from a leading company that has a world presence on dairy consumer products and was interested in developing a product based on amaranth, and the second from a group of businessmen from Chile who currently owned an agro business and were considering expanding their venture into amaranth related products. In both cases, Benito Manrique expressed that the policy of the company is one of full disclosure about its knowledge around amaranth, since he is convinced about the fact that if San Miguel wants to reach a status were this crop is known and used in malnutrition fighting worldwide, the more players use it, the more extensive the reach it will have [EN1].

When it comes to observing the role of suppliers in knowledge creation, [BA2] illustrates how a repetitive relationship with a supplier of mechanical services in this case, was turned into a learning opportunity by asking this external agent to perform his regular activity in a class-like environment, where all employees who are allowed to drive the company cars are invited, and this learning chance was extended to all other workers who owned a car.

One example of the role of suppliers in San Miguel that has not been stated earlier relates to the financial support provided by different providers of raw materials, and particularly one that sells packaging material to the company. When asking Benito who have been his most important partners along the operation of the company, he does not hesitate to refer to a particular supplier that at the moment of the interview had outstanding bills for nearly ten months. When reflecting on the reason for this supplier to continue its business relationship despite this long debt, Benito expresses: *"[Este proveedor] conoce el proyecto; hay paga, mantiene su operación, nos vende caro, quiere decir que tiene un margen plus y funcionamos desde hace 17 años. A lo que voy es, los*

*aliados de proveeduría son auténticos aliados ... Hay vínculo de comodidad comercial (mercado), pero también de convicción de proyecto. Entonces esos aliados, importantísimos para la supervivencia [de San Miguel]”; “[This supplier] knows the project; we pay him, he keeps his operation, he sells dearly to us, meaning that he has a plus margin with us and we have been working together for 17 years. What I mean is that supplier is a true ally... There is a business connection (market), but there is also a conviction about the project. So these allies are really important for the survival [of San Miguel]” (from INT29). In this passage, the collective knowledge of the impact of San Miguel shared with this particular supplier, is the main reason for him to give the company a preferential status; by doing so, the supplier feels that he is contributing to San Miguel’s vision towards Huixcazdhá, reflecting a collective phronesis that is fostered by the impact of the company [EN2].*

The presence of universities and academia in general has been central in the development of San Miguel. From its inception, academic knowledge owned by Sánchez Marroquin represented a turning point in establishing the central product of the company –amaranth based supplements- and its vision as expressed in [KV2]. The startup of production activities of San Miguel could not have happened without the knowledge transfer package and the support of the researcher’s team over time, as introduced in [KI7]. However, this knowledge relationship has gone on the two directions, with relevant participation of San Miguel’s experience in the development of new academic knowledge, as evidenced in [KI6]. Other academic relationships are very important to the development of San Miguel and Huixcazdhá; [BA4] describes one particular aspect of the presence of college students in the company and community. This process has been administered by a local university: Tecnológico de Monterrey, Campus Hidalgo, during a number of years, and through it, international students from Yale, Harvard and MIT have spent summer periods along with local students in benefit of their formation as professionals and to San Miguel and the community. One of the milestones in the relationship with this university was the establishment of a *Centro Comunitario de Aprendizaje*, Community Learning Center, in Huixcazdhá, which integrates computers with internet access and various training programs (including a fully on-line high school scheme) for the benefit of all inhabitants of Huixcazdhá [EN3].

Finally, two international research programs began during the observation period in San Miguel: One with Yale University and the other one with the University of Waterloo in Ontario, Canada, that will try to foster the presence of academic knowledge for the benefit of everyone involved in San Miguel's project [EN4].

Two passages where government presence is relevant were discussed earlier in this section of the chapter. First, the development of a national norm that establishes the characteristics of grain amaranth for human consumption with the participation of San Miguel and its knowledge base was introduced [K15]. Second, the role of a piece of legislation in the form of the General Law for Rural Sustainable Development that has not yet integrated amaranth as a priority crop was considered [K18]. A major topic that was also commented on in several passages of this dissertation is the role of the government as a customer, since the majority of San Miguel's products are introduced to the end user through government programs that seek to alleviate malnutrition in certain target populations (young children, pregnant and lactating mothers, the elderly). Government open bids to any company interested in selling its products through these programs, and the technicalities of participating in such bids are also a source of knowledge for San Miguel, since they contain the specific nutritional requirements that the official research laboratories establish for each product. Evidently this knowledge goes also in the rest of products that the company sells through its various channels [EN5].

The final element of the environment that should be considered as partner in the development of knowledge, according to Nonaka, Toyama and Hirata (2008) is the local community where the company operates. For San Miguel this is the most relevant element, since its mission is fully integrated with the development of Huixcazhdá [KV3]. In the implementation of this mission in practice, several examples were considered in the previous paragraphs, starting by the company policy to exclusively hire workers from the community [DO3], or the flexible practices in the human resources area to benefit lactating women [DO4] or the workers who try to cross illegally to the United States to look for a brighter future for them and their families [DO5]. Moreover, the integration of children into activities that challenge their intellect was also expressed through the integration of the Little Tribe in various projects [BA5].

A number of projects that San Miguel performs through its non-for profit organization (Utopia Huixcazdhá) were not discussed in this chapter, since they are not ‘officially’ business activities; however, they were presented in Chapter 4 as a recollection of social activities where San Miguel has played a relevant role. Among them we count the activities performed under the *Amaranto para el Bienestar Comunitario*; Amaranth for the Community Wellbeing (ABC) umbrella that integrates the efforts to reintegrate amaranth among the local farmers as a crop that is used for the consumption of their families and with potential to commercialize their surpluses, and the program to reuse the grain amaranth in the local cuisine to take advantage of its flexibility and nutritional potential. Around this large project, the various sessions to exchange experiences among the different participants with the presence of producers from other states of Mexico are a good example of an extended *ba* where knowledge is dialogued and learned in practice [EN6].

Another space of participation in the local community is constituted by the activities performed for the development of local entrepreneurs that San Miguel has put in place. Taking advantage of college students as tutors for the local projects is a way to promote knowledge transfer for the benefit of Huixcazdhá. Students from Tecnológico de Monterrey participate through different schemes in helping the local ventures developing their business plans and expanding the potentialities of their ideas [EN7].

The following table (Table 5.1) summarizes the different observations of passages of the company’s activities in relationship to the six elements of a Knowledge-based company extracted in the framework of analysis.

**Table 5.1. Summary of observations in relationship with the components of the Knowledge-based firm**

<i>Component</i>	<i>Code</i>	<i>Description</i>
<b>Knowledge Vision</b>	KV1	Benito Manrique declares a rupture with his life, he moves to Huixcazdhá and decides to devote his future to improve the conditions of the community.
	KV2	Benito Manrique teams up with Sánchez Marroquin to implement his knowledge on amaranth in San Miguel.
	KV3	A strong commitment to the development of Huixcazdhá is reflected on San Miguel’s vision.
	KV4	An ambitious goal to establish grain amaranth as a solution to malnutrition worldwide is established.



<b>Driving Objectives</b>	DO1	The official CEO title of Benito Manrique describes his role as equilibrium seeker (Chief equilibrium officer).
	DO2	The use of the 'smurf' as an analogy of being resourceful and joyful for the workers of San Miguel.
	DO3	San Miguel uses a Human Resources policy to hire exclusively people from Huixcazhdá.
	DO4	Different policies are established in San Miguel to promote gender equity.
	DO5	Support provided by the company to employees trying to cross the borderline with the US.
	DO6	All workers rotate in their daily activities and are integrated in work cells with different persons every day.
	DO7	Newcomers are trained by the work cells and their learning is conceived as a social responsibility.
<b>Knowledge Conversion Processes</b>	KC1	The training of newcomers is done in the practice, through observation and conversation.
	KC2	When someone detects a limitation in the work of other there is a spontaneous action to help him to improve.
	KC3	There is a fear to perform bad in production activities that require schooling abilities.
	KC4	Observed limitations in communications skills, both verbally and by written.
	KC5	Use of the requirements from external agents as an opportunity to expand the company's capabilities.
	KC6	Implementation of the scientific method despite limited resources in the company.
	KC7	Use of external sources of knowledge to learn scientific principles introduced in the process.
	KC8	Show of resourcefulness in the development of new products in Research and development department.
<b>Ba</b>	BA1	Physical arrangements in the company based on open spaces to allow a free communication of knowledge.
	BA2	Taking advantage of an external agent (a supplier) to open a learning space.
	BA3	Interacting long hours with the workers to really understand their potentials and commitment.
	BA4	Relevance of long periods of interaction reflected in the summer internships in Huixcazhdá by international students.
	BA5	Integration of children in formal activities that interest them. Formation of the Little Tribe
	BA6	A policy of open doors to the community in San Miguel makes the locals feel part of the company.
	BA7	Not enough effect of a space designed to share knowledge during lunch.
<b>Knowledge Instruments</b>	KI1	One Excel spreadsheet that translates production design into manufacturing requirements.
	KI2	Production records used to control the process, but also to communicate relevant aspects of production.
	KI3	Quality control system in the area of production that reflects high professionalism.

	KI4	A quality requirement from a supplier resulted on a bureaucratic and invasive practice.
	KI5	A national norm was developed by the federal government using knowledge from San Miguel.
	KI6	The resources of San Miguel are used in the development of academic knowledge.
	KI7	Transfer of a knowledge package on amaranth developed by San Miguel.
	KI8	Potentialities of a status that may be declared by the federal government.
<b>Environment</b>	EN1	Openness to share all knowledge around amaranth to external agents.
	EN2	A supplier gives a preferential status to San Miguel to contribute to its social vision.
	EN3	A Community Learning Center was setup in Huixcazhdá as a result of a partnership between San Miguel and a local university.
	EN4	Research projects under development with Yale University from the US and the University of Waterloo from Canada.
	EN5	Cascade effect from the knowledge obtained in new formulations for government based products.
	EN6	Amaranth for the Community Wellbeing, a program developed with partner NGOs to promote the use of grain amaranth in different communities.
	EN7	Efforts to help local entrepreneurs from Huixcazhdá to establish their business ventures.

These are only some examples where knowledge of the company flows in projects that benefit Huixcazhdá, but in return the knowledge of the community is fed back to San Miguel. Particularly this element of the knowledge-based enterprise –the community- is the bridging point between the Knowledge Management elements of San Miguel and the aspects of Development that will be covered extensively in the next section of this chapter.

### **5.3 The Development experience of Huixcazhdá**

After reviewing the alternative views to conceptualize Development in Chapter 2, the human-centered approximation, also known as the capability approach introduced by Amartya Sen (1999) was presented as a point where current academic and practitioner views converge due to its bottom-up nature that introduces an alternative to traditional top-down initiatives that have been used for long periods of time with the criticized results as argued in that chapter. A major challenge in the use of the capability approach is the operationalization of its concepts, and different approaches to this question were

also introduced in Chapter 2. To analyze the development experience of Huixcazhdá based on the capability approach, a simple model that captures its basic concepts will be used. This model integrates the two fundamental concepts of Sen’s model: functionings and capabilities, along with primary assets, and allows for the analysis of the idea of freedom expansion from the capability set that a person enjoys versus the achieved functionings of this person after a process of personal choice. Figure 5.3 presents this framework:

**Figure 5.3: Framework to analyze Development based on the Capability Approach**  
**Source: Own construction with bases on Robeyns (2005), Chopra and Duraiappah (2008), and Dubois and Rousseau (2008)**

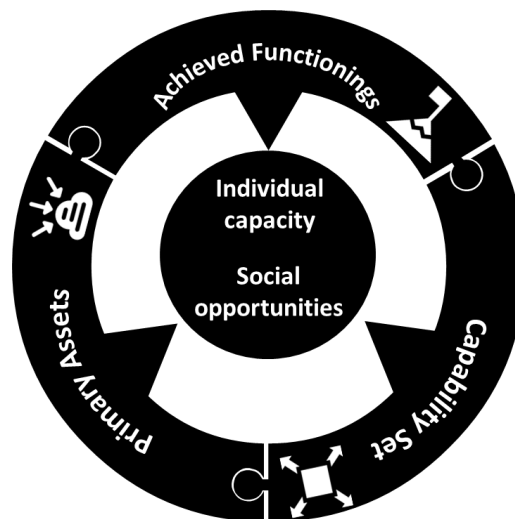


Figure 5.3, as a framework of Development analysis based on the capability approach captures the process by which a person transforms her primary assets into achieved functionings, passing through an intermediary step where a capability set is formed to integrate the various possibilities that the person may choose from. The first element to consider in the framework is the primary assets of a person that are formed by endowments, natural resources, and personal attributes (Dubois and Rousseau, 2008) and by goods and services that constitute the primary means that a person has to enlarge her freedom (Robeyns, 2005). Endowments provide a description of the economic wealth of the person at a particular point of time; natural resources include the collective natural wealth available for the person; and personal attributes integrate the characteristics of the person such as age, gender, intelligence, possible disabilities

and so on. Robeyns (2005) describes this element as the goods or services that allow the achievement of certain functionings through three group of conversion factors: a) personal (metabolism, physical condition, intelligence); b) social (public policies, social norms, gender roles, among others); and c) environmental (climate, geographical locations, etc.).

Having established the primary assets as an input to capabilities, we arrive to the second element of the framework: the capability set. Let's recall from the literature review that the capability set of a person is the combination of potential functionings that she is able to achieve; that is to say, her portfolio of opportunities. The idea of 'Development as Freedom' precisely implies enlarging this capability set as an evidence of the expansion of her freedom: the options that a person may choose from to live the life she has reason to value.

Finally, with a set of feasible alternatives open to a person, the third element of the framework provides space for the analysis of the functionings that are actually achieved by her. Achieved functionings are the result of an act of choice, where the person analyzed the opportunities present in her capability set and considering her personal history and psychology interacting with her social context, she arrived to a decision that allowed her to achieve a particular functioning vector, that represents her beings and doings at a particular moment in time. In all this conversion process, two elements are fundamental: individual capacity and social opportunities, which are located at the center of the framework.

A cyclical model is introduced as the proposed framework, following the notions from Chopra and Duraiappah (2008) to capture the idea that once functionings are achieved, the stock of primary assets is enlarged and the cycle repeats itself with new and enlarged initial conditions that are relevant in the new process. Unlike the models from Robeyns (2005) and Dubois and Rousseau (2008) where the authors consider a linear and static model, this cyclical representation captures the pragmatic view introduced in Chapter 2 specifically in the discussion of the concepts of 'means' and 'ends' in the capability approach, where a dialectical interpretation based on John Dewey's idea served to mediate the alternative views: ends and means live in a situated interdependence in a

complex and reciprocal relationship; ends are not given, they are rather reformulated in partial response to available means.

To analyze the development experience of Huixcazdhá under this framework, two of the five instrumental freedoms described by Sen as the fundamental means needed to achieve development will be scrutinized, namely economic facilities and social opportunities. This decision was made due to the fact that the presence of San Miguel has had a visible impact on these areas and during the observation period different evidences of this impact were obtained. Regarding the other three instrumental freedoms (political freedoms, transparency guarantees, and protective security) the impact of the company could be observed indirectly and whenever this has happened, the analysis will make account of them in this indirect manner. The rest of the chapter consists of two sections where economic facilities and social opportunities will be analyzed under the proposed framework.

### **5.3.1 Economic facilities**

According to Sen (1999), economic facilities refer to the “opportunities that individuals respectively enjoy to utilize economic resources for the purpose of consumption, production, or exchange” (p. 39). These facilities include availability and access to financing opportunities as a means to extend the economic entitlements that persons may enjoy. To describe the effect of San Miguel on Huixcazdhá with respect to economic facilities three instances shall be analyzed: first, the general conditions of the community prior to the arrival of the company are scrutinized; next, the change in economic facilities after the settlement of San Miguel in Huixcazdhá with the economic opportunities it has entitled to people from Huixcazdhá is presented; finally, the prospective for the future of the community and what new capabilities are open to their population is analyzed.

From different sources of observation, it has been concluded that before San Miguel arrived at Huixcazdhá in 1986, the community lacked the very basic infrastructure. “Esta comunidad hace 20 años era paupérrima”; “This community twenty years ago was really poor” (from INT0). There was no electricity or paved road to connect it with neighboring communities. The only source of fresh water was a pumping well located a couple of

miles away from the living nucleus and people had to walk with buckets to get it. The only source for economic livelihood was agriculture with very basic conditions (rainfed agriculture around corn, squash and beans, with scarce technological support) mainly for own consumption.

With these very limited sets of primary assets, the capability set for inhabitants of Huixcazdhá was also narrow. The economic possibilities of improvement implied migrating mainly to Mexico City or sometimes to large cities in the neighboring state of Querétaro. The activities that men performed there were mainly at construction sites where relatives worked and helped them to be hired temporarily while the projects required them or other labor intensive works were obtained also thanks to family connections. Women who left Huixcazdhá for the big cities had the option to work in domestic help also thanks to the connection of other relatives that had migrated earlier to perform this activity.

The following quote expresses this limitation in the capability set of community members from Huixcazdhá in the nineteen seventies:

*“Yo me fui de Huixcazdhá a los trece años [rumbo a la Ciudad de México] y me regresé acá como a los treinta y tantos... Yo nací aquí. Estudié hasta tercero de primaria aquí... Luego me fui para México y ahí anduve este... pues primero anduve lavando carros porque no me admitían en los trabajos [formales] porque aún estaba chico. Me metió mi hermano a un deportivo ... ahí para lavar carros; de ahí me fui a una hojalatería y de ahí me metí a un taller de forja junto con un amigo en Tulancingo, y ya luego de ahí me metí a la compañía que andaba, me metió mi primo; ahí me enseñé a soldar, armar ventanas, puertas, cancelas, escaleras. Y ya de ahí fue cuando me había comprado me terreno y mi casa allá en el Estado de México”.*

“I left Huixcazdhá when I was thirteen years old [for Mexico City] and came back here when I was thirty something... I was born here. I studied up to third grade of elementary school. Then I left for Mexico City and I was wondering... first I worked washing cars because they didn't admit

me in other [formal] jobs because I was still too young. My brother helped me to work in a sports club washing cars; from there I joined a body and paint workshop and later I joined a blacksmith with a friend from Tulancingo; later I joined the company that I worked for, my cousin helped me to get the job; there I learned how to weld, make windows, doors, stairs. After a while, I had already bought land and built a house in the State of México<sup>5</sup> (from INT01).

The main interest in remaining in (or returning to) Huixcazdhá was the land owned there. The reason for interviewee number one to return to the community after almost twenty years of living away was the fact that his father died and he had to take responsibility of the family land. In the cases where a person was not part of these social arrangements (because, for example, he had several siblings and he was not the elder or younger) most likely he wouldn't have strong enough reasons to come back to the community, and his whole life would be spent in a different place, with few visits to the family that remained in Huixcazdhá, affecting its social tissue. These functionings seemed to be the norm for families before the arrival of San Miguel.

In 1986, when Benito Manrique decided to start the company in Huixcazdhá a major effort of infrastructure development started. Looking it in retrospect, it seems that everything happened very fast, but surely it took time to reach the level that we can witness if we visit the community nowadays. However, if one asks someone over the age of 60, who has a clear memory of the conditions back then and remembers the reasons for its improvement, he immediately relates this development experience with the arrival of the company and the leadership of Benito:

*“Luego me pusieron de comisariado en el pueblo y yo traje el agua cuando estaba de autoridad, de allá de San Bartolo, pasaba por varias comunidades... donde pasaba la tubería de agua que llegaba aquí y luego hicimos un depósito y seguimos trabajando aquí ... Cuando fui comisariado comenzamos a trabajar con el Doctor, [en mil novecientos] ochenta y nueve por algo así. Y ya después construimos eso, hicimos un*

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<sup>5</sup> A state that belongs to the Mexico City agglomeration.

*depósito, era pequeñito, se hizo el depósito y ya luego fue cambiando todo, porque ya luego entró el Doctor y la verdad cuando llegó el Doctor Benito cambió todo Huixcazdhá. La verdad, la verdad lo volteó de que estaba al revés y lo volteó al derecho. La verdad el Dr. en todos los aspectos ha sido buena gente. A él no se le puede pagar ni con todo lo que tenemos nosotros.”*

“Later I was appointed *Ejidal* Commissariat<sup>6</sup> for the community and I brought the water when I was the authority, from San Bartolo, it passed through various communities, the tubes arrived here and later we built a depot and continued working here... When I was commissariat we started working with Dr. Benito [in 1998] around then. Later we built the depot, which was very small and after that it all started changing because it was when Doctor Benito got here, and truth to be told, when Doctor Benito arrived, the whole Huixcazdhá changed. The truth, the truth, he turned it around because it was upside down and he put it right-side up. The truth is that Doctor Benito in all aspects has been a good person. We couldn't pay him not even with all we own” (from INT01).

A first element of achieved functionings thanks to the arrival of San Miguel in Huixcazdhá was formal employment, the steady income that it implied and the coverage of basic needs for families there (food, clothing, schooling needs for the children, health care). The following quote comes from a single mom who has worked in San Miguel for more than ten years and with her income she has been able to make a life for herself and her four children:

*“Sobreviví con mis hijos porque pues yo me vine de México; dejé al papá de mis hijos porque no vivíamos muy bien; para qué es una vida así, al rato mis hijos iban creciendo con un rencor hacia cualquiera de los dos, no tiene caso..., mejor cada quien [por su lado]. Yo me vine y me metí a trabajar y de aquí gracias a Dios he sacado adelante a mis hijos lo poquito que les he dado de aquí yo solita. Por eso les digo a mis hijos que a mí me*

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<sup>6</sup> The official representative of the *ejido* (communal land) before the authorities.



*ha gustado mucho trabajar aquí, porque gracias a la planta he podido sacar adelante a mis hijos; a lo mejor no es tanto que te estén pagando, simplemente de que tienes la oportunidad que te dan para si necesitas ir a una junta, el permiso lo tenemos y eso es lo que hay que valorar como trabajador. No en cualquier lado te van a estar dando permiso, de vete aquí o vete allá, eso es lo que siempre les he dicho. Cuando Jorge [mi hijo] entró aquí dijo: sí te entiendo mamá; ahora te entiendo que de la planta tú nos sacaste adelante y gracias al doctor, el esfuerzo que tú estás haciendo se lo debes al doctor. Le digo pues la verdad sí porque gracias a que él me dio trabajo. Si no me hubiera dado trabajo no estaríamos como estamos, ... pero ya estamos aquí y gracias a Dios trabajé y sigo trabajando aquí y ahí estamos.”*

“I survived with my children because I came from Mexico City; I left my children’s father because we didn’t live too well; what’s the point of a life like that? Later my children would grow a resentment towards either one of us, and there was no point, it was better to take separate paths. I came [to Huixcazdhá] and started working here and thank God I have carried forward my children and whatever I have given them was by myself. That is why I tell my children that I have enjoyed very much working here because thanks to the [manufacturing] plant I have been able to carry them forward; maybe it is not that much what you earn, but simply you have the chance to ask leave if you need to go to a meeting; we got permissions and we have to value that as a worker. Not in all works you get permission to go here or there. When Jorge [my son] started working here he said: I understand you, mom; now I get that from working in the plant you took us forward and thanks to the Doctor [Benito], that effort of yours is thanks to the doctor. I told him, this is the truth because thanks to him I got the job. If he hadn’t given me the job, we wouldn’t be the way we are, but we are already here and thank God I have worked and will continue working here” (from INT04).

With the monetary flow that the presence of steady employment brought for Huixcazdhá, other forms of informal employment were also integrated, that expanded the reach of economic benefits beyond workers of San Miguel and their families. As it was explained in chapter 4, the community has a social tradition of solidarity, by which all of its members are expected to contribute graciously with their effort in diverse positions that are required to keep the activities and traditions of Huixcazdhá, and also they are expected to offer their labor during the *fainas* or communal works to improve infrastructure conditions. Some of these requirements would imply enough work that some days it would conflict with a permanent job position like that in San Miguel. For employees of the company in this condition, and also for whoever with a good reason not to be able to perform the communal activities (like people who live in other places, but keep the 'citizen from Huixcazdhá' status as land owners; or people who have migrated to the US and stayed for more than two years) the practice of hiring someone from the community willing to perform the task in exchange for a payment. There are professionals of this informal practice of employment that make as much money as if they were employees of San Miguel.

With the resulting increase in primary assets that comes from the infrastructure progress of the community (that improves the social conversion factors) and from the individual enlargement of assets (that increases the personal conversion factors), a superior capability set has developed. In this extended set, the possibility to build a house for each family, instead of having households where extended families share one roof, becomes an option. Also this extended set implies saving a provision for eventualities related to health issues, and the professional attention of certain illnesses that were before left unattended now is a plausible reality. However, being able to opt for changing these possibilities into realities with the economic facilities generated by San Miguel is still difficult and would require much financial rigor from families.

In terms of health, for example, basic coverage is provided by the social security system in Mexico offered to formal workers and the recently introduced *Seguro Popular* that was designed to cover the rest of the population that does not belong to formal activities. However, the services offered in these social systems are very inefficient specially in case of emergencies. On these occasions, people prefer to opt for particular

doctors who provide immediate attention, although their expenses must be covered immediately.

On the issue of building a house, the Mexican government has a housing program to finance formal workers who want to buy a home or build it on a land of their own. However, the amount of the loans is indexed to the earned wages, leaving very small amounts for San Miguel workers. Very few have used this provision. One worker from San Miguel who had interest in applying for this financial system asked someone with her same seniority in the company who received a loan some time back. This co-worker told her that the money that he received was only good to buy bricks and rods (from INT03).

Regarding these limitations to achieve the capability set that opened with the new reality, the phenomenon of migration opened a completely new avenue of development. The first flux of illegal immigrants into the US required a financial basis, since the costs of crossing the borderline has always been steep. Benito Manrique expresses that the presence of San Miguel was actually the triggering factor that allowed the first migrants from Huixcazhdhá to leave for the US, since this initial cost was covered by salaries payed by the company.

Migration started as a true alternative to get the economic possibility to build a house or to buy a car. Furthermore, it established itself as the means to achieve a higher achievement from the set, helping out one's family: *"Pensé: vamos a estar creciendo ... como familia y necesitamos comer más, estar un poquito mejor y ... tener yo mi casa. Casi siempre de aquí nos vamos más chiquillos [a Estados Unidos] porque ya sabemos que tienes así la ilusión de poder trabajar y ayudar a tu familia y poder estar más o menos tú y comprar tu ropa calzado y tener algo en que moverte o un carro"*. "I thought: we will be growing ... as a family and we need to eat more, to be a little bit better and ... to have my own home. Almost always from here [from Huixcazhdhá] we leave young [for the US] because we know that you have the illusion of working and helping out your family and being a little bit better and buying your own clothes and shoes and owning something to move around, your car" (From INT15).

From all male interviewees who work in San Miguel (half of the total) only three have never gone to the US as illegal immigrants, and many of them have spent more than one period over there. On the other hand, out of the fifteen female workers interviewed, only one of them had actually experienced illegal immigration. Due to the difficulties in crossing the borderline and the risks involved in the life of an illegal immigrant in the US (many of them expressed being deported by US officials after spending periods of time in jail), definitely gender is a major constraint when opting for this alternative.

Perceiving the importance of illegal immigration into the US in the development of Huixcazhdhá, both San Miguel and the community Assembly have established arrangements to support this activity, provided that the persons who migrate return in two or three years to the community. The intention is to use this option as a temporary means to expand the economic assets of the workers, but ensuring that the family ties do not break. The policies that San Miguel puts in place to support migrating workers by keeping them in the security system until they successfully arrive to their destinations in the US and giving them preference to rejoin the company after their return were explained earlier in this chapter. Additionally, chapter 4 expressed the community rules regarding the participation of all its members in assemblies and activities, and how these requirements are flexible for migrating persons during the first two years.

An interesting phenomenon has developed around migration: for many of the male inhabitants of Huixcazhdhá, going to the US as illegal workers has turned into an end in itself, instead of a means. Many of them regard the 'adventure' of crossing the borderline as the proof of independence and success as a young man. This is a good example of a means and ends blending with each other, but from the pragmatic point of view this blending lacks a phronetic element, since the risk of trying to cross the borderline is very high, and doing it for the sake of the adventure misses the original point of trying to achieve a larger goal (economic stability for their families). Perhaps this adventurous idea will remain until a better option develops to achieve the same economic assets that are currently attained through migration, or if the experience becomes riskier and less satisfactory among those who try to cross at later times.

This last scenario is more likely to arrive. After the security threats in the US, and particularly after the New York attacks of September 11, 2001, crossing the borderline has become a major challenge. Actually, during the observation period and the previous year no new successful crossings were reported for people from Huixcazdhá, while before a normal year had three to four of them. Moreover, the economic situation of the US is also a factor. Lately some of the relatives who are currently in the US have reported a decrease of working opportunities for illegal immigrants, which is also discouraging when considering the option to go to the US.

Moving to analyze the foreseeable future of economic facilities for the community, Benito Manrique and San Miguel have identified an interesting avenue that may open new opportunities in Huixcazdhá: fostering social entrepreneurship ventures among the inhabitants. Observing that in terms of monetary fluxes there are little amounts that remain in the community other than the informal unemployment opportunities described above (for example, twice a week people from other communities arrive to Huixcazdhá to establish a little food market), and many commercial activities that could be done in the community are taken outside due to the lack of local options, the company has established actions to support the creation of local businesses, provided that they function searching for the social good and under principles of solidarity economy.

With some examples of projects that are under development, the intention is to integrate the entrepreneurial activity into the capability set of the people from Huixcazdhá. The success of these projects as eventual achieved functionings will be a relevant test that if reached, will be a motivating element for new projects to develop.

One group of entrepreneurial projects that are currently under support from San Miguel is targeted to help youngsters from Huixcazdhá who have finished their middle school to expand their capability set and convert it to achieved functionings in two avenues: continue with high school studies and generating a productive social business. The approach seeks to establish a contrast with what happens in the rest of Mexico, where in the last years there has been a flood of what has come to be called '*NiNis*' among young people between the ages of 15 and 25: "*Ni estudio ni trabajo*" (I don't study, nor

do I work). The group from Huixcazhdhá is called '*TriSis*' (triple yes), because they answer 'yes' to work, 'yes' to study, and 'yes' to caring about their situation.

For this group of youngsters (mostly girls), there is a program whereby students from the local university visit Huixcazhdhá every weekend and mentor them in the characteristics of their businesses and the development of their business plans. To help them continue with their studies, the '*Centro Comunitario de Aprendizaje*' (Community Learning Center) set up in the community also with support from this same university offers a full online high school program with tutoring from the students where they are enrolled.

Another group of social entrepreneurship projects is under development and comes from anyone in the community who wants to explore this opportunity to open new economic possibilities. One example is a group of ladies from Huixcazhdhá (at the beginning there were 21 of them, but little by little many have abandoned the project) who established an organic chicken farm to sell organic eggs. The project was partially financed by San Miguel (the company put the money to buy half of the starting flock) and land next to the plant was given to them to establish the facility. Some other projects that are only at the stage of being an idea, but have potential to develop include a pig's farm where the animals are fed with amaranth to produce meat with less cholesterol content due to the properties of the grain.

The road ahead to open this new economic avenue for people in Huixcazhdhá is not easy to walk, but is promising. With support from San Miguel and its partners, some of the difficulties that entrepreneurs face at the early stages of their projects may be solved. However, the most important feature needed to make this work is the motivation and risk adversity needed to make a project successful, which are elements intrinsic to the personality of the entrepreneurs and close to the culture of the environment where they live. Perhaps this may be a difficulty that may need a specific strategy to be resolved since there is not many past experiences from people in Huixcazhdhá that may serve as role models. Surely enough, Benito Manrique and San Miguel will continue supporting these initiatives to develop local economic alternatives.

### **5.3.2 Social opportunities**

Social opportunities are the result of the arrangements that the society makes to provide services in education and health care, among others, which have a substantial influence on the freedom that individuals enjoy to attain a better life (Sen, 1999, p. 39). These two concerns (education and health) are central to the mission of San Miguel: fighting malnutrition as the primary element for health has been the central idea of Benito Manrique since his young days; and improvement in education levels as a means to expand the individual capabilities has always been at the center of the company's actions towards improving the life from Huixcazdhá. As structured in the previous section, a description of educational arrangements prior to the establishment of San Miguel will try to establish the conditions of Huixcazdhá back in the 1980s; next, the general improvements in this area will be established; and finally a general picture of the expectations for the future shall be presented.

Before 1985, in terms of education, Huixcazdhá had only one establishment corresponding to the elementary school, that suffered from the limited conditions of rural education in Mexico: limited resources, very high rotation of teachers (they remained in Huixcazdhá only until a better opportunity occurred), high bureaucracy in the academic administration, strong union presence that required the participation of teachers in diverse events, among others. When people from Huixcazdhá completed elementary education, two primary assets were a determinant of their academic future: first, the economic conditions of their family because continuing with studies implied spending money on transportation, clothing, school materials, and others; and, if this first asset was resolved, the second asset of relevance related to the personal characteristics of the children (intelligence and motivation in particular), because in many cases despite an economic condition of the family that would allow for continuing education, some children were just not motivated to continue with it. In the cases where these two primary assets were resolved, schooling children would continue with their middle education either attending the school at a neighboring community which implied long commuting every day, or they were sent to live with relatives in larger towns that had these schools, which implied that families would be separated. This dilemma

repeated itself almost at the end of every school year, and particularly as children finished one level and had to evaluate if they would continue with the next one.

The following quotes refer to cases where the family's economy was just not enough to carry on with studies, despite the interest of the children:

*“A mí sí me hubiera gustado estudiado la universidad, pero ya no hubo recurso ... yo también decidí [no seguir estudiando] porque nuestro nivel económico en ese entonces no era apto para que yo estudiara en universidad. Nuestro nivel era bastante bajo; con decirle que antes, cuando mi papá no trabajaba en San Miguel, prácticamente mi último año de prepa me la pagaron vendiendo leña. [Mis padres] se iban a juntar leña al cerro y la vendían para que saliera para mi escuela.”*

“I would have very much liked to continue with college studies, but there were no resources... I also decided [not to continue] because our economic level back then was not enough for me to go to college. Our economic level was very low; I can even recall that before, when my father didn't work at San Miguel, practically all my last year of high school was payed for by selling firewood. [My parents] went up the little mount to gather firewood and they sold it to have enough for my school” (from INT16).

*“Mi hija quería estudiar, pero yo me encontraba en una situación de como soy mamá soltera, pues no me alcanzaba para darle estudios, [porque implicaba mantenerla a] ella en otro lado y mis hijos aquí. Entonces dijo ella definitivamente no. Le dije si quieres y a ver cómo le hacemos. [Ella dijo] no definitivamente, mejor me quedo a trabajar a ayudarte con mis hermanos.”*

“My daughter wanted to study, but I was in a situation of being a single mother, so I didn't have enough to pay for her studies, [since it implied to pay to keep] her in a different place and the rest of my children here. So she said: definitely no. I told her: if you really want to, we'll figure it out.



[She said] definitely not, I better stay to work here and to help you out with my [younger] siblings” (from INT04).

Other difficulties were faced by the children who had to walk every day to the neighboring community (Tlaxcalilla) to attend their middle school. The following quotes capture them:

*“Terminé la secundaria en Tlaxcalilla. Iba y venía yo diario caminando hasta Tlaxcalilla, era una hora de ida y una de regreso, entre el cerro, y ahí la acabé: tres años. [Lo que más recuerdo] de la secundaria, eran las caminatas; era lo más terrible. Yo creo que de todos los que hemos estudiado allá lo más terrible y lo más recordatorio es el gran esfuerzo que haces; ir diario, aun lloviendo, o tronando, llegar y regresar. Yo iba con una de mis hermanas y otros cuatro compañeros más grandes que yo; de mi edad nada más iba yo.”*

“I studied at my middle school in Tlaxcalilla. I went there and back every day walking. All the way there it was one hour going and one hour coming back in the middle of the mount, and I finished my three years of middle school there. [What I remember most] from my middle school was the walking; it was terrible. I believe that for everyone who studied there, it was the most terrible and what you remember the most was the great effort required: going every day, with rain or thunder, going and coming back. I went with one of my sisters and another four fellows who were older than me; in my age level it was only me” (from INT28).

*“[Uno de mis hijos comenzó a estudiar en Tlaxcalilla], nada más que no la terminó porque antes no había transporte; él se iba caminando y salía a las 6:30, 7 de la mañana y un día se lo toparon los coyotes entonces ya de ahí le entro miedo y ya no quiso regresar.”*

“[One of my sons started to study in Tlaxcalilla], the only thing is that he did not finish his studies because formerly there was no transport; he had to walk and he left around 6:30 or 7 in the morning and one day he

encountered some coyotes and from there he grew fear and didn't want to go back" (from INT22).

As observed, the capability set related to education was very limited before San Miguel arrived to the community. As expressed in chapter 4, the average schooling years that the workers of the company have accomplished is 8.4; but if we focus on those who are 47 or older (meaning they were already 18 years old when the company started), they average only 6 schooling years, roughly having finished elementary school. In the case of interviewee 28, who expressed the difficulties of studying in Tlaxcalilla, she also said that she was the only one of her age level going there, she stated that no other fellow from her generation continued studying after finishing together elementary school; some stayed in Huixcazhdá, others migrated to Mexico City, and the rest to the US, all of them started working at a very young age. This description of a person who was around six years old when San Miguel arrived in Huixcazhdá perfectly summarizes the alternatives open back then for the young people of the community.

One very evident change in education arrangements that has occurred in Huixcazhdá after the arrival of San Miguel relates to the development of its infrastructure. Two new schools have been built during this period: a kindergarten and a middle school. One may argue that the normal development of a community (with or without the presence of an 'external' agent like San Miguel) revolves around education, and there may be many experiences of other communities that in the last twenty-five years have also expanded their education infrastructure. It may be so, but the involvement of the company in the expansion of the primary assets related to education in the community has been a determinant in the speed of building and maintaining their schools.

During the observed period, the kindergarten was expanding its construction to integrate a reading hall that was designed to host a reading program among the schools of the neighboring communities. San Miguel was contributing to the project by assigning three or four maintenance operators to build the space, but this was one of the many factors that have helped in the infrastructure development that integrates the social arrangements in Huixcazhdá. The following paragraphs shall show these arrangements and their impact on the expansion of the capability set for the community.

First, the role of the school's parents is fundamental. As explained in chapter 4, one of the expected contributions from citizens with children of school age to the community is their involvement in the different committees that support the school life. These committees range from supporting the sports or artistic classes conducted by the only teacher of the school to participating in its development projects. The particular project around the reading space was designed jointly by the parents' association and the school to build a very attractive space that would invite children to begin at a very young age developing the habit of reading.

This project was proposed to the federal ministry of education to receive some funding under the program 'Escuelas de Calidad' (Quality Schools), and was approved, becoming a second relevant actor. The Quality Schools program offers 40,000 Mexican pesos (around 2,000 British pounds) per year to schools that present relevant and well documented projects that need funding. This amount should be divided in training and infrastructure, with a maximum amount of 20,000 pesos to the latter. The parents' associations of the approved schools receive the funds and must manage them and perform all bureaucratic procedures to demonstrate their proper use.

A third element in the social arrangements that support the educational infrastructure development in Huixcazhdá is the Community Assembly. During the observation of one of the monthly meetings of the assembly some issues around education were discussed, including the improvement of the kindergarten. A group of representatives of the parents' association were given a space in the assembly to present their petition of support. The following quote expresses the kind of support they asked for:

*"El apoyo que queremos que se nos entregue este año es para terminar [la remodelación del kínder]... Ya ven que entró lo de Escuelas de Calidad entonces este año nada más son \$ 20,000.00 [de apoyo para infraestructura] pero con eso no nos permiten pago de mano de obra [sólo materiales]. Entonces nosotros como padres de familia estamos apoyando faenas pero vamos a hacer lo que son las jardineras; ya ven que tienen llantas [para delimitar el jardín] y el año pasado hubo mucha presencia de víboras entonces nos mandaron que las quitáramos*

*entonces ahí se va a invertir; ya se compró todo el material pero falta la mano de obra.”*

“The support that we are asking for this year is meant to be used to finish [the renovation of the kindergarten] ... You remember that we applied for the *Escuelas de Calidad* program, so this year we got only \$20,000 [for infrastructure development] but the money we received can't be used in labor [only materials]. So all parents from the school are providing their labor but we need now to remodel the yard area; you remember we used to have old tires [to set the boundaries of the garden] and last year there were a lot of snakes, so we were told to remove the tires and there is where we need to invest; we already bought all materials, but we are lacking labor” (from HX04).

After some arguments pro and against this petition, the Assembly decided to provide the support, which implied to declare the labor requested by the parents an official community activity where all citizens had to participate. When the different arguments were presented, one very important reflection came around San Miguel: one of the *ejidatarios* said that they have always tried to help the three schools equally because Doctor Benito has also always supported their infrastructure development, and they see the community support as a way to recognize San Miguel's participation and as a sign of equal commitment in these projects. Another of the *ejidatarios* said that they had to be equal with the support for the three schools, and that the middle school was being left behind. He expressed: *“El doctor, si ve la escuela que lleva el nombre de su papá destruida, qué triste se va a sentir”*; “Doctor Benito, if he sees the school that carries the name of his father destroyed, he will be really sad” (from HX04).

Understanding the implications of this quote we reach the fourth element of the social arrangements that has been relevant in the development of infrastructure: San Miguel. When one of the interviewees was asked about whether the company has participated in all infrastructure development projects, she answered: *“Sí, por mínimo que haya sido, siempre ha estado presente [en los proyectos escolares] San Miguel y eso la gente lo sabe”*; “Yes, even if in times it has been on a small scale, San Miguel has always been

present [in the school projects] and people are very much aware of it” (from INT28). Closing the circle in the example of the kindergarten reading hall, let’s remember that San Miguel has assigned two or three workers per day to the actual construction of the place, since many of its crew members have had experience in that area.

Moving along to the implications of improving the infrastructure of educational institutions (primary assets) that have expanded the capability set of the community members, it is interesting to see how the perceived achieved functionings have also expanded. One of the workers who was asked if she perceives any difference from when she was a school girl explains:

*“Ahorita sí ha avanzado porque también uno mismo se da cuenta en los conocimientos de los niños que antes no sabían sobre computadoras, sobre como que la tecnología ya avanzó un poco, porque al tiempo de nosotros que nada más nos enseñaban bolitas y palitos; ahorita en preescolar ya están enseñando a leer a los niños, yo sí veo un poco el avance.”*

“Right now there is actually an advancement because one can notice the knowledge of the children who before never knew anything about computing; about how the technology has advanced a little, because back in our time they only taught us with little balls and sticks; right now in kindergarten they are already teaching the children how to read, I do notice the improvement” (from INT06).

However, these judgements also imply that the community is more demanding in terms of quality of education. There is a commonly perceived idea that the middle school falls behind in quality when compared with the other two schools. Actually, from the eight students who are about to finish their primary school in Huixcazhdhá only four of them will continue in the local middle school, and the rest will go to study in the neighboring town. Two quotes represent this feeling:

*“Aquí en la secundaria como que no me gusta el nivel. Los niños no se ven bien los que hay ahorita. En la disciplina como que no se ve el respeto; no*

*hay respeto de alumnos a los profesores, se ha perdido ese respeto que debe de haber.”*

“Here in the middle school I don’t like its level. The children who are currently there don’t seem right. In the discipline, I don’t see any respect; there is no respect from students to their professors, they have lost that respect that should be present” (from INT14).

*“Lo que yo le puedo criticar a la telesecundaria es que los niños hacen lo que se les venga en gana. Los maestros dicen ahí está la televisión, vean lo que tienen que hacer. Para mí, los maestros son los irresponsables... Hace tiempo vino una chica [a solicitar trabajo a San Miguel] que salió de la telesecundaria. Un examen básico de primaria [que es requisito en el proceso de ingreso] no lo sabe contestar: Muchas preguntas en blanco. Como dicen: qué aprenden y qué les enseñan los maestros; y nos dicen, es que se salen y nos dejan.”*

“What I can criticize about the middle school is that the children do whatever they feel like doing. The teachers only say: there is the television, you go and see what you are supposed to do. To me, the teachers are irresponsible... Some time back one girl came [to apply for a job at San Miguel] who graduated from the local middle school. In a very basic test [that is required in the recruitment process], she wasn’t able to answer: A lot of blank questions. We ask the children: what do you do there and what do your teachers teach you; and they tell us, the teachers disappear from the classroom and leave us on our own” (from INT16).

Perhaps these criticisms concerning the operation of the middle school will be hard to overcome, because the model used there is based on classes transmitted through television, a system that is widespread in rural Mexico but that has many limitations. Many of them relate to the technology itself. In many places the electricity supply is not constant, or the antennas required to receive the transmission are faulty, or even the televisions do not function. In the model, a ‘facilitator’ should be present at all times to answer the doubts from the students or even to take the lead when a technical fault is

present, but in cases like Huixcazdhá where these problems are permanent, the ‘facilitator’ is easily surpassed by the incidents and his position is to let the students ‘do whatever they can’ to learn on their own. This is another example of how the social arrangements sometimes help in solving problems, but other times (like in the case of the middle school) place a limit on the capabilities that may be developed otherwise.

This last section analyzes the vision people from Huixcazdhá have on education in the future. A very informative fact that highlights the relevance of education for them comes from the question that all interviewees were asked about their main concerns for the future; additionally, they inquired about what would be for them the proof that Huixcazdhá is improving its life conditions. In all cases, the idea of development when answering these questions was referred to the generation that comes after them, as if they were satisfied with their achieved functionings and the expansion of their capability set would mean only regarding the opportunities that may open for their children. Particularly, the main concern expressed by the vast majority of interviewees about the future of their children relates to education. The following quotes are examples of how they verbalize these concerns:

*“Me gustaría que mis niñas se superaran más de lo que yo. Yo no tuve mucho estudio, solo hasta la secundaria. Me gustaría que mis niñas pudieran aprovechar hasta donde yo les pueda dar, que tengan un nivel más de escuela que lo que yo tuve.”*

“I would like to see that my girls achieve more than what I did. I did not have much chance to study, only up to middle school. I would like my daughters to take advantage of everything I could give them, for them to have a school level higher than mine” (from INT04).

*“Me gustaría darle [a mi hijo] lo más que pueda estudiar. Sé que para eso se necesita mucho dinero, pero querer es poder. Echarle ganas para que terminara por lo menos una carrera corta.”*

“I would like to give him [my son] as much as I can to study. I know that to achieve that a lot of money is needed, but to want is to can. Give him my all so he can at least finish his technical studies” (from INT07).

*“Me gustaría que ellas sean unas personas preparadas, nosotros queremos que estudien hasta donde se pueda y ellas quieran. Si dinero no tienes, lo único que les puedes dejar [como herencia] es su preparación para que sean independientes y se valgan por ellas mismas. Teniendo un estudio que tengan un buen trabajo, que les paguen bien, que puedan solventar sus gastos.”*

“I would like for them to be someone prepared, we want them to study until it is feasible and they desire to do so. If you don’t have money, the only thing that you can leave [as inheritance] is their studies so they can be independent and support themselves. Having a good job, one that pays well, that allows them to cover their expenses” (from INT20).

*“También lo de los empleos es preocupante. Ya no es lo mismo; ya no en cualquier lado te ocupan. Si tienes estudios te ocupan, pero si no tienes estudio, difícil que encuentres un trabajo.”*

“Also employment is a major concern. It is not the same as before; now you can’t find a job anywhere. If you have studies, they give you the employment, but if you don’t have studies, it is very hard to find a job” (from INT04).

Interviewees number 4 and 7 summarize the idea of education as a major concern for their children, converting the accomplishment of studies into an end they would embrace to give them a better future. The two last quotes (from interviewee 20 and 4 again) process further the notion of school accomplishment and relate it to obtaining a better job. They convert schooling as a means to obtain a new end: better employment opportunities. When asking a quality supervisor about his previous boss (who was one of the few college educated employees of San Miguel) and particularly what he admired in her, his answer is very revealing:



*“Su inteligencia. Aparte a lo mejor yo sé cosas, pero me falta saber expresarme. En cambio, ella tenía la capacidad de expresarse con otras palabras, así como el Doctor; el conocimiento: ella podía hacer cualquier otra cosa. Yo digo que si yo hubiera estudiado a ese nivel, yo digo que sí lo hubiera logrado. Ella terminó el ITESHU. El doctor la fue formando a ella para otras cosas y todo lo captaba a la primera y yo dije: algún día voy a ser como ella, como el doctor. Sé que a lo mejor me falta mucho, pero echándole ganas, superándome día a día, lo voy a lograr.”*

“Her intelligence. Besides maybe I know some stuff, but I lack in knowing how to express myself. On the other hand, she had the capacity of expressing with other words, just like Doctor Benito; the knowledge: she was able to do anything. I think that if I had studied up to that same level as her, I would have been able to accomplish it. She finished her studies at ITESHU<sup>7</sup>. Doctor Benito was mentoring her for other projects and she understood everything at the first time and I said: someday I will be like her, like the Doctor. I know that maybe I need to go a long way to get there, but giving my best, improving day by day, I know that I will be able to make it" (from INT16).

Trying to dig deeper into the expectations people from Huixcazdhá have on education as a basis for a better life, and how they think this may be possible to achieve, two interesting ideas were presented:

*“Me gustaría que nuestras escuelas cada día tuvieran un poco de más tecnología para tener una visión hacia el futuro. Aparte que los maestros que nos manden, hagan lo que tienen que hacer: unos maestros competentes porque los que tenemos nada más piensan en su salario.”*

“I would like our schools to have every time better technology to provide a vision into the future. Besides, I would like that the teachers that they send to work to Huixcazdhá really do what they are supposed to do.

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<sup>7</sup> The nearest local university belonging to a public system of technological superior schools.

Teachers who are more competent, because those who are currently here only think about their salary” (from INT16).

*“Más ayuda así del gobierno [en forma de] becas, porque a veces la gente como que hay muchas personas, hay de todo, hay muchos que ya no quieren seguir estudiando pero yo digo que también hay muchas que sí quieren pero por falta de dinero yo digo que ya no pueden.”*

“More support from the government [in form of] scholarships, because sometimes with people there are many different ideas, there are many who prefer not to continue with their studies, but I think that there are also many persons who would want to continue, but because of lack of money I think that they can’t afford it” (from INT18).

This previous narrative of the progress of education arrangements in Huixcazhdá as an example of social opportunities improvement to expand the freedom of the people reinforces the pragmatic view that means and ends inform and give shape to one another living in a ‘situated interdependence’, and the notion that ends are not given, rather they are reformulated in partial response to available means. Surely, a long time ago, when San Miguel had not arrived yet in the community, their main concern which gave shape to the ends that were sought for was the development of infrastructure: to actually build the schools they were missing. Once these ends were achieved, the schools became the means to have a better preparation, to look for a better future. They know that with quality education better opportunities are open and the capability set for their children may be expanded. That is why they are concerned about ways to improve the achieved functionings that current education arrangements bring to them. It is interesting to contrast this view of education shared by almost all citizens from the community with the personal vision of Benito Manrique on the subject. He is very skeptical about the possibilities that come from ‘traditional academic instruction’. In this respect, Benito thinks:

*“Mientras más años va un niño a la escuela, menor su creatividad y menor su inteligencia y capacidad de aprendizaje. Es como si la escuela matara*

*la creatividad y la capacidad de aprendizaje. El problema es que el aprendizaje se lleva a cabo en el aula, [en un contexto] cerrado, [impartido] por alguien dogmático, doctrinante, que te califica.”*

“The more years a child attends school, the less creativity he develops and the lower his intelligence and learning capability. It is just like if school kills creativity and learning capability. The problem is that learning happens in a room, [in a context that is] closed, [led] by someone who is dogmatic, who tries to impose a doctrine, who evaluates you” (From STP\_UNIV).

With this vision on formal general education, Benito is even more critical about this kind of education in the rural context. To him, rural education does not even provide the most basic skills needed to succeed in the current labor market. He observes it in the various candidates who are interested in joining San Miguel and are given a very simple exam where they are asked literally how many seconds there are in one hour and the names of four foreign countries and they can't answer these simple questions. He even jokes about how his perception of the possibilities from education have been modified over time:

*“Mi referente de éxito en la Generación 1 de la pequeña tribu, era que uno de ellos llegara a Harvard, ese sí era mi referente de éxito con ello; ahora te lo diría a un nivel muy pequeño, pero de honda satisfacción, sería ver que Erick o Benja pueden escribir un ensayo.”*

“My proof of success in the Little Tribe Generation 1<sup>8</sup>, was that one of them would successfully make it to Harvard University, that was my proof of success with them; now I can tell you at a much lower level, but with deep satisfaction, [my proof of success] would be to see that Erick or Benja<sup>9</sup> would be able to properly right an essay” (From INT29).

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<sup>8</sup> The children that he met right after his arrival in Huixcazhdhá.

<sup>9</sup> Two of the children that were finishing elementary school at the time of the observation period.

When asked how to reeducate a person whom the traditional education system has failed, Benito comes back to Paulo Freire and his ideas presented on the *Pedagogy of the Oppressed*: An open system, where learning happens in action, where experts take a role of knowledge facilitators. The way Benito sees the application of these ideas in practice happens for instance during the summer stage of international and Mexican college students in Huixcazhdá. The intention is that these students lead ‘learning activities’ for children of the community in a practical and fun manner. A number of workshops are offered according to the skills and interests of the visiting college students aiming for an alternative learning space for the children of Huixcazhdá away from the traditional classrooms in a period where the learning curve of the children falls due to a lack of stimulation. Not only the knowledge in the workshops is relevant; the social interaction with persons from different settings is also fundamental in this dynamic. Benito expressed this perception when he explained international students the relevance of their presence:

“Es de puentear y vincular diferentes mundos, civilizaciones, percepciones. Su presencia para nosotros es la posibilidad de que la gente de Huixca conviva, tenga contacto, dialogue, intercambie correos electrónicos, páginas de Facebook, porque entonces el tejido [social] se enriquece. Cuando hablamos de construir el capital humano es el diálogo entre personas lo que te enriquece; al fin y al cabo, lo que aprendemos se construye en sociedad. Ese capital humano necesita inputs y eso son ustedes. Hablamos de construir capital social; el capital social es ir consolidando las estructuras y organizaciones al interior de un tejido social.”

“It is about building bridges and linking different worlds, civilizations, perceptions. To us your presence represents the opportunity for people from Huixcazhdá to share, to be in touch, to dialogue, to change emails, Facebook pages, because then the [social] tissue gets richer. When we speak about building human capital, it is the dialogue between people that makes it rich; at the end of the day what we learn is built in society. This human capital needs inputs and the inputs are you. We talk about

building social capital; social capital implies to strengthen the structure and organization within a social tissue” (From STP\_UNIV).

Perhaps the impact of the presence of international students during a couple of weeks in the summer in the community is very hard to measure. However, the increase in the capability set of the young people from Huixcazhdhá is rather evident. Proof of this is the fact that many months after the summer was over, some kids keep in touch with the international students they hosted via Facebook and email. Just from looking at them as role models and being interested in their lifestyles, the children from the community have a different expectation about the world they live in.

A combination of school education and informal spaces like the ones offered by the stage of international students has had a positive effect on the expansion of the freedom of Huixcazhdhá’s new generation. Many of them are already serious about pursuing a university degree, a concern that their parents have passed to them, but not necessarily one they used to share. Being aware of the presence of Mexican and American students has made them realize that if they go to college, they may be the ones visiting communities and sharing with people from different origins.

Finally, combining the analysis of the economic conditions described in the previous section with the educational arrangements in the community from the previous paragraphs, a congruent picture is presented for the development of Huixcazhdhá since 1985, when San Miguel arrived to the community. It is also evident that the concerns that gave shape to the company and are reflected in its mission have permeated in the community and have given shape to multiple decisions that resulted in the improvement of their life conditions.

#### **5.4 Triangulation in the analysis of the case-study**

As discussed in the methodological design section of Chapter 3, triangulation is understood as the “process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation or interpretation” (Stake, 2000). Out of the four types of triangulation presented by Denzin (1978), this research work used data source, methodology and theory triangulation to assure the reliability of the results obtained. Chapter 3, and particularly its section on data analysis, discussed in detail the issue of

theory triangulation. This section described the elements of grounded theory that helped in the analysis of relevant bodies of knowledge and the interpretation of the observed evidence to present the models used in this chapter. In the following paragraphs, this section will illustrate the use of data source and methodology triangulation.

The previous sections of this chapter have analyzed the three academic bodies in the context of the case-study. To do so, the data elements shown as an illustration are taken from the three methods of data collection used in this thesis, which constitutes the use of methodology triangulation. First, from the in-depth interviews, each section presented excerpts from the most representative interviews that tackled relevant issues of the topic. Particularly the social entrepreneurship and development sections heavily relied on the findings obtained from this methodology, as it can be assessed from the number of quotes from interviews used in the analysis of sections 5.1 and 5.3. This diversity of interviews is also proof of data source triangulation, since they are a combination of interactions performed by the researcher and a variety of actors, for instance: the social entrepreneur (INT29); a large number of workers from San Miguel who live in Huixcazhdhá (INT01 to 25); a relevant number of people involved in the social projects of the company (INT26 to 28 and INT30) and persons external to the community and the company, such as the quality auditor (OSM QUAL), the leading Mexican academic researcher on amaranth (EXE02 CYCLE CLOSE), and an academic researcher from Yale University (STP\_UNIV).

Second, from the direct observations all three sections also presented elements obtained from the different processes and interactions that were observed by the researcher. Particularly, the knowledge management section relied importantly on the direct observations as it can be inferred from the type of analysis provided on section 5.2. The issue of data source triangulation in the direct observations methodology was managed through the combination of processes observed by the researcher. Indeed, a large amount of time was spent in the company, observing the processes related to the production, quality, R&D and management teams. Nevertheless, significant time was devoted to the observation of social processes that implied the interaction of the company with social groups from Huixcazhdhá and other communities. Moreover, the

observation methodology also implied working with community processes that are independent of the participation of the company.

Thirdly, the use of document analysis as the third method of data gathering and analysis also provided a relevant source of evidence in the study of the three bodies of knowledge. Internal documents produced by the company provided a helpful foundation of the analysis of the knowledge management and social entrepreneur sections. The company Mission statement, a number of internal forms and records from the production and quality sections of the company, the R&D workbook, and the presentations used in congresses are good examples of the internal documents used in the analysis. Other set of documental analysis was performed with the use of documents produced by external sources. The series of newspaper articles and television videos, the government documents and the reports produced by external consultants were helpful as well. This variety of sources is also an indication of data source triangulation.

All the elements used in the analysis presented in this chapter provide evidence of the variety in data sources and methodologies used as empirical results, which are the basis for triangulation. However, they are merely a sample of the vast diversity of data elements used in the research work. To illustrate the breadth of data sources used to arrive to the analysis presented here, and using the Node Summary report provided by the NVivo software as a basis, a total of 155 elements were coded into the Social Entrepreneurship node providing a total of 658 coding references; the Knowledge Creating Company node integrated a total of 588 elements and 1,554 coding references; and the Community Development node included 1,477 coding references coming from 468 elements (refer to Appendix A, section 2 for the full report). The following table (Table 5.2) presents a summary of how these coding references are divided into the three methodologies of data collection used in the research process and present in the three bodies of knowledge used in the research. Additionally, Appendix A presents a series of reports provided by NVivo that offer a further evidence of the triangulation process used in the research process.

**Table 5.2 Summary of number of coding references per methodology**

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*Methodologies for data collection*

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	<i>Interviews</i>	<i>Observations</i>	<i>Documents</i>	<i>Number of coding references</i>
<b>Knowledge Management</b>	478	894	182	<b>1,554</b>
<b>Social Entrepreneurship</b>	320	301	37	<b>658</b>
<b>Development</b>	1,040	360	77	<b>1,477</b>
<b>Total</b>	<b>1,838</b>	<b>1,555</b>	<b>296</b>	<b>3,689</b>

The main purpose of triangulation in qualitative research in general and particularly using case-study as a strategy is to verify that an observation or an interpretation may be replicated if a different researcher applies the same research design. As explained earlier, the researcher abilities and personality are also important when extracting conclusions from a research project, which implies that no full replicability is plausible. In the particular case of the research presented in this thesis, however, the strategies of triangulation used in the journey and presented in this section provide elements to ensure its reliability and validity.

### **5.5 The use of NVivo software in the analysis**

This section presents some of the analytical tools offered by NVivo Computer Aided Quality Analysis Software (CAQAS) applied to the case-study of the development experience of Huixcazhdá that were used as a basis to build the frameworks shown in the previous sections of this chapter and that provided the elements used to illustrate them.

The first report presented on Table 5.3 corresponds to the word count of the terms that are repeated most in the coding. To obtain this report the software defines a grouping of words with their related terms and registers the number of times that they are present in all the resources used in the analysis. The headings from all reports obtained from NVivo are shown in Spanish, since this was the language used to setup the version of the software used in this thesis. The headings of this particular report are the word that is used as pivot (*Palabra*), the counting of repetitions (*Conteo*), the weighted average (*Porcentaje ponderado*), and the similar words that are considered in the counting (*Palabras similares*). The report shows only the 15 concepts that are most



repeated in the resources. The full report can be consulted in the original project file in NVivo through the Word frequency Query.

**Table 5.3. Report of Word Count from NVivo**

Palabra	Conteo	Porcentaje ponderado (%)	Palabras similares
hacías	1.298	1,14%	hace, hacemos, hacen, hacen', hacer, hacerla, hacerle, hacerles, hacerlo, hacerlos, hacerme, hacernos, hacerse, haces, hacía, hacíamos, hacían, hacías, haciendo, haciéndoles, haciéndolo
trabajó	1.158	1,02%	trabaja, trabajaba, trabajábamos, trabajaban, trabajabas, trabajada, trabajadas, trabajado, trabajador, trabajadora, trabajadores, trabajamos, trabajan, trabajando, trabajándolas, trabajar, trabajará, trabajáramos, trabajarán, trabajarla, trabajarle, trabajaron, trabajas, trabajaste, trabaje, trabajé, trabajemos, trabajen, trabajos, trabajo, trabajó, trabajos
doctor	868	0,76%	doctor, doctora, doctorado, doctores
cómo	626	0,55%	com, coma, coman, come, comemos, comen, comer, comes, comí, comía, comíamos, comían, comida, comidas, comido, comiendo, comiéndose, comieron, comimos, cómo
bueno	606	0,53%	buen, buena, buenas, bueno, buenos
común	522	0,46%	común, comunes, comunica, comunicación, comunicaciones, comunicas, comunico, comunidad, comunidades, comúnmente
pueden	522	0,46%	pueda, puedan, puedas, puede, pueden, puedes, puedo
pasó	509	0,45%	pasa, pasaba, pasábamos, pasaban, pasada, pasadas, pasado, pasados, pasamos, pasan, pasando, pasar, pasara, pasaremos, pasaría, pasarla, pasarle, pasaron, pasarse, pasársela, pasas, pasaste, pase, pasé, pasean, paseando, pasear, paseen, pasemos, pasen, paso, pasó, pasos
casó	480	0,42%	cas, casa, casaban, casada, casado, casados, casar, casara, casarnos, casaron, casarse, casas, casaste, case, casé, cases, caso, casó, casos
años	475	0,42%	años
mejoría	442	0,39%	mejor, mejora, mejorada, mejoradas, mejorado, mejoramiento, mejoran, mejorando, mejorar, mejorarán, mejorarlas, mejoras, mejoren, mejores, mejoría, mejoró
partir	439	0,39%	part, parte, partes, partida, partidos, partiendo, partieron, partimos, partió, partir, parto
amaranto	435	0,38%	amarant, amaranta, amaranto, amarantos
tiempo	429	0,38%	tiempo, tiempos
bien	421	0,37%	bien, bienes

This report shows how the most repeated concepts present in the sources relate to action verbs. First, *hacías* and all its related terms refer to the verb to make. Second, *trabajó* and its related terms relate to the verb and action of working. These terms are

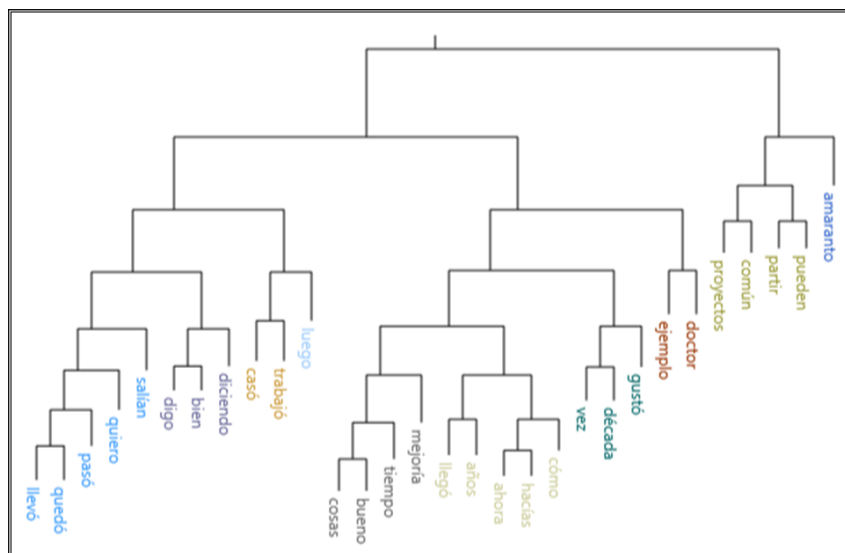




is observable that again, the action verbs and concepts reported earlier present at the top of the graph (work, make, happen, stay) shared commonalities expressed by the concentration of connecting lines.

A second report that presents Cluster analysis is a dendrogram. A dendrogram is a branching diagram where similar items are clustered together on the same branch and different items are shown further apart. These diagrams are useful for comparing pairs of items. Image 5.8 shows a horizontal dendrogram of the different concepts coded on the project.

**Image 5.8. Horizontal Dendrogram as a presentation of Cluster Analysis**



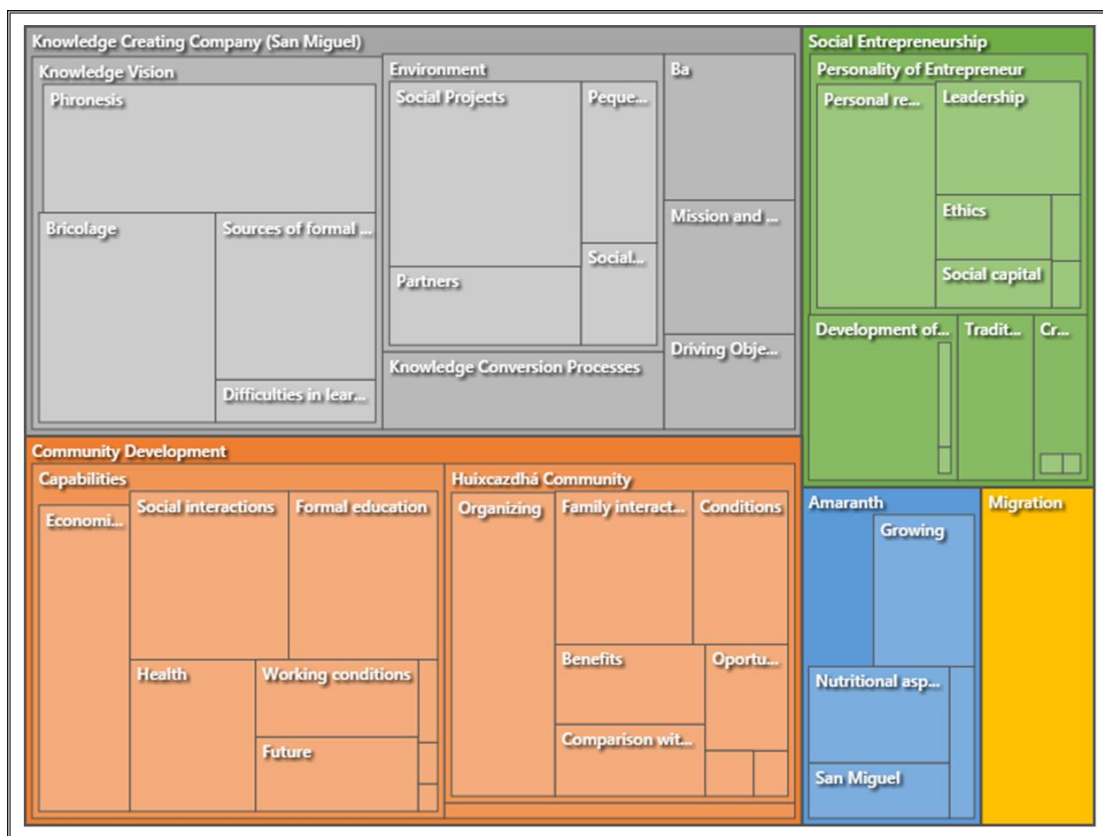
This previous dendrogram presents three major branches. The right-most branch clusters concepts related to the projects that the community undertakes around amaranth looking for the common good. The middle branch presents concepts related to how the community has improved its conditions over time; several ideas of time are presented there, and the exemplar support from the social entrepreneur is highlighted (the relationship between the ideas of *doctor* and *ejemplo*). The left-most branch clusters the action-oriented spirit that has been discussed in the previous report.

A final set of analytical tools provided by NVivo that will be presented in this section is based on hierarchy charts. These charts are diagrams that show hierarchical data as a set of nested rectangles of varying sizes. In the following charts, the size of the rectangles represents the number of coding references in each node. In NVivo, the chart of

hierarchy is scaled to best fit the available space so the sizes of the rectangles should be considered in relation to each other, rather than as an absolute number. The software displays larger areas at the top left of the chart, while smaller rectangles display toward the bottom right.

The first hierarchy chart that is presented on Image 5.9 corresponds to the project as a whole entity as introduced in the software. It shows the three main bodies of knowledge considered in this thesis and two other major components of the case-study as presented in the previous chapter: amaranth and migration.

**Image 5.9. Hierarchy Chart of the complete project**

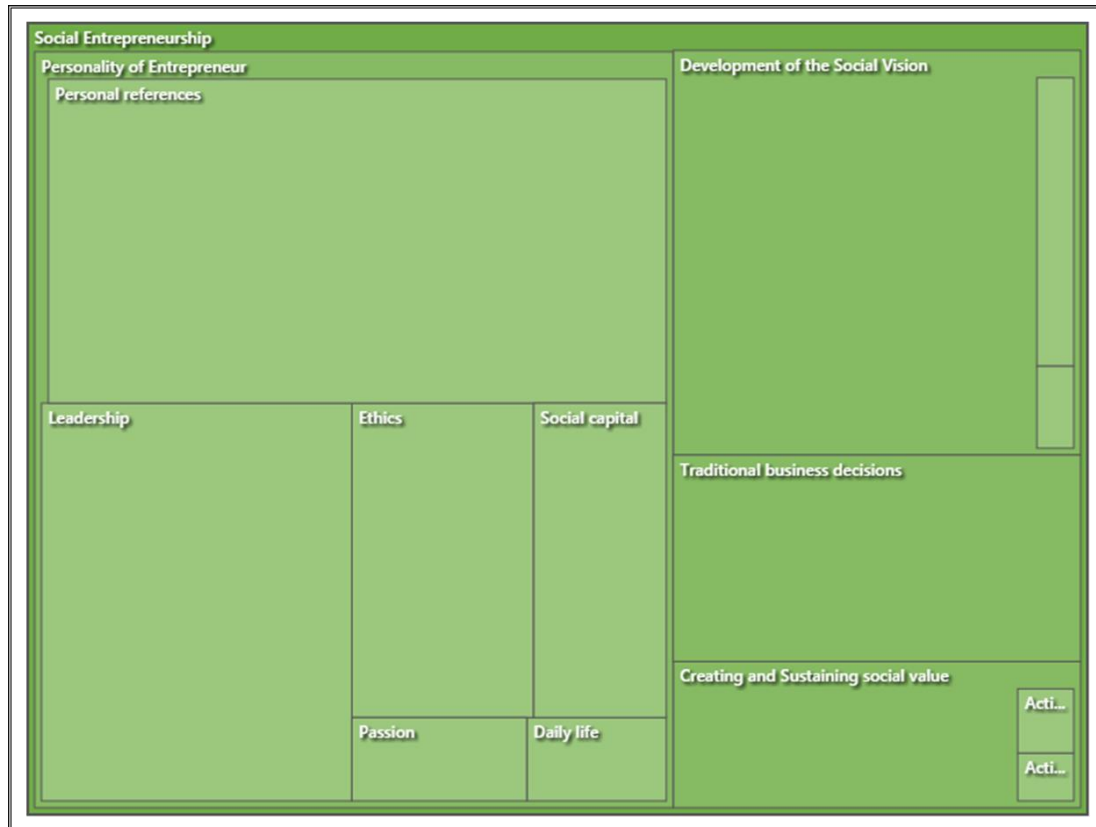


The chart shows a heavy density on coding references related to the knowledge creating company and to the development of the community. The third code in density corresponds to the topic of social entrepreneurship. On the bottom-right corner of the chart, the references around amaranth and migration are represented.

Next, the hierarchy charts of the three main bodies of knowledge considered in the thesis will be presented in detail as NVivo allows to zoom-in the different codes, as long

as they have nested codes underneath their branches. First, the particular chart for Social Entrepreneurship is presented on Image 5.10.

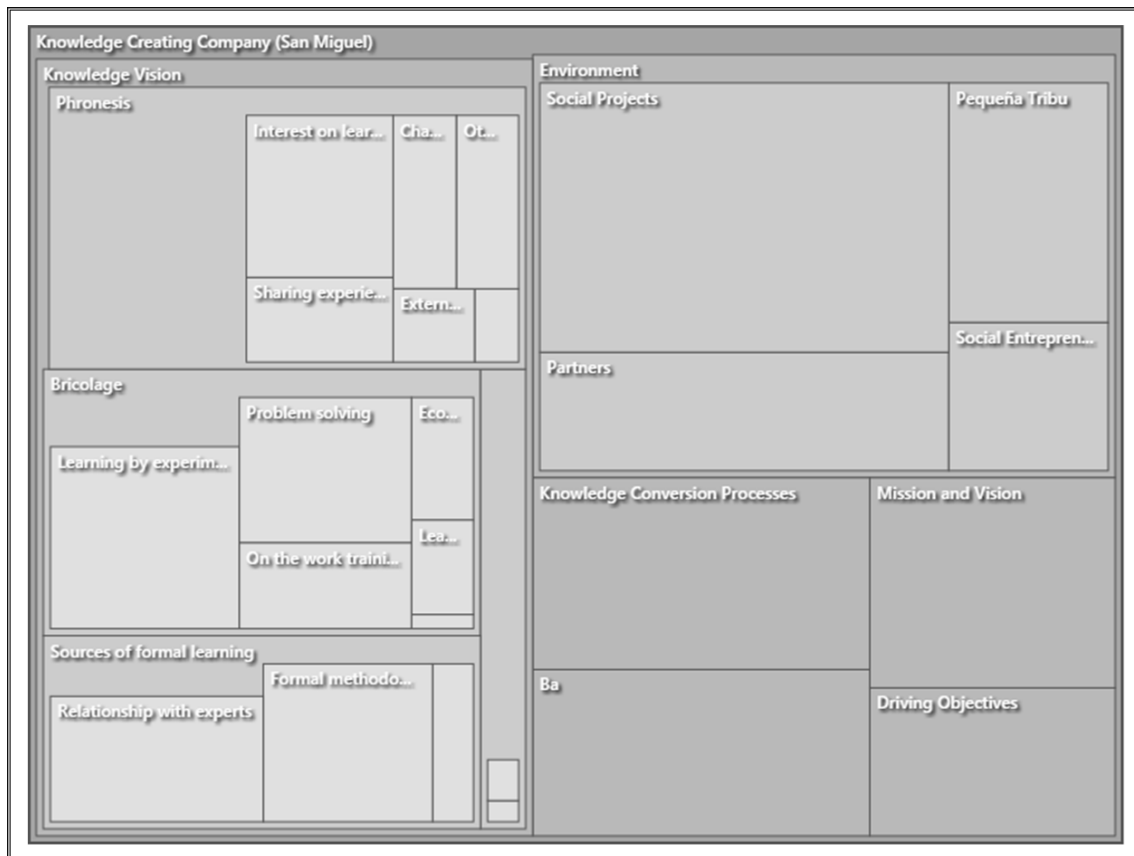
**Image 5.10. Hierarchy Chart of the Social Entrepreneurship section**



The higher density of the coded references correspond to the description of the personality of the entrepreneur. All the references that he used to build his ethical fiber are shown in the left-hand section of the chart. The right-hand side corresponds to the process of developing a social vision and how it translates into the company that he created.

Next, the hierarchy chart corresponding to the portion of the Knowledge creating company is shown on Image 5.11. It reflects the diverse aspects present in the literature review that were scrutinized in the data-gathering phase.

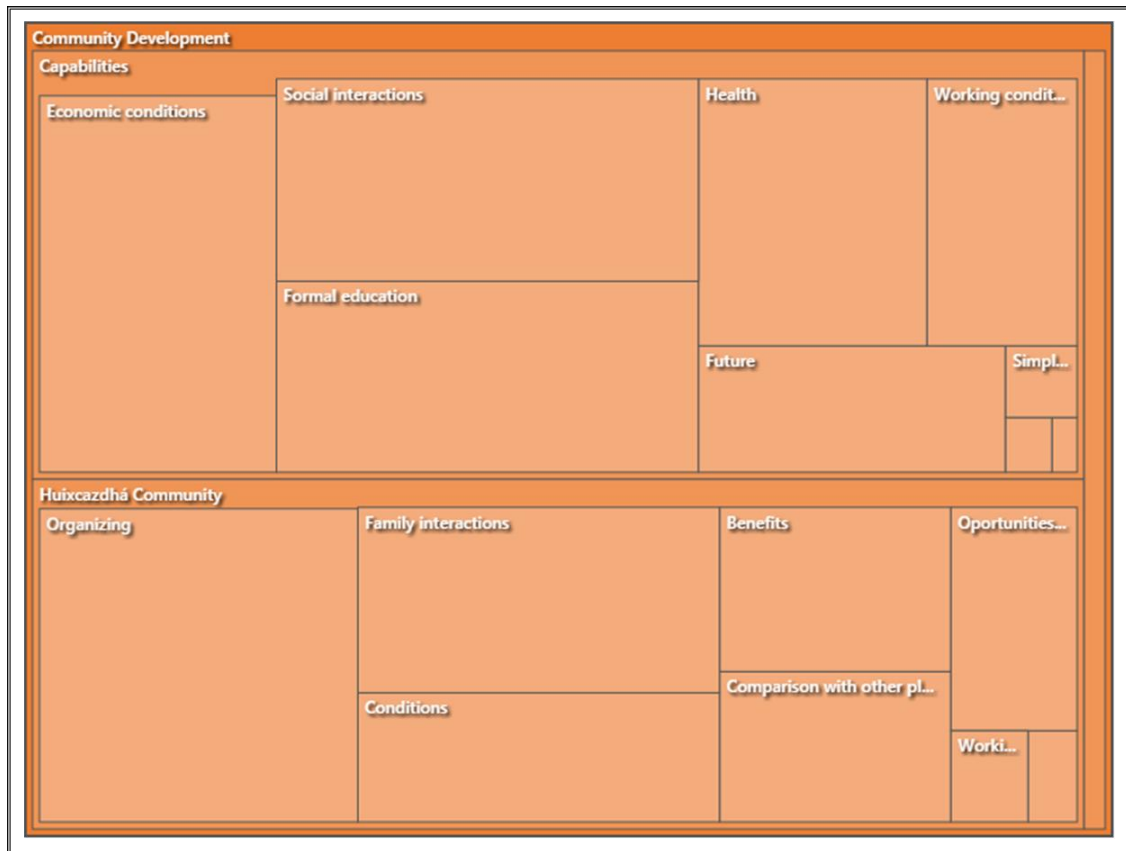
**Image 5.11. Hierarchy Chart of the Knowledge Creating Company section**



On the left part of the chart, corresponding to the nodes with higher density of coded references, we observe the pragmatic spirits that were presented earlier in this chapter (phronesis, bricolage and diverse sources of learning). On the right side of the chart, the particular elements of the knowledge creating company are shown. Not surprisingly, the element of environment presents very high density, reflecting all the relationships that the company has with Huixcazdhá and the rest of the social projects it undertakes.

Finally, the following chart shown on Image 5.12 presents the hierarchy observed in the issue of community development. It is divided first into the different capabilities that Sen (1999) describes in his book. The second part of the chart integrates the observations of how the people from the community observes their reality in comparison with other communities and looking into their future.

**Image 5.12. Hierarchy Chart of the Community Development section**



Regarding the capabilities portion, economic, social and education topics are the ones that cover the most of the coded references. As for the description of life in the community the way they organize takes preeminence in the density of coding, followed by family interactions and their perceived conditions.

As a conclusion of this segment, it is interesting to notice that all the material presented here was used as a reference for structuring the previous sections of analysis in this chapter. The analysis provided by NVivo helped in providing focus on the most relevant aspects of the vast diversity of topics and elements observed in the data gathering section. It also helped in giving shape to the particular examples that were chosen throughout the chapter as an illustration of the phenomena observed.



## **Chapter 6. Discussion and Conclusions**

The present chapter presents an introductory summary of the different elements that were integrated in the present research study. It continues with the discussion of the findings related to each one of the academic fields studied independently and later in relationship with the rest of them. It then highlights the findings of this work in relationship to the research questions that gave light to the research process and discusses their implications on the different arenas of concern. Later, the chapter covers the limitations of the present research study, and finally it suggests directions for future research work that may be derived from this dissertation.

### **6.1 Summary**

The general purpose of the present research study was to analyze the experience of development of a Mexican community that hosts a company that industrializes amaranth-based food products on the basis of three academic fields: Social entrepreneurship, Knowledge management, and Theory of development. To do so, this dissertation introduced in chapter 1 the issue of how most of the current approaches to promote development with a top-down approximation have provoked inequality levels in the world that are reaching alarming levels, calling instead for an alternative that focuses on the human. It presented a general view of the three academic fields of study and introduced a philosophical approximation that bridges the interest of the three, thanks to its focus on actions and their consequences as the criteria for knowledge and meaning. The introductory chapter next provided a general overview of the community that was the focus of this study (Huixcazhdhá) and the company (San Miguel) that arrived there in 1985 and has used a model where its business objectives are fully integrated with the promotion of a harmonious improvement of the life conditions of the community. Next, this same chapter presented the three research questions that shaped the research design: the first one referring to the theoretical exploration of the three academic fields integrated in the study; the second one directing the empirical investigation of the application of these fields to the experience of the community; and the third one looking to extract practical implications from the experience that may be applicable in different settings. This introductory chapter concluded with the discussion of the relevance of the research work and what are its potential areas of contribution.

Next, chapter two provided the space to conduct three literature reviews, one for each of the academic fields concerned. It began with the analysis of theory of development from two different academic fields: the traditional economic based of development, that gives preeminence to monetary measures of improvement of wellbeing; and inter- and cross-disciplinary approaches based on sociological aspects that place the human as the center of development. This section introduced the capability approach as a point where many development theorists and organizations have converged and is currently used in a number of initiatives, including those by the United Nations. Several concepts and issues around the capability approach were analyzed with the pragmatic interest of focusing them into actions that have positive consequences for those targeted by them. The second section of this chapter reviewed the field of knowledge management, first by analyzing the concept of knowledge and identifying pragmatic elements that help defining it with a practical view; and then by identifying diverse elements of knowledge management including the most used concepts in the application of the field. This section next presented how this academic field has evolved to give space to what is called knowledge-based development where the concepts and models from knowledge management are now intended to be used in a social context to extend its benefits into the social realm. The section finished with a critical conclusion about how this expansion into the social realm has remained mainly in 'knowledge advanced' contexts, presenting a situation similar to what was criticized in the section of development economics. The third area of the chapter analyzed Social entrepreneurship as an academic field. It first dug into how this concept emerged and has evolved over time, presenting the most important elements that are shared with traditional entrepreneurship, and highlighting the main differences from it. The section next analyzed the characteristics of social entrepreneurs as presented in the literature and it finished by introducing the concept of 'bricolage' as a relevant element in social entrepreneurship. Finally, the chapter presented a discussion around the issue of agency, a concept that is relevant to all three academic fields, focusing the notion into a pragmatic idea of path creation thanks to the distributed property of agency.

Chapter three presented the methodological elements that gave shape to the research journey that led to this dissertation. First, pragmatism as a research paradigm was

introduced and its main elements reviewed. Next, the research design was discussed, stating that an inductive approach based on a qualitative analysis was utilized. Case-study as the research strategy of this work was scrutinized, with focus on presenting a single case as a valid form of research under circumstances like the ones present in the settings of the current research work. Next, the issues of reliability and validity were introduced and analyzed in relationship with the research strategy selected. Subsequently, the strategies to collect and analyze data were explained in the context of this research study, explaining the different stages and elements used during the observation period and the analysis of all different sources of data that were obtained. Finally, and following the suggestion of Yin (1994), a protocol for the case study was presented that included the overview of the case, the procedure to collect data, the questions that directed this procedure, and the database that was integrated with all different sources of information.

Chapter four presented a narrative of the case of development of Huixcazhdá since 1985, when San Miguel arrived in the community. It first described Benito Manrique, the social entrepreneur, from his family background and his professional interests to the rupture moment that was decisive in venturing the company. His first struggles when he opened the company are introduced and diverse conceptual elements that he used to define the company were discussed. Next, the chapter moved to describe the activities of San Miguel and their relationship with the community. It focused on the particular policies that the company has implemented to integrate its activities with those of the community. It also highlighted two individual cases of persons who have emerged as leaders along with some of their accomplishments. Finally, the chapter describes the characteristics of the community in terms of diverse social aspects such as economy, education and health; the social arrangements it uses to organize the communal activities, and the external sources that are relevant in improving the community conditions, such as illegal immigration into the US.

Chapter five used the concepts extracted from the literature review to analyze the case study. It began by presenting a framework that captures the elements of the concept of social entrepreneurship and then it contrasted with the evidence extracted from the experience of Benito Manrique at the different stages of his life. The personal

characteristics of the entrepreneur where analyzed, the spirits that are relevant from the general concept of entrepreneurship were contrasted with the decisions that Benito Manrique made, the development of his social vision was scrutinized, and the process of creation of social value was presented. Next, the chapter introduced a framework of six elements of knowledge management, extracted from Nonaka, Toyhama and Hirata (2008) that were confronted with three spirits of pragmatism to analyze the knowledge practices that San Miguel uses in its operations. It finally presented a summarizing framework of the capability approach with three conceptual elements to examine the development experience of Huixcazhdhá. Two of the instrumental freedoms that Sen (1999) speaks of served as the focus of analysis of the way the community has expanded its capabilities over the last 25 years.

Finally, the present chapter introduces the main findings of the analysis of this development experience, it presents the contributions from the present research work, it speaks of its limitations, and finally discusses future paths of research that may be taken to profit from this dissertation.

## **6.2 Findings of the research**

Three academic fields were used to analyze the development experience of a Mexican community: Social entrepreneurship, Knowledge management and Development theory, with pragmatism as a cohesive element. This section will first express the findings of each one of the fields independently, and later it will show the relationship among the three from the empirical data as an answer to the first research question posed in chapter one: RQ1: What elements of Development theory, Knowledge management, and Social entrepreneurship are relevant when they are analyzed under the philosophy of pragmatism in the context of the development of a Mexican community?

### **6.2.1 Social entrepreneurship**

To analyze the elements of social entrepreneurship in the case of Benito Manrique and his journey to establish a company that came to be an engine of the development of Huixcazhdhá, a framework with four main elements of the concept (social entrepreneur characteristics, entrepreneurial spirits, vision, and social value) was developed (see

figure 5.1) and was used as the basis of analysis. The first element, personal characteristics of the social entrepreneur, integrated two main elements from the literature: innovativeness and ethical fiber. Concerning the innovativeness element, and using a continuum to operationalize it that ranges from 'adaptor' (risk averse persons that uses existing methods) at one end, to 'innovator' (a person who introduces radical changes and is risk welcoming) at the other end based on the work of Kirton (1976), at different stages of Benito Manrique's life, the analysis found evidences of decision making using both ends of the spectrum. Two moments of relevance in the journey of the social entrepreneur were scrutinized finding that one of them reflected a profound innovativeness and the other one a very traditional adaptor characteristic. In this respect, a first conclusion points to the fact that despite the general tendency to consider social entrepreneurs as purely innovative persons, in practice it is more common to find a combination of decision making processes that follow both, the adaptor and innovator personality among social entrepreneurs with equally relevant outcomes.

Even when in the literature review on social entrepreneurship, the ethical fiber as a personality element was not as present among the academic authors compared to innovativeness as a distinctive characteristic, the empirical data in the case of Benito Manrique shows that for social entrepreneurs who devote their whole life to a social cause, the moral foundations that constitute a strong ethical fiber are more present and have more weight in their decision making processes than the degree of innovativeness. In Benito Manrique these moral foundations came mainly from two sources: his family journey that exposed him to different experiences of malnutrition and poverty, and the different academic references that he critically appropriated in diverse moments of his life. In both cases, the issue of compassion as understood by Miller, et.al. (2012) implied not stopping at reflection about a particular problem, but taking a pragmatic decision of moving into action to make a difference on the issue that is provoking the suffering of others and about which one has generated awareness.

The second element of the framework for analysis of social entrepreneurship brings the main spirits that are common in any entrepreneur, regardless of the economic or social nature of his venture. Three spirits were found as the most relevant and common in the

different academic references on the issue: opportunity seeking and recognition; resources mobilization; and risk tolerance. After the complete analysis of the case and considering the diversity of experiences observed, it can be concluded that the pragmatic concept of bricolage perfectly captures these spirits. The ideas of making-do, using resources for different purposes than they were designed, and using resources at hand, as illustrated in the case, can inform the characteristic of seeking and recognizing opportunities and the mobilization of resources. Perhaps the issue that would require further analysis to establish a relationship between the two concepts is risk tolerance, which is definitely a relevant characteristic of entrepreneurs, but is not necessarily present in bricoleurs. From the empirical evidence, again a strong relationship was found between the moral foundations of the entrepreneur at moments when decisions related to mobilize resources in high risk environments needed to be made.

The third element of the framework relates to the vision that is developed to make a difference in the social issue that is intended to be solved. In the case of San Miguel, the mission statement of the company captures the three characteristics of a strong social vision: it captures a collective purpose, it is transformatory, and it has a widespread reach. The evidence of San Miguel is illustrative on how a social vision can combine the ambition of a very wide reach (which in this case is captured by the targeted role of amaranth as a staple crop worldwide) with a concrete application (the commitment to enhance the capabilities of the individuals of the social system –Huixcazdhá- where the company operates). One additional element of relevance drawn from the empirical evidences is that a social vision that is relevant should be humanist at its core: a social vision may not have much sense if its application does not imply an increase of the wellbeing of a concrete group of persons, no matter how grand it may sound.

The final element of analysis in the framework is how a balance between creating and sustaining social value is obtained. This is relevant in the context of social entrepreneurship since it determines the possibility to sustain a social venture in the long term. In the case of San Miguel, the social values that are created are targeted mainly to the community of Huixcazdhá, but also have reach to other concrete actors such as grain amaranth producers and groups of ladies interested in using amaranth as a source of nutrition, and finally have a more ambitious reach with the potentialities of

amaranth to the external public. However, sustaining these social values is only possible through the commercial activities of the company. With high standards of quality and strict relationships with suppliers and customers, San Miguel fulfills its commercial activities as any commercial company would. It is actually this combination of a successful business activity with a very strong social component that has attracted interest from international partners to understand how this can be achieved, without compromising one or the other elements. San Miguel provides a good example of how it is possible to conduct business in a globalized economy with a clear social purpose that has a great impact on a rural community.

### **6.2.2 Knowledge management**

The analysis of Knowledge management in San Miguel was made using a framework developed with the concepts of a knowledge-based firm by Nonaka, Toyama and Hirata (2008) and the ideas of pragmatism extracted from the literature review. Considering the six components from Nonaka and associates with the evidences gathered from San Miguel, enough elements were extracted that show the relevance of each of them and their presence in the company. Table 5.1, from the previous chapter, summarizes the different elements of observation that were present in the different components of the knowledge-based firm: For knowledge vision, 4 observations were described; driving objectives presented 7 pieces of evidence; knowledge conversions processes integrated 8 observations; *Ba* presented 7 evidences; knowledge instruments integrated 8 observations; and environment included 7 elements of evidence. Most of the observations described actual achievements from San Miguel, although three of them presented limitations related to knowledge processes (KC3, KC4 and BA7). Table 6.1 presents all of the elements described in relationship with the spirits of pragmatism that are relevant in each observation with the aim of presenting a concluding idea on how the two elements of the framework (spirits of pragmatism and components of the knowledge-based firm) relate with each other and which elements are more relevant according to the empirical evidence.

**Table 6.1. Relationship between the spirits of pragmatism and the components of the knowledge-based firm according to the evidences observed**

Components of the Knowledge based firm	Spirits of Pragmatism		
	Bricolage	Pragmatic Agency	Phronesis
<b>Knowledge Vision</b>		[KV1] – Path creation [KV2] – Distributed agency	[KV3] – Judgement of goodness [KV4] – Reconstituting universals into particulars
<b>Driving Objectives</b>	[DO2] – Make-do; resources for new uses; resources at hand [DO3] – Resources at hand [DO6] – Make-do [DO7] – Make-do	[DO1] – Distributed agency [DO6] – Distributed agency [DO7] – Distributed agency	[DO1] – Judgement of goodness [DO3] – Solidarity [DO4] – Judgement of goodness; solidarity [DO5] – Judgement of goodness; solidarity
<b>Knowledge Conversion Processes</b>	[KC1] – Make-do [KC3] – Resources at hand [KC4] – Resources at hand [KC6] – Resources at hand [KC7] – Make-do [KC8] – Resources at hand	[KC1] – Distributed agency [KC5] – Distributed agency [KC7] – Path creation [KC8] – Path creation	[KC2] – Fostering other’s phronesis [KC3] – Situated rightness [KC4] – Reconstituting universals into particulars
<b>Ba</b>		[BA2] – Distributed agency [BA3] – Distributed agency [BA4] – Distributed agency [BA5] – Path creation [BA6] – Distributed agency [BA7] – Path creation	[BA1] – Political power [BA3] – Judgement of goodness
<b>Knowledge Instruments</b>	[KI1] – Resources at hand [KI2] – Resources at hand [KI5] – Resources for new purposes [KI6] – Resources for new purposes	[KI3] – Distributed agency [KI4] – Distributed agency [KI5] – Distributed agency [KI6] – Distributed agency [KI7] – Path creation; distributed agency	[KI2] – Grasping the essence of things [KI4] – Judgement of goodness [KI8] – Political power
<b>Environment</b>	[EN5] – Resources at hand; resources for new purposes	[EN1] – Distributed agency [EN2] – Distributed agency [EN3] – Distributed agency; path creation [EN4] – Distributed agency	[EN1] - Judgement of goodness; solidarity [EN2] – Fostering other’s phronesis [EN7] - Solidarity



		[EN5] – Distributed agency	
		[EN6] – Distributed agency	
		[EN7] – Distributed agency	

Table 6.1 serves as a summarizing picture of the relationship between the spirits of pragmatism and knowledge processes of a company, using the knowledge-based firm as source of analysis. Observing the concentration of the evidences presented, the pragmatic agency spirit stands out with a higher number of elements compared with the other two spirits. Recalling the idea of pragmatic agency, two elements were presented: the notion of path creation and the concept of distributed agency. In the present case, distributed agency is much more relevant across the observations. In this respect, the social nature of the business activity definitely implies the presence of multiple actors who have diverse roles played in the success of the venture. In most cases, the interaction with these actors implies their involvement in the company's activities with a high level of commitment and generous disposition to share their knowledge thanks to the perception that by doing so, they are summing up efforts to accomplish the greater objective of San Miguel.

The second pragmatic spirit that stands out in the summary is phronesis. Particularly, the judgement of goodness and solidarity in the case of San Miguel are relevant in different components of knowledge. Being a company with a high social mission, but more importantly, with a true commitment to improving the wellbeing of people from Huixcazhdhá is a reflection of how phronesis is present also in processes that relate to knowledge creation and distribution. Solidarity is also an important component among the workers of the company. The openness to share their experiences with their co-workers and with external agents who visit them is a distinct characteristic of the company.

Finally, bricolage as a pragmatic spirit is also present in different knowledge elements. With the limited resources that the company is able to secure, its creative use exists in different observed actions; moreover, the reflected idea among the workers that they

have to make-do with the resources at hand reproduces a long gained experience of bricolage with very positive results, as the ones expressed in chapters 4 and 5.

Up to this point, the components of knowledge management were scrutinized with the data collected from the company, and evidences of all of them were found in San Miguel. Furthermore, the spirits of pragmatism were also integrated in the analysis, finding a relevant presence of them, with emphasis on distributed agency elements. However and coming back to the elements extracted from the literature around knowledge development, the point made about concentrating experiences of this type of development in highly technological companies and regions is refuted with the evidence from the case. It is true that severe limitations are present in a rural context such as the one of Huixcazhdhá in their use of knowledge. Most of them are related to difficulties in very basic skills such as oral and written communication, that come from a formal education with many deficiencies. The empirical evidence shows an impact of these shortages on certain activities that are knowledge intensive which not all employees from San Miguel are able to perform. But a more relevant finding of this research work is that despite these limitations, the company has managed to overcome them to reach a leadership position in the food industry based on amaranth in Mexico, complying with the highest standards of production quality required by world-class customers, and offering to the Mexican market high quality products that come from innovative processes. This finding is presented in the following paragraph.

The knowledge model of the company implies taking some provisions to offset the limitations of some workers with their individual strengths and with the collective capabilities. In this model social learning and support based on phronetic solidarity and bricolage is the basis for the success. The observed practices that illustrate such a model include: all employees rotate in all production activities and work integrated in manufacturing cells that vary on a daily basis; training newcomers is a social responsibility where they are integrated in cells where the most skilled workers are in charge of teaching the production activities in practice; all administrative spaces are open to promote the free exchange of information and the awareness of all relevant issues regardless of their direct involvement in them; the documentation of the processes relevant to production, quality, and research and development is done with

high standards, but with records designed for specific purposes and with different levels of complication; all opportunities to use external agents as knowledge provided are capitalized through activities with different levels of structure; there is a high degree of empowerment in knowledge intensive tasks, such as the development of new equipment or new products; among others described in the previous two chapters. These practices are working proofs of the pragmatic idea of learning in the practice, by actually engaging on problem solving, with the social engagement of people that share commitment and responsibility towards the activities. Most of these practices have been consciously designed by Benito Manrique, thanks to his conceptual bases of learning (Pedagogy of the Oppressed, by Paulo Freire; and Deschooling Society by Ivan Illich). Some others have evolved over time until a point where knowledge is best produced and used in the whole company that despite its limitations, functions like any other food processing company with world-class standards.

### **6.2.3 Elements of development based on the capability approach**

A framework based on the capability approach by Amartya Sen (1999) with three elements was utilized for the analysis of the experience of development in Huixcazhdhá. To illustrate this framework, two of the instrumental freedoms that the author describes as the rights, opportunities, and entitlements which contribute to the expansion of human freedom, also referred to as the means to achieve development, were scrutinized; namely, economic facilities and social opportunities. The cyclical nature of this framework captures the pragmatic notion of a dialectical relationship between means and ends: when ends are achieved, they convert themselves into means that serve as a new foundation to pursue higher ends. Whether these new ends are achieved or not, is a matter of personal decision, but an enlargement of the capability set of the person is definitely present as an expansion of the freedom they enjoy.

Analyzing the economic facilities of the community, the general conditions prior to the arrival of San Miguel were very limited: no electricity, no running water, no paved road to connect Huixcazhdhá, and mainly working opportunities outside the community that implied a high migration into larger cities. The first areas of improvement thanks to the company were reflected in infrastructure development: electricity arrived in the community, it was connected to the water supply and the connecting road was properly

developed. This first improvement extended the capability set of people from the community who now have better conditions to remain in Huixcazdhá, instead of migrating to larger cities. However, it was not enough to change the dynamics of migration, until the working possibilities that San Miguel brought generated a true option for a number of persons from the community.

With employment secured locally, a new capability set was developed. Economic needs integrated as primary assets now allowed to cover for basic arrangements around food, clothing, local education, and basic health. However, an expansion on the primary assets also implied the need in some cases and the desire in others to further expand the capability set now integrating higher education, coverage for more serious health issues, the construction of a house, the provision of a car. Despite the benefits of having the source of labor literally next door that include savings in transportation and food costs, the wages paid by the company did not allow to cover these new alternatives. Illegal migration into the US emerged as a viable option to actually achieve them. The new social arrangements made by the company and the community to support immigration as an alternative were relevant in allowing this option to turn into an achieved functioning. These social arrangements included company policies to give protection to the immigrants and the option to recover their jobs after returning from the US, and also provisions taken in the community assembly to grant a two-year break from community responsibilities to the persons who migrated. These arrangements were established provided that immigrants would return to Huixcazdhá after a reasonable period of time, trying to protect the social tissue of families. Noteworthy is the fact that the alternative to migrate to the US (and the expansion of the capability set that comes with it) is almost exclusively open to male persons, being a real limitation to gender equality.

Another issue around the economic facilities in Huixcazdhá arises from the communal traditions. All citizens from the community have requirements to participate in positions related to the community life and also to contribute their labor in projects to develop the infrastructure. These are social arrangements particular to an *ejidal* community such as Huixcazdhá, with very traditional usages based on the social participation of all members. To comply with these requirements, a sub-contracting system has been

developed where monetary compensations are exchanged when someone is not able to perform the community activities. This is an interesting example of how social arrangements indirectly allow for a redistribution of economic benefits among the members of the community, even for those who don't hold employment positions from San Miguel.

Thinking ahead, new economic alternatives to expand the capability set of people from Huixcazhdhá are under examination. Particularly, the development of social entrepreneurship ventures among the youngsters of the community is being supported by San Miguel and its partners. Some issues related to social entrepreneurship will emerge and the framework developed in the first part of this dissertation may be of use to identify the relevant aspects of the concept when it is applied to young entrepreneurs in a rural context.

The second instrumental freedom that was analyzed, social opportunities, and particularly education alternatives as an illustration of them, followed a similar path of development to that of economic facilities. When San Miguel first arrived in the community, only the elementary school was established there. The few adventurous who wanted to continue with middle studies had the alternative to enroll in the neighboring middle school that required a one hour walk up and down every day or to move to a larger community with relatives who were willing to host them.

After some lobbying with the municipality, the kindergarten and middle school were opened, expanding the primary assets, capability set and achieved functionings in the community. Once infrastructure issues were resolved, a new concern arised around education: quality assurance. The community became aware about shortages in the quality of the education provided particularly in kindergarten and middle school and observed as possible solutions helping to secure committed teachers in their schools, participating in the improvement of their spaces, and getting actively involved in their activities. The social arrangements in the community started to include the participation of parents with schooling children in the educational life of the institutions and the involvement of all the community in projects to improve their physical infrastructure.

The involvement of external agents has also been relevant in the issue of education. Firstly, the government that hosts the education ministry has been a relevant player in deciding to open the new schools and granting funds in programs such as *Escuelas de Calidad*, described in the previous chapter. Next, Tecnológico de Monterrey has also been a relevant partner in the issue of education. With support from this university and under its educational model, Huixcazhdá managed to open a Community Learning Center that offers an on-line high school program that now offers the opportunity to continue studies after middle school without leaving the community. Additionally, it offers a number of training courses in very diverse topics such as English as a second language, basic computing skills, entrepreneurship, among many others. Furthermore, and also with the support of this university, other international institutions have added to the efforts around education with programs like the summer internship of international students that aims to offer practical courses to the children of the community and research projects that look for new ways to improve the community such as the ones started with Yale University and the University of Waterloo.

These examples highlight the role of distributed agency as understood in chapter two, with an idea that can be summarized by Whittle, Suhomlinova and Mueller (2011): “Distributed agency implies the involvement, interaction and conjoint activity of multiple actors and reflects the social structure and context, as they affect the distribution of agency throughout the system” (p. 551). The relevance of this participation is reflected in the social structure and context of the community that has expanded its capability set by summing up its efforts and social arrangements to improve its educational spaces since they place very high relevance on this aspect as a significant factor to improve the alternatives for their new generation.

In both instrumental freedoms from the capability approach (economic facilities and social opportunities), the analysis provided in this dissertation proved a high relevance of its conceptualization as a cyclical process where means and ends inform and reshape each other in a situated interdependence following a pragmatic point of view. Understanding how the previous capability set was shaped and how the different social arrangements provided by the community and the different agents that provided support in expanding its freedoms were integrated informs with high relevance the

future decisions that may be taken to further expand the freedoms that the people from the community enjoy.

## **6.3 Contributions of the research work**

### **6.3.1 Contributions to the body of knowledge**

Extending the theoretical exploration posed in research question 1 and answered in the previous section where each of the bodies of knowledge was scrutinized with the light of the case study, and their main elements found in the empirical data were highlighted, this section seeks to push forward the theory and analyze whether the three conceptual elements that informed the research journey present common elements to establish a bridge among them in future research endeavors. At the beginning of this dissertation this idea was expressed and a conceptual hypothesis was established at that moment stating that pragmatism would be an integrating element among the three. The empirical evidence found in the research allows to establish some relevant links between each pair of concepts and among the three of them. These links are discussed in the following paragraphs as the contribution of this dissertation into the body of knowledge.

Logically, the two elements that share most commonalities are Social entrepreneurship and the Capability approach to development. Coming back to the foundations of the capability approach, according to Sen (1999) the final end of development is enriching human life. The way this idea is interpreted by some academics relates to an increase in well-being, justice and development (Robeyns, 2005) or to enhancing the living conditions and the status of human beings (Alkire, 2005). In any case, according to this approach, freedom is reached when the capability set of a person is increased and allows her first, to solve her most basic needs, and as they are fulfilled, to next obtain better levels of wellbeing according to her values. On the other hand, social entrepreneurship implies the creation of organizations or practices that yield and sustain social benefits. A strong emphasis was placed on the analysis of this concept on how the social vision that is sought by social entrepreneurs should capture a collective purpose, be transformatory, and have widespread reach. Other forms to understand these elements of the vision may very well use the concept of the final ends of development of a specific

target group of people. In this sense both concepts, social entrepreneurship and human-based development, seek the same final objective: improving the well-being of a group of humans, specifically those who suffer from some kind of deprivation.

With this common element bridging the two concepts, social entrepreneurship may benefit from the capability approach by analyzing and understanding the needs of a social group and by establishing actions based on the concepts of human-based development to establish the strategies to be implemented in the social ventures that are undertaken. Also the concept of a cyclical process of enhancing living conditions by expanding primary assets, the capability set and the achieved functionings of a social group, may shed light to ensure the sustainability of the venture in the long run.

On the other hand, the capability approach may use some elements from the social entrepreneurship concept in the development of strategies that aim at the expansion of the capabilities of the target group. Particularly the spirits of entrepreneurship (opportunity seeking and recognition, resource mobilization, and risk tolerance) with the many experiences that have been documented may provide relevant strategies on how to implement initiatives based on this approach. Furthermore, the personal characteristics of the entrepreneur (innovativeness and more importantly, ethical fiber), must be building blocks of the initiatives, regardless of who the implementing entity may be (a person, a government agency, or a non-governmental organization).

After establishing a relationship between social entrepreneurship and human-centered development through the ultimate end that both concepts seek, this idea of taking actions to improve the wellbeing of a group may also be found when Knowledge management practices are extracted from the organizational arena and taken into the societal realm, as in the intention of knowledge-based development. Following the example from the case-study, San Miguel defined a mission completely integrated with the community it operates in, and its successful knowledge practices are extrapolated into the social endeavors it takes to improve the conditions of Huixcazhdá and other targeted groups. In the notions of Nonaka, Toyama and Hirata (2008) the *ba* from the company interacts with that of the community in a multilayer model. However, in the case study, company and community are so integrated with one another that one can



almost see no boundaries between their corresponding *ba*. This empirical evidence takes the ideas of the multilayered *ba* and the role of the environment in the knowledge base of a company from Nonaka and associates one step further and proves that if the mission of the company truly seeks to address a social purpose, the knowledge practices within the company strengthen the relationship with the community and are also relevant in the execution of the activities that the company undertakes to fulfill its mission.

Regarding the rest of the components from the knowledge-based firm, two elements are fundamental to establish a link with social entrepreneurship and human-based development: knowledge vision and driving objectives. The experience from San Miguel shows that the knowledge vision of the company may reflect a complete integration with the social cause that it seeks and its full commitment with the development of a target group of people. Moreover, the driving objectives integrate the different policies that serve to achieve, in practice, the different elements of the link with the community. Additionally, the driving objectives should adjust through time taking into account the changes in capability sets that have been achieved by the targeted group and the new alternatives that are open thanks to the expansion of capabilities of its inhabitants.

The relationship of the three concepts as expressed in the previous paragraphs may well be taken forth following some pragmatic principles. First, understanding that means and ends are two interrelated concepts that deserve a situated analysis and reflection based upon the idea that they inform and reshape each other. Second, utilizing the pragmatic spirit of bricolage as a process of making-do with the resources at hand. Thirdly, incorporating the distributed agency concept, which implies that relevant ends are accomplished thanks to the integration of multiple agents with different levels of participation and commitment. And fourthly, with a phronetic spirit of situated rightness in the actions that are taken to reach a state of increased wellbeing.

### **6.3.2 Contributions from the empirical investigation**

The second research question posed in chapter one referred to the empirical investigation that was designed. This question was: RQ2: How can the case of development of Huixcazhdá, Mexico, in its relationship with the company San Miguel,

be understood from a pragmatic point of view and with the theoretical background provided by Development theory, Knowledge management and Social entrepreneurship?

With this question as a guiding element, the empirical evidence from this case proves that it is possible to successfully establish a company that is completely integrated into the knowledge society (with all the knowledge implications that this means) in a rural context, where typically the existing human resources and physical infrastructure do not match the requirements of a world class organization. The most important element to be successful is the company's commitment to do so (with the compromising tradeoffs between economic and social values) and the integration of the social realities into its mission and core objectives. Next, a number of knowledge practices must be adjusted to overcome the shortcomings in infrastructure and human resources that may be found. According to the case study, spirits of pragmatism such as learning in action, in social contexts and with solidarity, are strong ideas that could be implemented to solve these deficiencies.

This commitment with the social cause that a company embraces can be understood through elements from social entrepreneurship, since in the case of San Miguel the personal characteristics of Benito Manrique have been the founding stones for the company since its inception and through all the stages that it has undergone. According to the evidence, the ethical fiber of the leader is a fundamental pillar for the success of the company. Particularly, issues of compassion that integrate reflection and practice proved to be a relevant descriptor of how a social problem that is detected and resounds with the personal history of the entrepreneur is transformed into an entrepreneurial journey that implies a great opportunity for a whole community. This pragmatic spirit of giving preeminence to actions and reflecting upon its consequences as a source of learning with a phronetic situated rightness has also been relevant in the journey described by the case study.

Finally, the human-centered ideas of development provided by the capability approach emerges from the evidence as a relevant way to conceptualize freedom within a group of people and to act upon the expansion of their capability set as a way to expand the

options that are open to increase their wellbeing through the activities that a company performs to fulfill a social mission. The cyclical nature of a process of having a set of primary assets, that constitute a certain capability set, that in turn allows to achieve a vector of functionings, that increase the original primary assets, with the participation of a number of actors (the social company, government efforts, academic partners, business associates, among others) in diverse stages of the process, captures the behavior observed in Huixcazhdhá, and has worked thanks to the communion of objectives from all participants towards improving the wellbeing of people from the community.

### **6.3.3 Contributions to practitioners**

Research question number three directs the attention to the lessons learned from the experience that may be replicable in contexts different from the case study. In chapter three, where case study as a research methodology was argued for, and particularly the reasons to opt for a single case study were presented, the uniqueness of the case was used as a strong argument. It was stated then that the case of this company is very particular, and through the description of the case and its analysis, this uniqueness stood as a characteristic that makes it difficult to replicate. The conditions of the community in the nineteen eighties and later, the personal journey of the social entrepreneur, the diversity of actors that arrived at different stages of time, and in general, all the circumstances presented in this analysis are nearly impossible to recreate in other contexts.

However, the lessons learned from the case permit the extraction of a group of conclusions that may be relevant to policy makers who design initiatives to promote development and also to non-governmental agencies that work in the field. First, the relevance of supporting bottom-up initiatives emerges. In contexts of industrializing economies, and in the Mexican case in particular, government programs towards development tend to maintain a top-down nature. These initiatives, as discussed in the development section of chapter two, have created a more unequal situation, in many cases fail to reach the targeted populations, and when they do, they imply actions that only mitigate the social problems in the short run. On the other hand, when bottom-up initiatives target the development of a person's capabilities, have a sustainability effect

that lasts permanently, and imply a true expansion of the capability set of a group of people, their effectiveness is larger and their effects are long lasting.

Secondly, a key element in the success of San Miguel in Huixcazhdhá is the anchoring of the social causes to a successful economic activity. A good lesson from the case proves that rural environments may host world class companies provided that there is a true commitment from the company towards the improvement of the wellbeing of the community (there is a balance between its commercial and social purposes), the company is willing to be patient and to implement knowledge practices that overcome the natural limitations of these environments, and a number of actors are willing to contribute to the social cause. By promoting the establishment of this kind of ventures in rural areas a number of advantages are obtained; among them we can identify the relief of economic problems of the community through direct and indirect employment, promoting a simpler style of life respecting the community traditions, achieving a balance between economic and personal wellbeing through the concept of 'simple living', allowing harmonious development of infrastructure that comes from the presence of such companies, a sustainable symbiosis between the company and the community, among others.

Thirdly, the identification and support of true social entrepreneurs may have a great impact on solving the social issues that are currently left unattended or under attended. The experience from Benito Manrique proves that when motivations are correct, foundations are strong, and ethical fiber is robust, the results of a social venture may be of great benefit to solve some of the most pressing social problems. Support to social entrepreneurs should not only be granted when stories have proven to be successful. The journey to success has a number of difficulties that may be solved if they are identified at the right time and supported by external agents.

Finally, actions may be taken to bring together persons, academic institutions, companies, government bodies and nongovernmental organizations with common interests to join efforts to be more efficient in solving social difficulties. The case study proved that the distributed nature of agency is very effective in creating synergies towards a common goal. However, the empirical evidence also shows that on many

occasions, the actors come across each other by chance. If serious efforts are implemented to bring actors together to share their interest and networking opportunities are created purposefully, the sum of efforts may come at an earlier stage and with agents who are more complementing and provide a better end result in the social venture that is sought.

#### **6.3.4 Contributions to other fields**

Two additional contributions from this research work are identified: To methodology and in relationship to pragmatism. When discussing the implementation challenges from the three areas of knowledge it was stated that a number of authors are calling for the use of qualitative inquiry in a multidisciplinary context as a form to extend the boundaries of the fields. The present research work used both elements in its design: a qualitative approach and a multidisciplinary approximation. The conclusions obtained in this dissertation present an optimistic picture of how these two elements may offer results that expand the body of knowledge and that open new avenues for future research from solid foundations. Furthermore, pragmatism as a research philosophy also helped to provide light in the research journey. This dissertation, having used this research philosophy, intends to support the spirits that it advocates: methodological diversity and pluralism as a means to contribute to social sciences, reflection of actions and consequences instead of a 'spectator's theory' of knowledge based on abstract concepts or pretended absolutes, and the possibility to open up alternative scenarios through the researcher activity of challenging his presuppositions, and using an imaginative and emancipatory effect.

Finally, the application of concepts of pragmatism as a way to make sense to empirical observations could also be considered a contribution of this research work. Their particular applications related to the three areas of knowledge used in this dissertation were stated in the findings section of this chapter. However as general notions, the spirits of pragmatism that were present in the analysis are, by themselves, concluding elements of how this philosophy may be applicable in contexts of knowledge and development. These main ideas of pragmatism are bricolage understood as the ability of making-do with the resources at hand, using them for different purposes than they were originally planned; a pragmatic notion of agency, where agents are in control of

their future through the idea of path creation, and with the support of other agents with different levels of involvement; and phronesis, understood as situated rightness that requires strong ethical foundations to be applied in action and reflected upon as a basis to build knowledge.

#### **6.4 Limitations of the research work**

The first limitation identified in the present research work relates to the issue of generalization as discussed in chapter three, corresponding to the methodological design. Case study as a research strategy has received a number of criticisms related to the limitations that cases carry when trying to generalize their findings. Particularly the use of a single case has been discarded as a possibility for theory building by leading authors (Eisenhardt 1989 and 1991). These criticisms are valid if we assume that the only possible contributions to knowledge come from theory building. Flybjerg (2006) refutes this conception and gives preeminence to context-dependent knowledge that comes from situated experience and provides the example of the activity of experts that is charged with this kind of knowledge (tacit knowledge, in the context of knowledge management). Furthermore, the process of knowledge creation according to pragmatists follows a situated and reflexive understanding of the elements that produce action and about their consequences, which implies relying on empirical evidence. Going along with this train of thought it was stated in chapter three that the purpose of this dissertation was not to generalize with the intention to build theory from the experience captured in the case that was studied. Instead, the main objective of this research work was to present a detailed and vivid account of the case studied to extract valuable conclusions that may be used to validate conceptual theories from three academic areas, to provide empirical evidence that may show how these areas may inform each other to provide a better account of different realities, and to identify new areas of inquiry that may have not received enough attention to date. In spite of these objectives that gave direction to the data gathering, analysis and conclusions of the research journey, it is necessary to state that the context of the case study is rather particular, and the combination of variables that gave shape to the story of development of Huixcazhdá is very specific. This limitation implies that any attempt to replicate this experience should be done with many reservations and using the main spirits extracted

from the conclusions, but assuming that the context will be different and a number of adjustments shall be fundamental.

A second limitation in this dissertation relates to the use of three bodies of knowledge as guiding elements for its analysis. Being three separate areas that so far have not been investigated in relationship with one another, the analysis of each one was done trying to identify the most important characteristics related to the empirical evidence provided by the case. Surely, if each area would have been used separately for a more in depth analysis, richer conclusions could have been obtained. However, the objective to identify points of convergence between the areas would have been missed.

A third limitation is related to the nature of the data that was used in the case study. Particularly relevant in this issue is the data that cover the events of Huixcazhdhá from the historical perspective, that gives a relevant account of the development experience of the community. Although most of the ideas presented in chapter four (the case study) and in chapter five (analysis of the data) that correspond to the description of the community's and company's reality in the past come from facts that could have been tested through triangulation, some of them corresponded to memories of the persons that lived those realities, leaving a space for subjective bias in their explanation.

Nevertheless, none of these limitations decreases the relevance of the case studied and the richness of the data obtained. Neither do they present an impediment in the analysis and conclusions of the three bodies of knowledge used in this dissertation.

## **6.5 Directions for future research**

The richness of the empirical evidence from the dissertation, the amplexness of the three academic fields that were used as guiding elements in it, and the relevance of the integrating element in the dissertation (pragmatism) provide great opportunities to develop new avenues for research.

Related to the case studied, the data obtained in the observation period offer enough material to be used in other research works, with different academic fields and objectives in mind. The opportunity to contrast elements from a company (San Miguel) with community issues (Huixcazhdhá) may be of interest in the fields related to

organization studies and social studies, providing a good opportunity to take advantage of the observations gathered. One particular issue of interest that would require further observation and analysis in the empirical evidence relates to the sustainability of the development experience in the next generation both for the company and the community. One very important question that was posed by one of the interviewees and that would call for a new research design is what will happen when Dr. Benito is no longer with us.

In relationship to the second limitation expressed in the previous section, the data that was obtained may be used to further analyze each of the three bodies of knowledge. For example, the capability approach was scrutinized in this research work focusing only on two of the five instrumental freedoms (economic facilities and social opportunities) that Sen (1999) describes. A good exercise may be to use the empirical evidences to analyze the other three freedoms transversally to find commonalities that make the conclusions more relevant to the field of development theory.

The main findings in each of the fields may be used as a starting point to further develop them theoretically and in practice. In the field of social entrepreneurship, the individual characteristic of strong ethical fiber in the social entrepreneur emerged as a relevant element that has not been given enough attention in the current literature. Some particular question that may emerge from this issue is whether a strong ethical fiber is an inherent characteristic of an entrepreneur or it can be developed and trained for.

Related to the field of knowledge management the pragmatic spirits used in the analysis of the knowledge experience of San Miguel provided a relevant contribution. Further research may test the relevance of these spirits in different contexts and the exploration of other pragmatic elements that are relevant in the field. Furthermore, and extending knowledge management into knowledge-based development, the empirical evidence of a successful case of a world-class company located in a rural environment may be used to try to find other similar cases and their analysis may provide stronger conclusions as to the elements that are relevant in these experiences.

In the area of development theory, one of the important contributions of this research work was the cyclical framework that integrates means and ends in development. This



concept may also be used as a starting point to analyze other experiences of development and be connected to the idea of building cyclical bases of capability sets that expand the freedoms of people.

Finally, the interdisciplinary nature of this study and the relevance of the findings when integrating the fields prove that there is a room for supporting studies that integrate more than one academic field aiming to enrich their scope of application.

## **Afterword: A note on immigration**

One phenomenon that has been present through the development history of Huixcazhdhá and a very important number of Mexican communities is illegal immigration into the United States. The relevance of the phenomenon becomes evident in different sections of this thesis, particularly in chapter 5 where the development experience of the community is portrayed.

The complexity of illegal immigration as a phenomenon and its impact on the development of Mexican communities deserves an academic study on its own if one wants to draw conclusions that may shed light on how to deal with it in a more efficient manner; this was not part of the objectives of the present thesis. However, it is important to dedicate some lines to discuss the phenomenon in perspective of its role in the study presented in this thesis.

First, it is important to reflect on the fact that the way illegal immigration is treated in the analysis of this study may give the impression that the researcher supports it as a positive mechanism to achieve a better state of wellbeing for the community. Nothing could be further from the truth. Some reflections aligned with the connecting thread followed in the thesis may put the phenomenon into perspective: Initially, the rule of law is the milestone for living in society despite the fact that all laws have always room for improvement. For this simple reason, the illegal nature of immigration should discourage anyone from attempting it. Moreover, in the current juncture, after President Trump took office in the US in 2017, the illegality of immigration is giving many Americans a reason to vindicate acts against immigrants. This fact leads to the following argument that may be stronger: illegal immigration is life threatening. Encouraging someone to go through an experience that puts their integrity into danger goes against the very notion of humanism which is one of the cornerstones of pragmatism that has provided the philosophical background of this research work (refer to the notion of deep humanism expressed on section 1.2).

Next, bringing back the basic conception of pragmatism as the doctrine of acts and their consequences, the thesis has portrayed different strategies that San Miguel as a

company and Huixcazhdhá as a community have put in practice to provide support to those attempting to cross into the US with the main objective of making sure that they come back home in two to three years as a time limit. Some of them, from the company perspective, include providing social security to employees even when they have decided to illegally migrate into the US; offering back their employment after they have returned to the community; and helping their families who stay in Huixcazhdhá while they are in the US to have a reason to come back; among many others. From the community perspective, the practices that support this idea include waiving the financial contributions and exempting the communal labor requirements during the first two years after departure for those who are working illegally in the US.

Finally, and considering Amartya Sen's capability approach and the way it was understood in this research work as a cyclical process where means and ends interrelate with one another, the benefits that illegal immigration bring into the community allow for their inhabitants to expand their capability set and once they have achieved new functionings, their overall wellbeing basis is expanded. Currently, illegal immigration has proved to be an effective provider of economic benefits, but it does not have to remain the only means to improve their economic conditions. In general, the aims for the community and the company should point in the direction of discouraging people from Huixcazhdhá to try to migrate into the US by finding options that truly compensate the benefits that working illegally in the neighboring country brings at this time. Some innovative strategies along this line are under development in the community and company to avoid the need to rely on this phenomenon, such as the promotion of local entrepreneurship efforts that create a more dynamic local market as discussed in the thesis. With the concept of distributed agency as presented in this research work, different actors are already being integrated to work on this and other strategies that eventually will allow the community to stop relying on illegal immigration as a source of improved economic conditions. Many more could join the efforts to contribute in this very noble endeavor of improving the life conditions of those suffering from deprivation.

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## Appendix A. Structure of the project in NVivo

This appended section summarizes the use of NVivo Computer Aided Quality Analysis Software (CAQAS) as a tool used in the organization, compilation and analysis of the data used in the thesis. It first presents the different sources of data used and how they were organized in the NVivo file. Next, the section shows the nodes that were created and used in relationship with the different bodies of knowledge used in the thesis that eventually gave shape to the frameworks presented in Chapter 5 as analysis of the case-study. Following the presentation of the nodes, this appended section shows as a conclusion the summary of codification that presents the relation of all data used in the thesis with the codes generated in the process.

### A.1 Organization of the sources of data

Chapter 3 of this thesis presented the research methodology that gave shape to the research journey that led to this document. Section 3.4 of this chapter described the case-study database as it was organized by compiling all documents, observations and interviews obtained in relationship with the company, its social activities and the community it serves. The following NVivo report presents the integration of all sources of data into the file that was produced in the process. It is presented as produced by the software; the titles are shown in Spanish, since this was the language used to setup the version of NVivo used in this dissertation. The report shows the information using the following headings: *Tipo de recurso* – the type of resource presented. *Nombre* – the name of the resource. *Descripción* – a brief description of the resource. *Número de referencias de codificación* – the number of coded references that the particular resource produced. *Número de codificación de nodos* – the number of different codes where the resource was used when coding.

**Table A.1. Data sources as they were introduced in NVivo**

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# Recursos

Tipo de recurso	Nombre	Descripción	Número de referencias de	Número de codificación de
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## Audio

HX04 20130505 074501	Asamblea Comunitaria: Monthly Community Assembly. They review community projects and take decisions related to the whole community	15	5
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## Document

DIARY_FEB_MAR	Reflections on the activities performed at SM during the first couple of weeks	33	16
EXE01 01	Exchange of Experience Sesion. Visit from social entrepreneurs and producers from Oaxaca. Feb 28, 2013	82	33
EXE01 09	Group dynamic: Exchange of experiences around social entrepreneurship and solidarity	62	21
EXE01 OAX TRIS	Exchange of experiences with Oaxaca Entrepreneurs Feb 28	88	29
EXE02 CYCLE_CLOSE	Two sessions for exchange of experiences: One around cosecha and another around post cosecha	136	22
HUIX_GRAL	Observations and comments. Cast system, Social entrepreneurs	48	17
HX04	Community Assembly. A monthly meeting (first Sunday of the month) were all the "citizens" attend (ejidatarios and varones exclusively).	83	18
INT 00		27	12
INT 01		122	34
INT 02		107	27
INT 03		40	20
INT 04		100	25
INT 05		18	14
INT 06		59	24
INT 07		91	26
INT 08	Apolinar Martínez	36	16
INT 09		28	14
INT 10		101	16
INT 11		26	13
INT 12		69	24



INT 13		20	9
INT 14		48	22
INT 15		73	22
INT 16		82	21
INT 17		45	20
INT 18		49	24
INT 19		47	15
INT 20		38	21
INT 21		64	26
INT 22		82	18
INT 23		39	16
INT 24		62	22
INT 25		28	15
INT 26		44	18
INT 27		73	25
INT 28	Rosario Martínez Yáñez	100	26
INT 29	Dr. Benito Manrique.	261	38
INT 30		56	18
INT 31		35	9
OABC	General Operations of Social Projects under ABC strategy	245	42
OSM HRM	Comments around Human Resources Managemen practices in San Miguel	56	14
OSM PROD	Observations and comments around production activities	75	19
OSM QUAL	Observatios and interviews related with quality. Two certification process involved: Kellogg annual supplier certification and external certification	120	27
OSM_TRAIN01	Training process around automobile mechanics	15	11
OSM03 R&D	Observations around Design of new products (R&D Department)	55	16
PART_DRINK	Visit from Nestlé officials, looking for sourcing for a ready-to-drink product based on amaranth	127	25
Producción de Alimentos en los	Speech delivered in a national congress	0	0
PSM00 THX	Doctor Manrique receives a letter from a young man who suffers from cancer and has recently used amaranth and experienced a great improvement in his quality of life.	17	10

PT_HIST_NEW	Observations and comments on Pequeña Tribu	90	23
STP_UNIV	Interactions with current and potential strategic partners	422	45

## Imagen

EXE_0010	Session of commonalities in the exchange of experience of Oaxaca's visit. ABC's official facilitates the process of reflecting about what is solidarity economy and how each	4	4
EXE_030613_10.46	In the exchange of experiences, the first visit was made to Huichapan's plot (Piña-Huerta). One of the most successful of the cycle	3	3
EXE_040	A visit to the plot of one of the local producers that decided to test amaranth this year. The framework is the exchange of experiences of diverse	5	5
EXE_052	Lecture on Amaranth by Dr. Eduardo Espitia Rangel. Leading researcher on the topic. At the time he was Regional Director of Research at INIFAP: Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias. The lecture was a part of the exchange of experiences with presence of producers and promoters of amaranth in Oaxaca Huichanan San José	4	4
EXE_070	At the end of the Exchange of Experiences, diplomas are handed to the various actors that participated	3	3
EXE_102_6683	Showing the community to the visitors.3 Splitted into groups and each one is lead by boys and girls from the	3	3
EXE_102_6693	One of the few stone-made structures that still are used in Huixca. The family tells stories about now and then	3	3
EXE_102_6934	First visit of Mujeres de Nopala group to San Miguel. Doctor Manrique showing the evolution of their poppers	2	2
EXE_1340	Group from Oaxaca. Upon arrival, they introduce themselves by giving presents that are relevant to the life from their community	3	3
EXE_6740	Dr. Manrique shows in the field the cautions that must be devoted to amaranth during the exchange of experiences	4	4
EXE_6747	Different varieties of amaranth in the plot of a first-cycle producer. During the first cycle SM advices to try at least two different varieties in a small plot (1 ha max) to get to know the amaranth and gain different experiences	3	3
EXE_6759	During the exchange of experience, when visitng one plot, the producer explained that his technique to keep	4	4

	predators away from the plantation implies growing particular plants (anis) in the external forrow. Other		
EXE_6767	Ladies from Nopala present their findings in cooking using amaranth during the exchange of experiences	3	3
HX_1428	Community's assembly: The two main authorities: Delegado and Comisariado Ejidal present the agenda for the	2	2
HX_1433	Community's Asembly. Mothers from kindergarden ask for financial support to the assembly to improve the conditios of the playground of the school. They have spotted snakes because of the current materials	3	3
HX_1445	Community's assembly: After two or three hours and in a topic that is of interest they come closer to participate in the discussion	2	2
HX_1471	Huixca's Kindergarden. Notice the variety of working materials and the good state of tables and chairs	3	3
HX_1631	Street paving project in the community. Tha citizens participate in the "fainas" scheme	3	3
HX_1636	Diploma awarded by the State Government's Comptroller Office as a recognition of accountability in the use of resources in a community project: street's paving	2	2
HX_1637	A mural painted in the clinic by a group of children. Shows what they value: health and family. Amaranth (or any plant) is present in the center of the	3	3
HX_1645	From CSR programs (HSBC) a poster that shows what "developeemnt" should mean to women. Poster pasted in the health clinic	4	4
OABC_1010003	ABC Project: Developing the group of Nopala's Women.	3	3
OABC_102_7767	One of the group of TriSis with their entrepreneurial project: Desserts based on amaranth.	3	3
OABC_1060002	ABC Project: Young boys participating in the seeding of amaranth "plántula"	3	3
OABC_1060055	ABC Project: Follow-up process with local producers. Gathering of quantitative information	3	3
OABC_1409	Training process as part of ABC's strategy: Teaching women from Nopala recepies that use amaranth	4	4
OABC_1410	Women from Nopala learning to incorporate amaranth into their family diets. The result is innovative and creative dishes	2	2
OABC_1580	A workshop conducted byTec's students during the summer: Aerobics. They put a show that is presented to the community at the end of the	3	3
OABC_1592	A workshop conducted by Tec students in the summer: Young girls representing what a "nice"	3	3

OABC_1619	One of the workshops conducted by Tec and International students during the summer. Young guy's respond well to soccer.	4	4
OABC_1635	Banner that presents the experience of weighing program and its impact in infant's malnutrition. The banner is displayed in the community's health	4	4
OABC_1650	Showing how to separate the amaranth seed in the dried plants. First stage of "paleo".	2	2
OABC_1654	At the end of the agricultural cycle the following step is to dry the plants and extract the seeds of amaranth. This is the training session conducted at San Miguel that includes all the actors of the cycle: Producers, Women from Nopala. Potential new producers	3	3
OABC_1655	The training of how to clean the dried plant to keep the seeds. A procedure that may be used with very simple components and that is the result of empirical experimentation. The people present suggests improvements based on their experience of cleaning other	5	5
OABC_1663	In a training session, Dr. Manrique shows the official records that keep knowledge of the varieties of amaranth and the different levels of cleaning that are used in the official NOM in Mexico's agriculture department. The norms were developed with the information	3	3
OABC_1665	In the cleaning process, the magnet cascade is their own solution to the issue of metal residues in the seed of amaranth. This issue was brought to their attention from Kellogg	3	3
OABC_170513_11.38	ABC Project: Liliana Mendoza Mafara, head of Utopía Huixcazhdhá, lectures on amaranth's proprieties	2	2
OABC_1963	The group of students from Yale begining their assignment in	3	3
OABC_250313_10.39	ABC Project: Development of local producers. First stage implies training on planting and providing "plántula". A combined group from the local producer and workers from San Miguel	3	3
OABC_2571	A town fair in Oaxaca. Nearby communities gather to share culture, traditions. The mini-popper is presented as an alternative to local	6	6
OABC_2685	The local festivity in Oaxaca. Their cosmovision integrates all daily activities into their own purpose of	3	3
OABC_6871	The group of students from Yale, Harvard and Tec de Monterrey begining their assignment in	4	4
OABC_6872	Primary school children doing homework in the CCA	3	3
OABC_8562	Summer workshop: Pottery. Conducted with the collaboration from Tec and ITESHU	3	3

OABC_A2802	ABC Project. Huichapan's festival. Lecture on amaranth's proprieties by Liliana and Alma (promoter)	3	3
OABC_A3070	ABC Project: Follow up with one of the local producers	3	3
OSM_038	Apolinar, from the maintenance team, using AutoCad 3D design software. Showing his designs to Ricarda, head of R&D, regarding the machinery needed to produce amarantojitos, the new product fully developed in-house	4	4
OSM_039	The workers from San Miguel, checking with Dr. Manrique's which outfit should be worn by baby Jesus	3	3
OSM_102_5088	A group of secondary school students visiting the plant. Ready to enter the production facilities and learning about the symbolisms that baby Jesus and the smurfs represent.	3	3
OSM_1333	One of the many training sessions conducted by Dr. Manrique	3	3
OSM_1343	Begining of production of Amarantojitos. Production facility "rented" form the town's auditorium. Production process not really	3	3
OSM_1350	Second generation mini popper. Derived from the industrial model, first generation used exclusively electricity. Problems arouse from the need of special electric supply that is not present in rural communities. Second generation uses gas to overcome the	4	4
OSM_1361	Production: Packing of food supplements. The machine presents a problem of allingment (bags do not come out even). The lady on the left is teaching the "tricks" to solve the issue	2	2
OSM_1364	Packaging: QualControl implies weighing each bag. The red bucket are rejected bags (machinery problem)	3	3
OSM_1379	Certification Visit. Certified by LRQA unde HACCP. Two auditors and the coordinators present in the process. At the background, the quality records	4	4
OSM_1388	Press-punch process to manufacture mazapanes. Records are kept as for the time and quantity of production related to numbers of in-progress lots	3	3
OSM_1389	Visual aids in popping area. In terms of quality: Critical points of Control identified. In terms of communication: smurfs try to create a friendly	3	3
OSM_1390	Working station in popping stage. Visual aids that support the weighing and recording process. Every 20 minutes a sample is processed and	2	2
OSM_1391	Popping process. Industrial popper that was used as model to develop the mini-poppers	1	1
OSM_1392	A note left to the new shift. They do not know who will be performing this activities in the new shift	2	2

OSM_1393	A record sheet to control popped amaranth. One of the most difficult tasks (according to the workers). They must sample every 20 minutes and control weight, mass and realte to lots numbers to assure full traceability	3	3
OSM_1626	R&D experimental book: Measuring viscosity of a liquid. Their own measures and benchmarks resulting from experimental activities. This report avoids the need for a "industrial machine" that costs a couple of	4	4
OSM_1627	R&D bood: Design of an experiment: Theoretical background, related experiments.	3	3
OSM_1668	The parable of the ship's captain. Having the chance to overlook everything that represents San Miguel from an altitude, and knowing that in the future a new captain may arrive.	3	3
OSM_1964	The cartoon of the smurf to capture attention when passing important information	3	3
OSM_1965	Information about hygene to be applied in the common shower room. To the long explanation there is always the smurf to smooth the message	3	3
PSM_1404	The technician expert in mechanics that takes care of the automobiles of the company teaches a group of workers (those who own or have owned a car and those who are allowed to drive the company's cars) the basics of automechanics	4	4
PSM_1405	Basic course about auto mechanics. Workers take notes and practice the concepts	3	3
PSM_1422	Group dynamic to develop a new instrument to assess job's	3	3
PSM_1426	Team dynamics: Development of a new instrument for assessment	3	3
PSM_1629	Symbolism: Baby Jesus with his different garments. Each smurf representing a milestone in the	3	3
PSM_1630	Symbolism: Dr Manrique presenting the different outfits for baby Jesus. Keeping the image as a form of respect to the beliefs of the local people	3	3
PT_1469	Pequeña Tribu: New generation learning the production of Mobys. Freddy, from PT's previous generations, theaches them the	4	4
PT_1628	Meeting of the new generation Pequeña Tribu (Gen 5) with a member of PT Gen 1 and a leader in San Miguel (Rosario Martínez)	2	2
Comunidad_Fraterna (20-07-2013)		16	9

PDF

Congreso_AGROBIO- (21-03-2013)	Conferencia impartida en el Congreso de Agrobiotecnología de la UAEH	14	5
Consultants Report Summary	Summary of the Report submitted by an international consultant on the value chain of amaranth. A process that took several months and integrated the main actors in Mexico	0	0
Nueva_Cultura_Empr endedora-(04-09-2013)_(ITESM_Edit-	Conferencia impartida en Congreso Sinergia y posteriormente a clase de Innovación en el Tec de Monterrey	45	16

## Video

EXE_OAX	Exchange of Experiences with producers from Oaxaca (ABC project). Wellcoming words from Dr. Manrique	5	5
STP_1478	Presentation of the SE project from Mujeres Emprendedors de Huixcazhdhá (All-natural egg) at Tec de Monterrey	4	4
STP_Denisse Marker	Video presented at Televisa by Denisse Maerker	20	13

## A.2 Nodes used for coding

The following NVivo report shows the organization of nodes used in the coding process. Coding generation is a circular process. The report shows the final organization of the nodes, which was a result of several adjustments and reflects the bodies of knowledge as presented in Chapter 5, the analysis section. The headings from the report are: *Resumen de Nodos* – Summary of the nodes. *Nombre* – the name of the node. *Número de recursos codificados* – the number of different resources that provided evidence to this code. *Número de referencias de codificación* – the number of coded references that the node has. The report presents in the first section the nodes at the first level (the most general). The next section expands each node as a tree showing its different branches at the second, third and fourth levels (for those nodes with that many levels).

**Table A.2. Organization of nodes in NVivo with number of references**

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## Resumen de Nodos

Nombre	Número de recursos codificados	Número de referencias de codificación
Amaranth	7	58
Community Development	0	0

Knowledge Creating Company (San Miguel)	3	4
Migration	32	188
Social Entrepreneurship	1	1

## Nodos\\Amaranth

Nombre	Número de recursos codificados	Número de referencias de codificación
Academic Knowledge	6	23
Growing	26	90
Nutritional aspects	33	80
San Miguel	11	46

## Nodos\\Community Development

Nombre	Número de recursos codificados	Número de referencias de codificación
Capabilities	4	8
Huixcazdhá Community	1	1
Other communities	20	29

## Nodos\\Community Development\\Capabilities

Nombre	Número de recursos codificados	Número de referencias de codificación
Economic conditions	39	174
Formal education	44	158
Future	30	76
Gender issues	2	2



Health	35	119
Limits to developing capabilities	5	5
Simple Life	3	10
Social interactions	55	167
Working conditions	29	79

### Nodos\\Community Development\\Huixcaz dhá Community

Nombre	Número de recursos codificados	Número de referencias de codificación
Benefits	33	76
Comparison with other places	28	69
Conditions	37	93
Family interactions	31	134
Individual vs social	2	9
Oportunities for improvement	21	56
Organizing	39	198
Working	10	14

### Nodos\\Knowledge Creating Company (San Miguel)

Nombre	Número de recursos codificados	Número de referencias de codificación
Ba	36	104
Driving Objectives	30	66
Environment	0	0
Knowledge Conversion Processes	29	119
Knowledge Vision	2	3

Mission and Vision	33	95
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**Nodos\\Knowledge  
Creating Company  
(San  
Miguel)\Environment**

Nombre	Número de recursos codificados	Número de referencias de codificación
Partners	22	99
Pequeña Tribu	20	79
Social Entrepreneurs	14	49
Social Projects	68	228

**Nodos\\Knowledge  
Creating Company  
(San  
Miguel)\Knowledge  
Vision**

Nombre	Número de recursos codificados	Número de referencias de codificación
Bricolage	13	22
Difficulties in learning	19	35
Phronesis	32	110
Sources of formal learning	15	17

**Nodos\\Knowledge  
Creating Company  
(San  
Miguel)\Knowledge  
Vision\Bricolage**

Nombre	Número de recursos codificados	Número de referencias de codificación
Anticipation	1	2

Economizing	11	18
Learning by experimenting	33	82
Learning by observing	6	14
On the work training	25	35
Problem solving	25	59

**Nodos\\Knowledge  
Creating Company  
(San  
Miguel)\Knowledge  
Vision\Difficulties in  
learning**

Nombre	Número de recursos codificados	Número de referencias de codificación
Missed opportunities	2	2
Resistance to change	3	4

**Nodos\\Knowledge  
Creating Company  
(San  
Miguel)\Knowledge  
Vision\Phronesis**

Nombre	Número de recursos codificados	Número de referencias de codificación
Challenge	17	26
External recognition	10	14
Interest on learning	30	56
Internal competition	7	8
Other work experiences	16	25
Sharing experiences	3	29

**Nodos\\Knowledge  
Creating Company  
(San  
Miguel)\\Knowledge  
Vision\\Sources of  
formal learning**

<b>Nombre</b>	<b>Número de recursos codificados</b>	<b>Número de referencias de codificación</b>
External training	9	16
Formal methodology	27	67
Relationship with experts	27	67

**Nodos\\Social  
Entrepreneurship**

<b>Nombre</b>	<b>Número de recursos codificados</b>	<b>Número de referencias de codificación</b>
Creating and Sustaining social value	17	42
Development of the Social Vision	27	124
Personality of Entrepreneur	1	2
Traditional business decisions	10	70

**Nodos\\Social  
Entrepreneurship\\Crea  
ting and Sustaining  
social value**

<b>Nombre</b>	<b>Número de recursos codificados</b>	<b>Número de referencias de codificación</b>
Actions for infrastructure	3	3
Actions to develop people's capabilities	3	4

**Nodos\\Social  
Entrepreneurship\\Dev  
elopment of the Social  
Vision**

Nombre	Número de recursos codificados	Número de referencias de codificación
Failures	5	10
Successes	2	3

### Nodos\\Social Entrepreneurship\\Personality of Entrepreneur

Nombre	Número de recursos codificados	Número de referencias de codificación
Daily life	3	10
Ethics	16	51
Leadership	35	110
Passion	2	13
Personal references	17	178
Social capital	13	37

### A.3 Summary of codification

The following document is an excerpt of the report produced by NVivo that shows all coded references in the project. It presents for every code the different texts of coded information with the corresponding resource. The headings in the report are as follows: Nodos con recursos – Nodes with resources. Nombre del nodo – Name of the node. Nombre del recurso – Name of the resource. Texto codificado – Coded text. The first pages of the report are presented here, since the full report contains more than 400 pages.

Table A.3. Excerpt of coded references in NVivo

16/04/2017 12:03

## Nodos con recursos

Nombre del nodo	Nombre del recurso	Texto codificado
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Academic Knowledge	EXE_052	
	EXE01 OAX TRIS	después llegó otra vez Puente y nos impartieron un taller del consumo en hojas y semilla y la forma en la que se cosecha. Ahí fue cuando comenzamos a participar como productores
	EXE02 CYCLE_CLOSE	Les voy a compartir lo que he hecho en 30 años sobre recursos genéticos, variedades que existen.
	EXE02 CYCLE_CLOSE	Como manejaron malla cerrada debieron haber dejado grano grande en sus mermas. Se podría buscar no para aumentar la producción, sino para buscar esas semillas para germoplasma. [A Javier]: sería muy bueno ir hoy mismo a traer unos 50 kilos para buscar qué tanto grano tuvieran todavía.
	EXE02 CYCLE_CLOSE	Tiene su chiste, es como hacer pan. Cuidado con temperatura, luz, pH. Estiércoles más ricos y caros: gallinaza (20-50% de N; 8-40% P; 6-20% K.). Por eso aplicar humus es aplicar la fórmula completa de fertilizantes químicos. También se puede usar como fertilizante harina de sangre (sangre seca de mataderos), harina de pescado, hueso molido. La cantidad de NPK depende mucho de las condiciones socioeconómicas y agroecológicas de cada lugar.
	EXE02 CYCLE_CLOSE	Ahí se la pasan dando vueltas en el ciclo virtuoso los elementos minerales: Animales, cultivos, cosechas, desechos orgánicos, animales, abono orgánico
	EXE02 CYCLE_CLOSE	Estudios propios muestran que no hay diferencia económica entre aplicar 0kg de nitrógeno o 160 kg de nitrógeno (mejoras 45% de rendimiento, pero debes hacer el cálculo económico; además que al aplicar mucho se empobrece el suelo).
	EXE02 CYCLE_CLOSE	El Doctor presenta: Eduardo Espitia Rangel. Es la persona que más nos puede comunicar en torno a conocimientos agrícolas tecnológicos de amaranto. Ya vimos la parte práctica, los cultivos, esta es una presentación teórica del amplio experto de lo que es amaranto. Eduardo es autor de dos libros sobre amaranto. Este de hace dos años tiene la información de paquetes tecnológicos. Vamos a proporcionarles uno por grupo para que lo tengan como libro de referencia.
Academic Knowledge	EXE02 CYCLE_CLOSE	En fertilización. N: elemento más importante porque forma la estructura de tejidos vegetales (crecimiento); existe en el suelo, en materia orgánica, en fertilizantes o en abono. P: Aspectos fisiológicos de la planta, sus flujos de energía. Hace que la planta de la papa mande los nutrimentos a los órganos de reserva (papas enterradas). K: En siembra para producción de semilla se aplica mucho.
	EXE02 CYCLE_CLOSE	En investigación ha resultado igual fertilizar con 180 kilos de N o no usar nado. La plasticidad enmascara el efecto de cualquier tratamiento. No se puede tratar como cualquier otro cultivo. Yo me atrevería a decir que no ha habido proyecto de investigación para determinar la dosis óptima de fertilización orgánica o inorgánica

	EXE02 CYCLE_CLOSE	Productor: ¿Diferencia entre amaranteca y revancha? Doctor: uno tiene 32 cromosomas y la otra 34. Risas. No es tan fácil. En la foto se ven iguales.
	EXE02 CYCLE_CLOSE	Doctor: Sabemos el alfabeto genético, pero no sabemos gramática ni sintaxis. El decodificarlo no va a ser tan rápido y tal vez ni tan deseable porque empezar a hacer ingeniería genética sin tanto conocimiento puede causar enormes problemas: esa es nuestra perspectiva.
	EXE02 CYCLE_CLOSE	Mi sobrino estuvo 5 años en Holanda un post doctorado. Eduardo: Esta área anunció que tiene el genoma del maíz. Esto quiere decir que saben todas las letras del libro del maíz, pero están en desorden. Por más que lo tomes, no te dice nada. Para eso hubo inversión de más de 600 millones de pesos. Lo que se tendría que hacer es estudiar cada fracción del genoma para ordenar las letras que digan frases, oraciones, párrafos. Lo difícil es lo que sigue
	EXE02 CYCLE_CLOSE	Metodología: diagnóstico-recomendación. Medir una hoja para determinar cuánto nitrógeno falta. Si no tienes el medidor, observando el color, muestreando el suelo. Dosis dependerá de la demanda del cultivo: demanda – suministro por factor de eficiencia: Función del rendimiento al que queramos llegar por el nitrógeno que se extraerá del suelo.
	INT 00	el amaranto no está muy estudiado desde el punto de vista tecnológico. No tenemos un paquete tecnológico. De tal manera de lo que se está usando de manera empírica es lo que se hizo hace 25 años
	INT 00	En los programas oficiales de repente se genera la tecnología y están buscando cómo pasársela al productor y a veces el producto no la necesita o no la quiere
	INT 00	El defecto que tienen: son temáticos: son cabras, porcinos, leche o carne. No son tan holísticos. No te incluyen más cabras, ni la producción de grano o forraje. La transformación a veces.
	INT 00	Dado lo precario que está la cadena, cualquier uso que se le dé es bueno. Kellog, Bimbo, de momento es bueno, pero lo importante es generar la cultura de consumo
	INT 00	llevan 25 años y hasta ahora es la primera vez que sé que hay una reunión fuera de aquí. Fueron a Huichapan, etc. Y eso porque hay un proyecto con fondeo internacional.
	PART_DRINK	the science is mostly in animal level; the finding for amaranth is at a level were soy was eighty years ago so that's the gap in terms of science that has to be generated but there are lots of very robust backing for amaranth in terms of its functional properties and it has a hypoglycemic effect and so we could see of amaranth as a metabolic shield;
Academic Knowledge	STP_UNIV	Cuando se asigna etnográficamente un alto valor a un recurso es porque lo tiene: falta descubrir la bioquímica metabólica.
	STP_UNIV	Sánchez Marroquín: Fondeado en el sexenio de Echeverría en la Universidad del Tercer Mundo y receptor de un grant de 5 millones de dólares de academia de Ciencia para desarrollo y recolecta de

		materiales para producción a gran escala, y desarrollo de tecnología agroindustrial para su transformación
	STP_UNIV	En los aceites se están encontrando los elementos funcionales que atacan problemas actuales: hipocolesterolémico (altera el metabolismo de grasas); hipotensor (Jorge Soriano, Facultad de Química ha aislado); hipoglucemiante (efecto sobre insulina): es un escudo metabólico: para cada vértice del síndrome metabólico hay un efecto. Investigadora Paulina Barba (IPICIT) ha descrito los efectos funcionales de amaranto. Se ha visto que es canceroprotector.
Actions for infrastructure	INT 02	A las escuelas ha aportado cosas. Cuando se le ha venido a pedir una mano nunca ha dicho que no
	INT 26	Pues por ejemplo el CCA. El CCA está gracias a la gestión que ha hecho el Dr. Benito eso puede ser un ejemplo
	INT 28	en aquel entonces lo hizo el Doctor porque nosotros le decíamos que íbamos a hacer, le decíamos esto y el otro y él nos guiaba, incluso teníamos la visión de una cancha, la plaza de un auditorio, pues antes el auditorio no existía tampoco y todo eso actualmente una vez que nos sentábamos fuimos viendo cómo se hizo realidad, fue un sueño y nunca pensamos que iba a existir y ahora con todo lo que hay.
Actions to develop people's capabilities	INT 22	Le dijo al Doctor fíjese que me voy a salir de trabajar y me voy a México con mis primas. El Doctor le dijo: te voy a dar una opción: Si quieres trabajar vete a las oficinas de México y sólo te quedas con tus primas. Ella platicó con nosotros y le dijimos que era buena opción que se fuera a calarse a México.
	INT 28	la experiencia de las mujeres emprendedoras de Huixca? ¿A ver en un principio como arrancó? Rosario: Pues a mí toca en la etapa en la que estaba yo descansando por mis bebés, hace como 3 o 4 años entonces me toca... porque no estaba yendo a las juntas que llegó una señora que me dijo : oye pues fíjate que el doctor está haciendo esto y que ¿y le digo en dónde?, pues que tal día va a ser en la escuela, bueno entonces voy a ir.
Actions to develop people's capabilities	INT 28	en aquel entonces como parte de la pequeña tribu el doctor nos empezó a enseñar computación, entonces a mí me gustaba y como tengo unas hermanas en México, estudié computación ya vez que te lo dan de un año...siempre vinculada con la empresa pues allí me iba yo, estudiaba yo en las mañanas y en la tarde hacia unos trabajitos allí en las oficinas allí en México.



	INT 30	el doctor me dijo que Rosario y Javier le dieron muy buenas recomendaciones tuyas y por eso te voy a hacer una invitación.
Amaranth	Congreso_AGROBIO-(21-03-2013)	
	Congreso_AGROBIO-(21-03-2013)	
	Congreso_AGROBIO-(21-03-2013)	
	Congreso_AGROBIO-(21-03-2013)	
	EXE02 CYCLE_CLOSE	No teníamos material para condiciones semitropicales; hasta recientemente que generamos Amaranteca ( <i>Amarantus cruentus</i> ). Madura la semilla, y la planta está verde todavía, pero nos puede servir para siembras de invierno (insensible al fotoperiodo).
	EXE02 CYCLE_CLOSE	cuando había dinero de la Academia Nacional de Ciencias (en los ochenta). Dr. Sánchez Marroquín desarrollo tecnología de transformación y nos presentó con Benito. Entonces no hicimos cruza, solamente selección de especies (selección basal estratificada) para quedarnos con las plantas rendidoras, así logramos uniformizar plantíos y aumentar rendimiento. Así tuvimos la primera variedad mejorada: Revancha. El nombre fue porque los españoles prohibieron su cultivo.
	EXE02 CYCLE_CLOSE	amarantus (latín: no se marchita) e hipocondriacus (a cualquier indicio de enfermedad, presenta síntomas [como la suegra])
	EXE02 CYCLE_CLOSE	Característica de plasticidad fenotípica. Al tener condiciones de estrés (agua, luz, comida), amaranto cambia de etapa de crecimiento vegetativo a reproductivo (la planta busca perpetuarse). Dependiendo del tamaño en ese momento, será el tamaño de la cosecha. Por esto es complicado el trabajo con amaranto.
	EXE02 CYCLE_CLOSE	En México se siembran 3,000 hectáreas. Eventualmente se hizo un programa de fomento que creció en 400 hectáreas y eso dio al traste el mercado (precios por los suelos). Problemas: tamaño de la semilla (difícil manejo); si se encostra el suelo no sale, debe quedar superficial (max dos centímetros). Por eso siembran de 6 a 9 kilos por hectáreas para que salga algo; caída de semilla al mover las plantas y no se aprovecha; crecimiento indeterminado que genera problema para cosecha; tienes defectos... Para cada defecto hay que trabajarle.
Amaranth	EXE02 CYCLE_CLOSE	Valor econfisiológico: planta se puede perpetuar en condiciones difíciles: Crece y produce semilla funcional. Fenómeno de plasticidad fenotípica que tienen muchas malezas. Esto nos ayudó para polinizar en laboratorio plantas de este tamaño. Así hacemos mejoramiento genético.

EXE02 CYCLE_CLOSE	Nutrisol en condiciones normales mide 3 metros. En condiciones de estrés (ranura de cemento) crece 5 cm. y ahí produce grano. Amaranto confinado a maceta pequeña (sin suelo, nutrientes) aún crece como planta
EXE02 CYCLE_CLOSE	Cueva en Puebla: En los 50's una misión arqueológica buscaba restos para determinar especies agrícolas (aguacate, chile, cacahuete, frijol, maíz y amaranto). Encontraron restos de plantas petrificados o conservados en una zona que era usada como basurero. En los estratos más superficiales encontraron maíz evolucionado (del tamaño que conocemos, grandes) y en los profundos los maíces ancestrales. Lo mismo con las demás plantas. Amaranthus cruentus fue fechado 5,000 años AC
EXE02 CYCLE_CLOSE	Parte oscura: Amaranto estaba relacionado con rituales religiosos. Los aztecas tenían muchos dioses (guerra, agua, fuego, etc.). Huitzilopochtli en un cerro: foto de hace 10 años en la sierra de Guerrero donde los plasmadillos eran de masa de amaranto con la figura de Huitzilopochtli, junto con sangre del sacrificio de la ofrenda: El sacrificio era parte de la ceremonia (tal vez chivo o gallina). Antes, sacrificaban doncellas. Cuando llegaron los españoles vieron las ceremonias y las prohibieron junto con el cultivo. Los pobladores se desplazaron a la sierra donde no los podían alcanzar y ahí lo conservaron. Por eso el cultivo está en la sierra alrededor de los volcanes, porque ahí no podían llegar los españoles para castigarlos. Gracias a eso se conservó la variedad genética que tenemos, pero casi desapareció
EXE02 CYCLE_CLOSE	Códice florentino: Persona que cosecha amaranto, otra que lo trilla y otras que lo guardan en ollas. Otro indicio de señoras cocinando, personas colectando quelite. Códice mendocino: Contenedores donde los pueblos dominados por los aztecas entregaban amaranto como tributo.
EXE02 CYCLE_CLOSE	Amaranto es patrimonio histórico de México. Es originario de aquí; algunas especies de Latinoamérica, pero Amaranthus hipocondriacus y cruentus son de México. Aquí tenemos el acervo histórico más importante a nivel mundial: códices pre colombinos con información del cultivo
EXE02 CYCLE_CLOSE	Mejor mecanismo de estrés: bajas su fotoperiodo a menos de 10 horas luz (tapas la planta); choque de temperatura alta; sequía muy fuerte. Condición agronómica VS perpetuación de especies: esta condición funciona en los extremos.
EXE02 CYCLE_CLOSE	El amaranto es muy malo en suelos con mal drenaje. Si se acumula el agua dos o tres días, se muere
Amaranth	EXE02 CYCLE_CLOSE Es factible tener una variedad chaparrita, precoz de 90 días, que parezca trigo y que rinda 5 toneladas; pero hay que trabajar y desarrollarlo y eso requiere financiamiento. Doctor: Tener vanguardia nacional en torno a la nueva frontera. Así ha sido el motor de desarrollo de Brasil con soya, por ejemplo; esto es estratégico. Se

requerirían escasos 2 millones de pesos anuales por cinco años, pero la federación no ha generado esta inversión en un material tan estratégico.

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EXE02 CYCLE_CLOSE	Usos: Barras, mazapanes, cereales, hasta lo más evolucionado: alimentos con concentrado proteínicos, leche deshidratada (empresa: nutrición genómica donde aislaron el escualeno y lo usan en cremas para rejuvenecer), aceite para problemas cardíacos. Hace 10 años, su uso principal era vía los dulces (más de 90%). Ahora son los cereales.
EXE02 CYCLE_CLOSE	De saber que hay tanta gente interesada en el cultivo del amaranto, pero no nada más es transformar y comercializar, sino este espacio de generar conciencia en la cuestión de la salud y social y que debemos poner nuestro granito de arena para transformar a México. Tal vez empezamos en pequeño, pero las cosas pequeñas son las que se desarrollan con gran fortaleza y llegan a dar frutos... El amaranto es un cultivo que nos lleva a decir: no sólo producimos para comercializar, exportar, hacernos ricos; en este caso vamos despertando la conciencia de consumir para alimentarnos sanamente e ir educando a las nuevas generaciones en otras formas de consumo”
EXE02 CYCLE_CLOSE	En este estudio de maíz, con 165 kilos por tonelada se obtienen rendimientos óptimos. De ahí en adelante se intoxica la planta. Este es criterio fisiológico, pero otro criterio es económico
EXE02 CYCLE_CLOSE	Factores que limitan: falta de nutrimentos en suelo, falta de suelo, plagas, malezas, intoxicación de la planta. Un factor que más limita el rendimiento es el Nitrógeno.
INT 21	Del amaranto, usted consume amaranto? Amado: Si poquito, luego los que más comen son los nietos. Lo que más consumimos son las latas de los capuchinos, esas si porque eso compro para mi esposa, y para mis nietas también compramos las latitas de papillas,

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This summary of codification intends to illustrate the width and breadth of the observations fed into NVivo software from all different sources of data used in this thesis. It also shows the strength of all codes produced and gives an idea on how the phenomena that was intended to analyze in this thesis was supported by particular observations gathered during the different stages of the research.