

To what extent do initiatives to formalize the commercial production of *Astrocaryum chambira* for handicrafts empower Indigenous women? A comparative analysis in communities with more and less external intervention

by

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ABSTRACT OF THE PROJECT OF

Elsa Adith Izaguirre Vilcarrromero for the degree of Master of Natural Resources presented on March 23, 2023. Title: To what extent do initiatives to formalize the commercial production of *Astrocaryum chambira* for handicrafts empower Indigenous women? A comparative analysis in communities with more and less external intervention.

The management and use of the palm *Astrocaryum chambira* (commonly known in Peru as “chambira”) for handicrafts is a traditional activity for Indigenous women in the Amazon region. Some governmental and non-governmental initiatives have tried to formalize the production of chambira for handicrafts for commercial purposes, to promote women's empowerment and sustainable management. However, how successful these initiatives are in their efforts to empower women remains unclear. This paper aims to analyze to what extent formalizing the commercial production of chambira handicrafts empower Indigenous women in the Peruvian Amazon – specifically, in the Ampiyacu-Yahuasyacu basin, where external actors have been promoting the formal commercialization of chambira handicrafts through the last decades. Specifically, I examine (i) to what extent women can be incorporated into formal organizational systems, and why; (ii) how informal practices for the tenure and management of chambira and the production and commercialization of handicrafts interact with formal practices; and (iii) how does formalization influence women's economic, cultural, decision-making, and collective empowerment. To do so, I comparatively analyze four communities of the basin: two that have had *more* intervention from external actors towards formalization, and two that have had *less* intervention. Results show that formalization can empower Indigenous women in some ways, but empowerment continues to be limited and inequitable. First, not all women in all the communities can easily join formal systems due to a set of interrelated barriers, both external (e.g., unequal and limited institutional support, economic factors, and geographical location) and internal (e.g., limited family support, time availability, and self-

confidence). Additionally, most (informal) traditional practices for the management of chambira and production of handicrafts – which go in line with the local realities, culture, and livelihoods – persist and play a key role complementing introduced formal practices. Finally, formalizing the commercial production of chambira handicrafts may empower Indigenous women – especially in terms of economic, decision-making, and inner power – but not necessarily, as the effects of formalization on culture and collective power are complex and contradictory. To empower women in a more effective, equal, and culturally sensitive manner, formalization projects need to holistically address both external and internal barriers to formalization, acknowledge the importance of traditional practices for forests and peoples, approach empowerment holistically rather than looking at economic empowerment alone, and critically recognize the complexities and paradoxes behind the impacts of formalization impact on Indigenous women’s empowerment.

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Table of Contents

| | |
|--|--------------|
| 1.Introduction..... | 8 |
| 1.1.Research question..... | 9 |
| 2.1. Ecological aspects of chambira..... | 10 |
| <u>2.2.</u> Governance and Institutions (formal and informal systems)..... | 10 |
| 2.3. Empowerment of Women and the changing role of Indigenous women..... | 11 |
| 2.3.1.Economic Empowerment..... | 13 |
| 2.3.2.Collective Empowerment..... | 13 |
| 2.3.3.Cultural Empowerment..... | 13 |
| 2.3.4.Decision-making Empowerment..... | 14 |
| 2.4.External interventions..... | 14 |
| 3.1. Selection of study site and communitie..... | 15 |
| 3.2.Data collecting..... | 17 |
| 3.3..Data analysis..... | 18 |
| 3.3.1. Thematic Framework for Analysis..... | 18 |
| 4. Results..... | 21 |
| 4.1. Barriers in the incorporation of women into formal organizational systems..... | 21-26 |
| 4.2. Interaction of individual or collective organizational practices..... | 27-34 |
| 4.3. Contributions and challenges of formalization to empowerment..... | 34-44 |
| 5. Discussion..... | 44-50 |
| 6. Conclusion..... | 50-52 |

7. Recommendations.....52-53

8. Acknowledgments.....53

9. Reference.....54-58

1. Introduction

The management and use of the palm *Astrocaryum chambira* (commonly known in Peru as “chambira”) for handicrafts is a traditional activity for Amazonian women because it involves knowledge and practices that have been passed on from generation to generation, and they represent their culture through their handicraft designs. Chambira grows in the Amazon basin of Peru and other countries such as Colombia, Ecuador, and Venezuela (Whiteside et al., 2007).

This non-timber forest product is essential for extracting fibers used as raw material in the production of handicrafts because it has strength, flexibility, and durability (Guel et al., 2009).

Garcia et al. (2015) mentioned that women's contribution to management, production, and marketing, is vital in developing sustainable economic and ecological landscape. Their work represents almost half of the workforce in sustainable and agricultural management of natural resources in developing countries, but only 43 % in Latin America (Lopez, 2021). In this context, women in the management of *Astrocaryum chambira* ('chambira') in the form of handicrafts are essential to improve the empowerment, quality of life and participation of Indigenous women in decision making and other internal activities carried out in the community. This includes being part of the main authorities in decision making or being selected as women leaders for equitable development in their community (Vormisto, 2012).

In the case of Indigenous communities in the Peruvian Amazon, most artisans are women because it is traditional or customary and because elaborating handicrafts requires patience and delicacy to produce different products such as bags, purses, and backpacks. (Whiteside et al., 2007). In this context, promoting handicrafts using chambira is vital for local families' economy and has an important cultural and traditional role in using fiber to produce raw materials, whereas women are vital because they are the ones who produce it (Guel et al., 2009).

For this reason, some initiatives or projects have tried to formalize the production and commercial harvesting of chambira for handicrafts, to empower women and to achieve sustainable management of natural resource in Indigenous communities. This formalization also help to mitigate inequality gaps between men and women (Coomes, 2004). However, it is necessary: to (1) make informal ways of organizing visible. (2) Critically analyze the impacts of formalization and (3) comprehensively look at empowerment not only economic if not also other types of empowerment, whether cultural, collective, or decision-making, in order to identify the different limitations and advances of empowerment in a different way.

This case study analyzes how external formalization interventions can influence the organizational practices of communities for the production, commercialization and elaboration of handicrafts using the fiber of the chambira and, as a result, how they can empower Indigenous women.

1.1. Research questions

General question:

To what extent do formalization initiatives for the production and sale of chambira handicrafts empower women in Indigenous communities?

Specific questions:

- (1) To what extent can women be incorporated into formal organizational systems and why?
- (2) How do formal organizational practices interact with informal practices?
- (3) How does formalization influence women's economic, cultural, collective, and decision-making empowerment?

2. Literature Review

2.1. Ecological aspects of chambira

Chambira grows in humid tropical climates with a maximum annual rainfall of 3000 mm, at altitudes from 100 to 950 meters above sea level, with a wide distribution, throughout the Amazon basin (Rojas and Álvarez 2007). It is found in the Amazonian rainforest, planted or conserved in western Amazonia from Venezuela to Peru and western Brazil (Bernal et al., 2013).

The chambira grows in firm soil, although it can also be found in temporarily flooded soils, both in open areas and in the interior of forests, and well-drained soils less than 950 meters above sea level (citation). It is propagated by seed and is often planted in orchards associated with other plants. It is also found mainly in thickets and secondary forests, and is very scarce in mature forests (Bernal et al., 2013).

Astrocaryum chambira is a palm tree that provides vegetable fiber that serves as raw material for producing different kinds of handicrafts, such as bags, hammocks, and earrings (Kahn & Millán, 2010). Chambira fibers for handicrafts are widely used in rural and urban populations, and these products are marketed in national and international distribution networks of handicrafts in Peru, Colombia, and Ecuador (Mejia 1988; Vormisto, 2002).

The commercial fiber in *Astrocaryum chambira* is extracted from the pinnae of the unopened leaf, which the locals call "cogollo" (Vormisto, 2002). The main constituent elements of the fiber are the non-vascular fibers, which correspond to sclerenchyma cells (Vormisto, 2002).

2.2. Governance and Institutions (formal and informal systems).

Ostrom (1986, 1990; 51, 2011) defines institutions as a set of norms that are useful for determining, who is eligible for decision-making in some area, what actions are allowed, what aggregated rules will be used, what information must or must not be provided to the population, and what pay-offs will be assigned to individuals dependent on their action. Institutions include

formal rules, such as laws and official agreements or contracts (Carmona 2017), as well as informal rules, such as customs, traditions, and norms in the community (Maher et al., 1999). Governance, then, refers to how formal and informal institutions are used in decision making: who and how decision-making is made, from national to local levels, through both formal and informal systems/institutions (Larson and Petkova, 2011, p88). Forest governance includes formal and informal systems that regulate and control the use of natural resources by society. In natural resource matters, the formal system can be defined as the policies, laws or formal agreements (Carmona 2017) that are created to formalize and regularize the use of natural resources, in a written document, such as management plans that are a management document for the use of natural resources (Carmona, 2017).

According to Huitema et al. (2016), informal systems are rules, traditions or customs created by the community or group of peoples and are not written in any formal document. Helmke and Levitsky (2004) define informal systems as traditional norms or customs socially shared among a group of people, which are not written in a formal document, but are respected by all members in community, for the use of their natural resources or any other activity within their traditional system. These traditional norms or customs are those that are not linked to formal laws sanctioned by the State (Verdier, 2012).

2.3. Empowerment of women and the changing role of Indigenous women

According to Hughes (2004), among rural people in Peru, it is common for women to have little power in decision-making within their households and their families. Women's empowerment continues to be a problem; the most frequent cases are in Indigenous communities, where marginalization of women still predominates (Abbott et al., 2000).

In this context, several projects or incentives seek to mitigate the existing gaps between men and women and contribute to the development and empowerment of Indigenous women (Kahn & Millán, 2010). Some initiatives promote Indigenous women's income, participation, and

involvement in the commercialization, production, and management of natural resources (Vormisto, 2002).

Women's empowerment can be defined as the process of acquiring power individually and a group where people have control over an issue or situation in which their voices are heard and have value in a community (Cornwall, 2016). In addition, women's empowerment can be defined as improving their participation in society, economic independence, involvement in decision-making in their daily lives, and other activities to mitigate inequality gaps (Scheyvens, 1999). Women need to be included in decision-making, have opportunities to access education, projects, teamwork, and technology, respect their rights, and have a role in society just like men (Hughes, 2004). Likewise, at the International Labor Organization of Women and Human Rights conference, the main debates are on women's rights, quality of life, and the change in the role of women in society (Abbott et al., 2000).

Wieringa (1994) mentioned that the definition of empowerment could focus on two aspects. Empowerment is a field of action where the dimensions, interrelationships, and intersectionality interact with external or internal power relations, such as culture, race, ethnicity, and diversity of traditional practices or customs. Secondly, women's empowerment can be determined as a sequence where there is a relationship with different elements, such as awareness, resource, choice, voice, agency, organization, and participation, all linked to improving women's role and quality of life in a community (Kabeer, 2014).

Empowerment as a process is also interconnected with different capacities women develop based on power, demonstrating their dependence and teamwork in resolving a problem, implementing a project, or working in a group of people, communities, or individuals. The spheres can be distinguished as physical, socio-cultural, collective action, political and economic systems, among others, where women can act in a dependent way to use their natural resources and the power of action in a community (Charmes and Wieringa 2003).

2.3.1. Economic Empowerment

Women's Economic Empowerment is essential to promote women's rights and gender equality to improve the quality of life and the role of women in society. Women's Economic empowerment includes women's ability to participate equally in existing markets; their access to and control over productive resources; access to decent work; control over their own time, lives, and bodies; and greater voice, agency, and meaningful participation in economic decision-making at all levels, from the household to international institutions and other activities that enable women's involvement in their environment (Sindiga, 1995).

2.3.2. Collective Empowerment

Collective Empowerment can be defined as the result of relationships of trust, loyalty, and collaboration between women where they are strengthened as a group to achieve an objective that benefits them or the community in which they develop (Cornwall, 2016). The dimension of networks or bonds of trust plays an essential role in the performance of a group of people who feel listened to, where their participation is essential to improve their role in a community (Pyburn et al., 2021). External agents also interact with women's Empowerment by sharing technical or financial knowledge with an organized group to empower their role and work in managing natural resources (Vasquez et al., 2016).

2.3.3. Cultural Empowerment

Women's cultural Empowerment is the capacity of people to interact with their traditional knowledge and customs without losing them to new practices in the management of natural resources, as well as all the activities that a group or person carries out based on their symbolic structures that give meaning and significance to these activities of use to a primary resource. On the other hand, sometimes external interactions cause customs or cultures to constantly change and compete with each other simultaneously (Li and Karakowsky, 2001).

2.3.4. Decision-making Empowerment

Women's Empowerment refers to giving them decision-making power in the social sphere where each one can express her opinion and be respected in a group or community. Likewise, the influence of external actor as NGO or government, can make women feel supported because they give them confidence, power, and knowledge about a specific topic (Sell and Minot 2018, 46-55 p). Women Empowerment is essential to achieve sustainable development because they can contribute to the work and care of the forests, apply all the learning that they receive from the training and capacity in as improve design and topic of commercialization. It will also allow them to participate in different natural resource management and harvesting projects because they will feel more confident because they already have knowledge about forest management issues. The empowerment process must start from home and move forward in exercising that power towards other activities, such as managing natural resources, production, commercialization, and the market in which women are involved (Yogendrarajah, 2013).

2.4.External actors and interventions

External intervention occurs through external actors that provide support technical and financial support in communities or countries to solve some problem (Persha et al.2011). Including problems related to natural resource management, production and commercialization of non-timber forest products, or mitigation the gaps between men and women in society (El Achi et al. 2019). External stakeholders can be government or agency actors, foreign investment, or NGOs (Persha et al. 2011). Some analysts have defined "internal stakeholders" or Indigenous communities as "those vulnerable to the internal problems of communities such as lack of economic, bad harvesting practices, lack of educations and health among others. These population know the reality of their community; they are people who must somehow experience in the problems of communities and live its consequences personally". In contrast, external actors such as NGO or local governments personally have little to lose and their role

is basically to provide technical and financial support on issues of interest (Vedsted and Damm, 2017) – such as support to improve women's empowerment (economic, political, social and personal) (Satterley, 2016). For example, an external actor called Women's Organizing and Collective Action focuses especially on Indigenous and marginalized women with the objective of improving women's capacity (Morley, 2015).

External intervention can play a positive role in Indigenous communities, helping them to formalize their production and commercialization of non-timber products (e.g., create formal producers' associations), so that they can access better markets and better prices and, that way, improve their income. In addition, external non-state actors can improve the stability of vulnerable groups by directly contributing to the provision of collective goods and services, such as a clean environment and the construction of infrastructure – which state authorities often fail to provide on their own. However, there is little literature on the effect of external interventions in the context of women artisans working with chambira (Stephen and Risse, 2014).

3. Methods

This is a qualitative, descriptive, and comparative, study. It examines how Indigenous women organize for the production and commercialization of chambira handicrafts, how that changes when there is external intervention (comparatively to when there is no intervention) and, in turn, how this can influence women's economic, collective, decision-making and cultural empowerment.

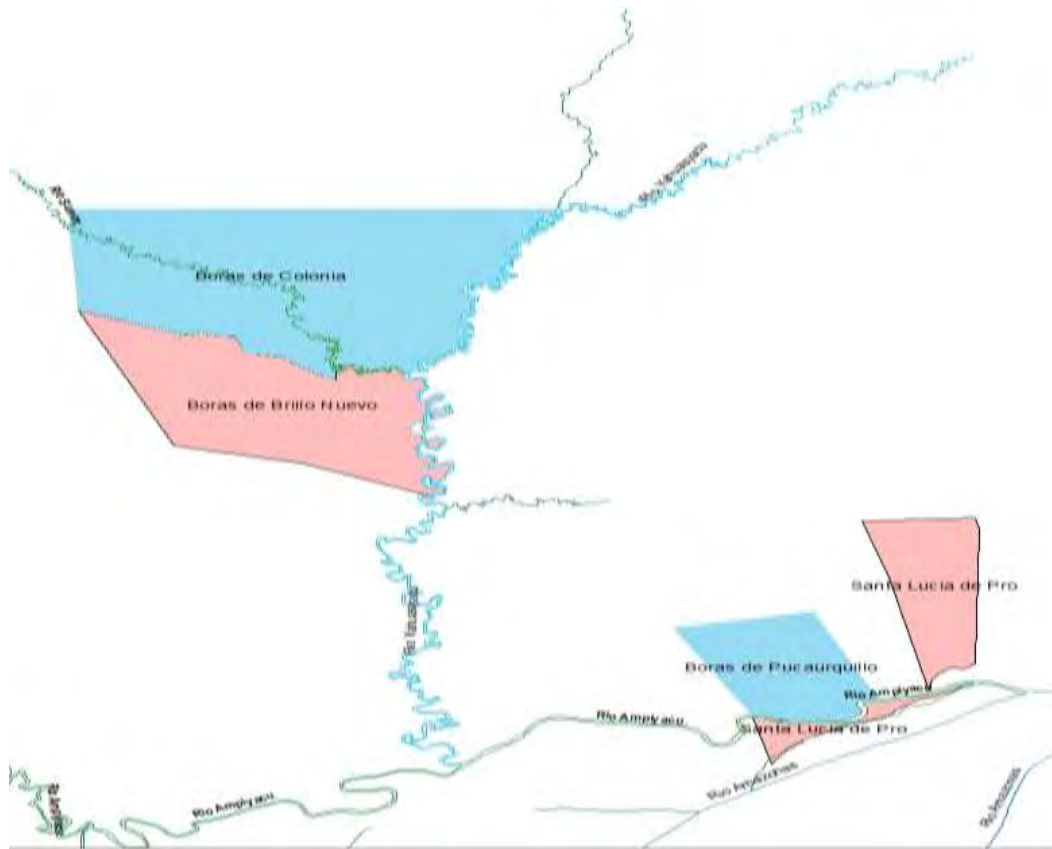
3.1. Selection of study site and communities

The case study was conducted in the Ampiyacu-Yahuasyacu basin, which is a tributary of the amazon basin in the Peruvian Amazon and is characterized by diversity of natural resources and timber and non-timber forest products. Communities in this basin are intensively dedicated to producing chambira fiber handicrafts, which makes this watershed a very interesting case to

analyze. This activity of commercialization of handicrafts with chambira fiber was highly promoted when a regional conservation area was created throughout the basin. The regional conservation area did not allow the communities to extract their resources without a harvesting permit. Faced with this need, some NGOs such as IBC and Secama sought to introduce a new activity in the communities that would provide them with economic solvency. For this reason, the NGOs began to promote the production and commercialization of chambira as a handicraft.

The study focused on four Indigenous communities of the Ampiyacu-Yahuasyacu basin: Boras de Pucarquillo and Santa Lucia de Pro, located along the Ampiyacu River; Brillo Nuevo, located along the Yahuasyacu River; and Boras de Colonia, located along the Sumon River (see map below).

The criteria used to choose the four communities focused on two extremes. I selected **Two Communities with more external interventions:** historically presence of the external interventions has been more intense. Therefore, in these Communities formal associations for chambira handicrafts were created several years ago and bigger (more members) (Boras de Pucarquillo and Brillo Nuevo) and **two Communities with less external interventions:** historically the presence of external interventions has been less intense. Therefore, in these Communities no formal associations for chambira handicraft existed, until very recently (few week or months). These associations are smaller (Santa Lucia de Pro and Boras de Colonia).



3.2.Data collection

In the four above-mentioned communities, data was collected through semi-structured individual interviews to women producing chambira for handicrafts, which were recorded with a digital voice recorder and/or field notes.

The criteria used to choose interviewees also focused on two extremes. I purposely interviewed women who work with chambira individually (informally) and women who work it collectively (as part of a formal association). The purpose of this criterion was to determine any changes in the state of empowerment of Indigenous women due to the association, by assessing their participation in decision making, NTFP commercialization, leadership, management and collection of non-timber products.

The interview guide included questions about the main activity in the community, the most important product, how are they organized for the commercialization and elaboration of their handicrafts, what benefits they receive from the sale of their handicrafts, to whom they sell their handicrafts, how they take care of their chambira, in what area they plant their chambira, how is the relationship between women, have they received training or financial help on management, commercialization and elaboration of the chambira, and if they have received training or financial help on management, commercialization and elaboration of the chambira.

3.3.Data analysis

This study used a thematic analysis. I created codes based on themes that I identified from the literature and also from what was found in the field during the interviews. Then, I coded the interview responses, looking for patterns, themes, and phrases and sequences.

3.3.1. Thematic Framework for Analysis

| Themes | Sub-theme | Codebook |
|---|--|---|
| External intervention; economic or technical support from governmental or non-governmental agencies. | Presence of projects (past or present) by outsider organizations (NGOs, government, Indigenous organizations). To support chambira handicrafts associations. | <ul style="list-style-type: none"> - Funding. - Training or capacity-building activities. - Access to markets. - Improve price of sale. - Improve quality life - Implementation of tools or materials. - Sustainable harvesting practices - Benefit indirect(other communities that form part of the project o capacity) |
| Organizational institutions; are systems through which persons, families, or groups work to manage and sell chambira collectively. | <p>Formal organizational institutions: Legal norms.</p> <p>Informal organizational institutions: Non-legal norms.</p> | <ul style="list-style-type: none"> - Officially registered association. - The group is not officially registered as an association (yet). - Per family - Individual - By temporary group or minga |

| | | |
|---|--|---|
| | | Note: <i>These five codes are not mutually exclusive.</i> |
| Stages for the production and commercialization of chambira handicrafts. | <p>Tenure</p> <p>Planting or reforestation.</p> <p>Harvesting</p> <p>Fiber production</p> <p>Fiber painting</p> <p>Weaving</p> <p>Commercialization (where, to whom)</p> | <p>community's territory</p> <p>Orchard</p> <p>Purma</p> <p>Plot</p> <ul style="list-style-type: none"> - Reforestation <ul style="list-style-type: none"> - sowing - cultivation - Natural regeneration (añuje) <ul style="list-style-type: none"> - Cutting the palm tree - Cutting of Cogollo with a machete - Cutting of Cogollo with hook or saw (new technique) - Natural - Artificial <ul style="list-style-type: none"> - Passing visitors - Customers in fairs - Other communities - Other women from the same community. - Intermediaries - Orders. |
| Types of agreements and commercial transactions. | | <ul style="list-style-type: none"> - Implicit, tacit. - By word of mouth. - Written. - Receive receipts |
| Products | <p>Processed fiber</p> <p>Handicrafts</p> | <ul style="list-style-type: none"> - Simple handicrafts (traditional techniques) - Complex handicrafts (introduced techniques) |
| Empowerment: Acquisition of power by women to be autonomous, to defend their interests responsibly, and to have self-determination in their decision-making. | Economic Equitable distribution of benefits. Use of individual or collective income. | <ul style="list-style-type: none"> - How significant is the income (how much). - Economic independence. - Who benefited from the income? ✓ Children/household. |

| | | |
|--|--|---|
| | | <ul style="list-style-type: none"> ✓ Reinvestment for the same activity. -Capacity to decide how the money is spent. |
| | <p>Cultural</p> <p>Preservation and appreciation of their own culture (knowledge, beliefs, or customs).</p> | <ul style="list-style-type: none"> - Preservation and appreciation of traditional handicraft techniques and designs. - Preservation and appreciation of traditional ecological knowledge (añuje). - Preservation and appreciation of traditional organizational forms (individual, family, and minga). (Cross-coding with achievement stages). |
| | <p>Collective</p> <p>Strengthening of Trust, loyalty, and collaboration within a group of people.</p> | <ul style="list-style-type: none"> - Competition among women. - Collaboration and support (through group work). - Increased trust among women - Decrease in trust - Occurrence of problems among women in the group. |
| | <p>Decision-making</p> <p>Empowerment of women to participate in decision-making (respect, authority/influence, and knowledge).</p> | <ul style="list-style-type: none"> - Participation in activities (cross-coding with achievement stages). - Authority in the group to take charge of specific tasks. - Specific knowledge and skills (reading, writing, accounting, negotiating). |

The four Communities belonging Ampiyacu basin that are Boras Pucarquillo, Brillo Nuevo, Boras de Colonia and Santa Lucia de Pro. In this research, we classified the communities into two types: those with intervention communities, which are Boras de Pucarquillo and Brillo Nuevo. The less non-intervention communities, which are Boras de Colonia and Santa Lucia de Pro. The total number of interviews was 16 in 4 communities of the Ampiyacu basin; all were women, where 8 interviews belong to interventions communities and 8 interviews belong to non-interventions communities.

4.0 Results

This section is organized as follows: (1) Barriers to incorporating women into the formal organization system, (2) Interaction of formal and informal organizational practices and (3) Influence of formalization on women empowerment: Contributions and challenges.

4.1. Barriers to incorporation women into formal organizational systems.

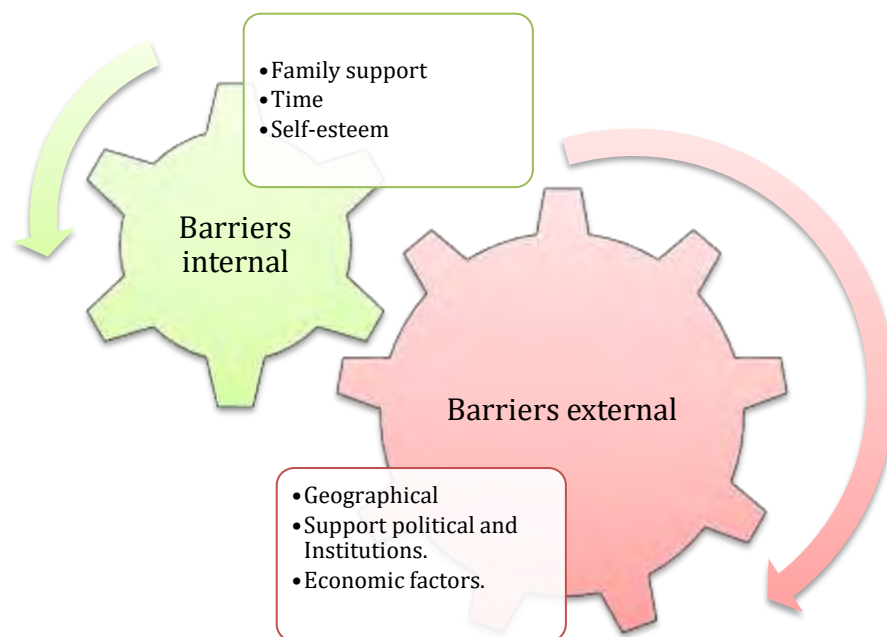


Figure 01. Internal and external barriers to the incorporation of women into formal systems.

The results show that not all communities and not all women are able to join formal associations for (often interrelated) barriers, both internal and external. The internal barriers encountered include a lack of (1) family support, (2) time, and (3) self-esteem and the general barriers include (4) geographical, political and institutional support, and market/economic factors, as

shown in **Figure 01**. These barriers are present both in more intervened and less intervened communities, in different degrees.

External barriers affect all the four studied communities, but especially the **less- intervened community** communities as Boras de Colonia and Santa Lucia de Pro. There is not enough political and institutional support, so they do not reach all the communities and not all the women of Boras de Pucarquillo, Brillo Nuevo, Boras de Colonia and Santa Lucia de Pro. They complain that the government does not give much importance to non-timber forest resources, despite their great importance for the economy of local families. There is also no market to help promote the sale of handicrafts with fair payment.

There is no market that will fairly buy the handicrafts and all the effort we make to obtain the handicraft.

(Interviewee, Boras de Colonia, less- intervened community).

However, especially in the intervention communities, some governmental agencies, NGOs, and local Indigenous organizations do make efforts to help promote a national and international market for chambira handicrafts.

Thanks to the help of SECAMA we can participate in national and local fairs to sell our chambira and in this way we become more known for our handicrafts

(Interviewee from Brillo Nuevo, more intervened community).

It seems that interventions, and inequalities, snowball: more intervened communities tend to become more well-known and therefore to progressively access more external support, while less intervened communities tend to become increasingly more forgotten and isolated.

As one interviewee from a more intervened community expressed:

*We are better known thanks to the external interventions....
Because now we have more projects thanks to them that come
to the community. Before nobody remembered us, but now you
are the second entity that comes to us to do this interview. –*
**(Interviewee, Boras de Pucaurquillo, more- intervened
community).**

Those efforts are limited by **economic and market barriers**. Women artisans consider that the prices for chambira handicrafts in the Peruvian Amazon are low and unstable, which is why they have problems accessing a fair market. As one interviewee from a non-intervention community noted:

*In our community there is not much of a market. We need more
markets to be able to sell our handicrafts. Also, we do not have
support from the federations or the government. We need
support from the state and projects to improve our quality of
life. (Interviewee, Boras de Colonia, non-intervention
community)*

As for the **geographical distance and accessibility** from/to towns and cities, it is influential but does not determine the success of each community. For example, the Boras de Brillo Nuevo community is located in the middle of the watershed and is one of the most successful communities in the production and commercialization of chambira handicrafts. This could be

due to different factors such as the increased presence of NGOs or because the community itself has put more effort into learning and improving its production processes.

Internal barriers are present in all the four communities, but especially in the less-intervened communities (Boras de Colonia and Santa Lucia de Pro). One internal barrier is limited **family support**. Women artisan in less non-intervention communities tend to not have full support of their families. Sometimes, women feel that they have no one to motivate them to follow their dreams or they do not feel capable of taking on new tasks in their lives. That is why family support is essential for them; if their families would give them that confidence, it would be easier for them to step out of their comfort zone.

Here in my community there are few women who want to work the chambira with us, because of their partners who do not want to let them participate or neglect their children (Interviewee, Santa Lucia de Pro, less-intervened community).

In contrast, women artisans in more-intervened communities thank to the external interventions tend to have more family support. Both men and women participate in diverse activities and feel the confidence and motivation to learn new things. Nevertheless, even in intervention communities some women artisans still do not belong to the associations because their husbands do not accept that women work or engage in other activities. So not all women in communities participate in associations, even if there is an intervention.

There are some women in the community who cannot join the association because they have to take care of their orchard and their children (Interviewee, Brillo Nuevo, more-intervened community).

The second individual barrier is **time**. This barrier is related to the previous barrier (family support), considering that it is a daily struggle for women to organize their time without the support of their family. It is evident that time constraints are more significant in **less-intervened communities**, where interviewed women reported to not take on other activities because they only have time to take care of the family. They have no one to leave their children with or they do not feel capable of taking on new challenges. In this context, the contribution of their family is necessary. For example, the man can also take care of the family or put rotating schedules so that each can perform other activities that allow them to learn and improve, such as joining projects that improve their quality of life so that they feel that their priorities are also essential for their family. In contrast, in **more-intervened communities**, women feel capable of taking on new challenges and roles because they feel supported by their families, which makes it easier for them to join associations. With the support of workshops or training, they gain confidence and learn new things, which makes them feel empowered and contribute to the family economy, in addition to feeling valued for their work.

One interview participant from an intervention community noted:

Thanks to the interventions we learned to divide our time. In other words, women divide their time, for instance, this week, two days I go to the farm, the rest of the day I am going to be at home and I dedicate myself to weaving. This is how we have a shared role of tasks.

(Interviewee Brillo Nuevo, more-intervened community).

However, there are still some women in the communities with intervention who cannot join the associations because of time constraints and because their husbands do not give them the support they need to join other activities.

Lastly, the barrier of self-esteem seems to be vital for women artisans. The interviews conducted in the more-intervened and less-intervened communities revealed that the participation of women artisans in external projects and being part (or not) of an association of producers is strongly associated with having self-confidence. Not all women are part of a group associated formally or informally. Because, there are still women who need to develop self-confidence, feel that their opinion is important for their environment and feel that they can do other things. Not only do they take care of their children, they also generate income and strengthen their capacities. This is a long-term process as Indigenous women do not have easy access to information that allows them to know their rights and feel that they can participate in projects that give value to their handicrafts.

Women are involved in all the processes to obtain the chambira handicraft. Women have the right to participate and help our family (Interviewee Boras de Pucaurquillo, more intervened community).

External interventions can influence the strengthening of their confidence and help them get out of their comfort zones. In addition, this empowerment of women can be replicated indirectly to other communities or to other women close to them.

4.2. Interaction of individual or collective organizational practices.

Table 01. Interaction of formal and informal systems

| Stages | Organizational practices | | Interaction |
|---------------------------|---|--|---------------------------|
| | Informal / traditional | Formal | |
| Tenure | Individual chacras or purmas, which have a variety of products | Sometimes, individual plot <i>which are mostly for chambira</i> | Complementary or coexist. |
| Management planting | - Individual / family planting: Let the añuje sow/plant the chambira in the chacra or purma | Individual / family planting: Reforestation in the chacra or purma | Complementary or coexist. |
| Management harvesting | - Individual / family harvesting: Cut the palm or cut the cogollo with machete | Individual / family harvesting: Cut the cogollo with a hook, without damaging the palm | Substitution |
| Production of handicrafts | Individual / family | Individual-collective (each woman/family contributes to complete a product orders made to the association) | Complementary or coexist. |
| Commercialization | Individual / family | Individual-collective (each handicraft is sold in name of the association, and profits | Complementary or coexist. |

| | | | |
|--|--|--|--|
| | | go to the woman/family who made that handicraft) | |
|--|--|--|--|

The traditional practices are present in the both more-intervened and less-intervened communities. Likewise, traditional and formal organizational practices can interact across the different stages of the chambira handicraft production process: tenure, plantation, harvesting, production and commercialization.

Tenure

According to land tenure, both more **interventions and less interventions** communities manage or use their land in a traditional way, individually. Individually they have their *chacras* and *purmas*. *Chacras* are an area of land that is close to their homes and this area has different types of agricultural products (e.g. Cassava (yuca), bananas, pineapple (piña) among others). *Purmas* are areas of land that each community member own inside the community forest, where they manage and harvest diverse forest resources. There is no formal document of allocation of *chacras* or *purmas* inside the official community territory. One interview participant from a more intervention-community noted:

Well, here we mostly do our chacras, we take our banana, yucca and pineapple, but we also have some chambira palms. In our purmas we have only chambira from that area we also harvest.

(Interviewee Boras de Pucarquillo, more-intervened community).

Each person and Mingas (are activities in which some members of the community participate to harvest, clean the land and obtain their raw material or resource) can clean their own area to

plant or use their chambira and it is implicitly understood that the other members of the community must respect their zones. By tradition, these informal individual properties are informally transferred by inheritance, passing down from generation to generation.

Families or groups of people can have as many orchards as they consider necessary, whether 3 to 5 purmas per family or group. They clean their land using traditional techniques taught by their parents. This form of land tenure does not change, no matter the presence of external intervention in the communities, which means that the organizational practices in the administration of their territory remain traditional practices.

The interventions in the communities have promoted the creation of plots (is located in forest communal or purmas). The plots are for the collective use of the associates and also individual. In these plots the chambira is reforested and they can also harvest. Here is a complementary interaction on land tenure in intervened communities. For example one interviewee commented:

We have been taught to delimit our plot, we have a plot for collective use and we have also started to have individual plots for harvesting and sowing chambira (**Interviewee Brillo Nuevo, more-intervened community**).

Management - harvesting

In the most and least intervened communities, the form of organization for harvesting is traditional or informal. Women open/work their *chacras* or *purmas* and harvest the chambira fiber in different ways: individually, by family, or collectively with the help of other community members through a traditional system called “*minga*”. Women can organize *mingas*, which are daily sessions of collective labor where some members of the community participate gather to "clean" or “clear” the land and/or harvest the chambira. On certain

occasions they may hold mingas where some members of the community participate in the collection of chambira for the benefit of the artisans.

In addition, the interventions helped the communities to incorporate sustainable techniques and tools for chambira harvesting, leaving the machetes behind to use a special saw to extract the chambira fiber. This tool allows not to mistreat the chambira and the Cogollo (young leave) are easily obtained. Before, women had their traditional practices for the collection of chambira, they used to cut the whole palm to obtain the fiber, now women no longer cut the palm trees because they have learned new sustainable management techniques. The traditional practice of chambira harvesting was replaced by an introduced practice. One interview participant from an intervention-community noted:

We used to take the leaves off the chambira as we wanted and cut them. Secama has given us special saws to cut chambira, without mistreating the leaves. We only cut the leaves or Cogollo and it falls, Secama has taught us how to do this.

(Interviewee Brillo Nuevo, more-intervened community)

Management – plantation

Reforesting chambira is not a traditional practice. Some women, especially in the non-interventions communities, expressed that they do not reforest because they mention that an Amazonian wild animal species commonly called “añuje” naturally plants the chambira in their areas. Indeed, the añuje is considered a natural seed disperser in ecosystems, especially palm trees. One interview participant from a non-intervention community noted:

My mother taught me that we should take care of the chambira and we shouldn't eat the añuje. The añuje is the one who plants

the chambira for us; he is our boss. (Interviewee Boras de Colonia, less-intervened community)

In all the studied communities, but especially in the intervention communities, several women have learned (directly from trainings offered by external organizations or indirectly from other women who attended such trainings) to reforest their chambira, and they do so individually and collective. Also, they have learned to reforest their orchard and also to take care of their chambira so that they continue to produce. Still, women from the intervention communities also know that the añuje helps in the natural regeneration of chambira, which shows that there exists an interaction between traditional and formal systems. For example one interviewee commented:

Before, we didn't know what reforestation was. It was something new to us. We used to mistreat our Purmas and we saw that there was not much chambira left. Now no, the women are more careful. We started to reforest our chambira and now we have more to harvest. This is the result of the workshops they have given us (Interviewee Brillo Nuevo, more-intervened community).

Another interviewee expressed:

Thanks to all the knowledge he taught us, we already know how to make many manual things. It is important to maintain the fiber, because before in many purmas the chambira died (...) Secama has taught us to innovate, care and reforest. (Interviewee Brillo Nuevo, more-intervened community).

Processing or production of handicrafts

Both types of communities work their crafts individually and in groups. The women organize themselves individually or in groups to process the fiber and weave their chambira. They divide the tasks to process the chambira, weave the chambira and paint the chambira. On some occasions the artificial ink can displace the natural ink, because the artificial inks are obtained without so much work. Women in both types of communities complement their natural ink with artificial ink and some women only use artificial ink. The process to obtain the chambira fiber is done individually and collectively and then washed and sunned. At this point what predominates the most are the practices of traditional organization in the two types of communities.

Women members, when they receive orders, ask other women who are not members of the association for help with the orders (informally). They distribute the work, according to the quantity they can produce and the order is completed. For example one interviewee commented:

I work individually to produce my handicrafts and sometimes support the community again when they need to complete orders. (Interviewee Boras de Colonia, less-intervened community).

The associated women can also produce individually and as a group. Indirectly some associated women share their new knowledge in weaving design and teach other women who belong to other nearby communities. For instance one interviewee commented:

I have learned to weave the chambira, in workshops in Boras Pucarquillo, they came and invited us for a week. I was in Pucarquillo for a week to learn how to weave and process the

chambira fiber. It took me a long time to learn, but now I know how to weave chambira fiber. (Interviewee Santa Lucia de Pro, less-intervened community).

In this way, there is a complementary interaction between the formal and the informal in organizational practices.

Commercialization

In less-intervened communities, women associated and non-associated women sell their handicrafts individually to intermediaries, visitors or to other communities, informally. The payments are direct and in some occasions women exchange their handicrafts for basic products such as rice, sugar or milk. Women who do not have a formal association can sometimes sell their handicrafts to other women (associates) who belong to other nearby communities. The amount of money they receive is according to the amount of handicrafts they can produce and is therefore distributed on an individual basis. They usually generate less income from their handicrafts. For instance one interviewee commented:

The community sells individually and as a group. I send my niece to sell my handicrafts because there is no market. (Interviewee Santa Lucia de Pro, less-intervened community).

Regarding the more **intervened-communities**, even when there is external intervention and there are formal associations, the associated women sell their handicrafts sometimes individually (informally) and sometimes as a group/association (formally). The associated women can informally sell their chambira handicrafts individually when there is an opportunity or when the community receives visitors. Likewise, within the group of associated women, they formally sell as a group. Interestingly, each associated woman receives the profits for the

amount of handicrafts she worked individually. Also, within the associations there are family ties, since in most communities you can find that sisters, aunts or mothers belong and work collectively in the association

That way, formal and traditional organizational systems have a complementary interaction, because women can sell collectively but also individually and as a family at the same time. For example one interviewee commented:

The community is organized as an association. We have a president, treasurer, secretary, and we can choose whether to work in groups or as individuals. We also work individually; each woman makes own handicrafts at home and sells them.

(Interviewee Boras de Pucaurquillo, more-intervened community).

4.3. Influence of formalization on women empowerment: Contributions and challenges

| Types of Empowerment | Contribution | Challenges |
|----------------------|---|---|
| Economic | Women contribute to the family economy and reinvest in their materials. | Limited income (low prices and few sales) and unequal income (non associated women and associated women make less profits). |
| Collective | Associations promote collectivity in order/sales management. | Divisions & tensions among women artisan, for differences in |

| | | |
|--------------------|--|---|
| | Strengthening of social networks among members. | handicrafts skills (which influences access to support and associations). |
| In decision making | Women exercise group and individual power to take on new tasks. They improve their confidence and participation in decision-making. | Unequal participation not all women participate, because there are still women who do not leave their comfort zone. |
| Cultural | Women value and disseminate their culture—strengthening their cultural identity and preserving traditional designs. | New techniques can displace traditional ones. |

These results show the different contributions that external interventions have made and also the challenges that remain to be mitigated for all women and all communities to become empowered.

Economic Empowerment

Across more intervention and less-intervention communities, all interviewed women artisans perceive that the economic profits they get from selling chambira handicrafts are low. In all communities, women express that the profits from chambira handicrafts alone are not enough to cover all house/family expenses – which is why women perceive selling chambira

handicrafts as an *additional* economic activity (done in addition to traditional activities, such as growing agricultural products and fruits in their chacra). However, the problem of low profits from chambira handicrafts is stronger in less-intervention communities and among non-associated women artisan in both types of communities.

In the two less-interventions-communities, the women artisans have their own associations but they were created a short time ago. For this reason, women in less-intervention communities have more difficulty (in comparison to women in more-intervention communities) to sell their handicrafts. When they do find customers (usually sporadic visitors or intermediaries), they sell their handicrafts often at prices that they consider too low. Thus, the income of women artisans in these communities is highly limited because there is no regular/stable demand and the (informal) market does not regulate prices for sale. They perceive that selling chambira handicrafts helps them very little.

The sale of handicrafts does not contribute much to our economy just to buy groceries. There is also no stable market for the sale of our handicrafts. The Indigenous federations are not present in the community. We have made our own association to sell handicrafts but we are not registered which makes it difficult to sell them. (Interviewee Boras de Colonia, less-intervened community).

Despite market difficulties and low prices, women in the less-intervened communities continue to believe that the profits they earn - even if they are not big - do allow them to contribute a little to the family economy. These women artisan report that they use the handicrafts income to pay for their children's education and health costs as well as to buy food and basic-need products for the house (e.g., sugar, soap, oil, rice, etc.)

In the more-intervened communities show that formalization of women artisans as an officially registered association helps – to some extent - to improve their income. The women mention that the chambira helps them to have a regular income in their economy. This allows women to feel more in control of their economic income since they also contribute to their family economy.

Before, the communities did not give importance to the chambira for handicrafts. SECAMA, in 2002 gave us the option of how we can invest and innovate with handicrafts to find a market. Today, Indigenous women give importance to handicrafts because it increases a little more their income, because the manager of SECAMA comes to buy from us monthly. (Interviewee Brillo Nuevo, more-intervened community).

Associated women in more-intervened communities expressed that selling their handicrafts is one of the main sources of economic income, because they feel NGOs give them technical support as well as support to find customers and manage product orders. Sometimes the presence of external agents can help women to have a little more knowledge about the market and how to sell their handicrafts to local or international markets. The women in the more-intervened communities consider that chambira regularly helps them in their quality of life and in strengthening their knowledge in the sale of their handicrafts. The help from external interventions is fundamental, because of the training and because they learn every day how to sell and improve the quality of their designs. One interviewee commented:

We have improved the quality of our handicrafts. Now we know many more ways of weaving and we learned different models.

Thanks to the training we received from the NGO we know new designs such as purses, bags, earrings, backpacks and others.

(Interviewee Brillo Nuevo, more-intervened community).

Interestingly, they report that their profits are spent in the same way as in less-intervened communities: to cover basic expenses related to children and the house. Women spend their income especially on their children to buy their uniforms or for their studies. They also spend it to buy basic products and in a small proportion to reinvest in materials for their handicrafts.

Despite the benefits from receiving external support and being part of a formal association, associated women in more-intervention communities still express concerns. The profits they receive from the handicrafts are still very low for all the effort they put into each craft. One interviewee comment:

The sale of handicrafts has changed and we are now able to sell our handicrafts at a higher price, but we still feel that our income is still too low to cover all our basic needs. (Interviewee

Boras de Pucaurquillo, less-intervened community).

They believe that the handicrafts should have an added value, so that the prices are a little higher and they can continue to innovate their products and improve the quality of life of their children. They express that they need more support from entities to strengthen these gaps or barriers to economic empowerment for all women artisans.

For example, one interviewee commented:

The NGO has helped us to move forward, we have a lot of support. Yet, we do not have a fixed market. Secama has taught

us to innovate, care and reforest (Interviewee from Brillo Nuevo, intervention community).

Collective Empowerment

Women in the **less-intervened communities** have some weaknesses when it comes to organizing and selling their handicrafts. Not all women participate in decision making regarding the commercialization of handicrafts and the weaving process because they lack knowledge and do not feel capable of contributing to these activities. The networks of trust among women associated artisans are good, however, some women lack motivation and self-belief. They work together but they need to receive more training to strengthen their skills and get out of their comfort zone and recognize that their handicrafts have an important value.

For example, one interviewee commented:

Here in the community we are a group of craftswomen but we are formally registered but we are very few. There are some women who do not want to join, they tell us that they do not have time or that they do not know how to weave. I believe that it is a lack of interest on their part. (Interviewee Boras de Colonia, less-intervened community).

The associated women in more **intervened communities** have strengthened their capacity to organize themselves and distribute different tasks to obtain their products, which are the handicrafts. Women also feel more confident and give value to their handicrafts because of the effort they put into each of their tasks. They improve their ability to elaborate new designs as a group and sometimes share their new techniques with other women in order to help others improve their designs.

For example, one interviewee commented:

In our organization, we have learned to distribute our time and share us ability in the weave with other women. External interventions have helped us to improve the work among women. (Interviewee Boras de Pucaurquillo, more-intervened community).

However, women in more-intervened communities may experience divisions and conflicts. NGOs can encourage competition among them for their designs, because they have better finishes than the others. So, divisions and tensions arise in light of women's different handicrafts skills: some learn faster and can significantly improve the quality of their designs than others. So, the most skilled women are the ones who can become part of the most supported and successful artisan associations. On the other hand, the other women are not able to be part of those associations and feel that they and their handicrafts are "rejected". This can provoke some conflicts among women within the community, especially between women who were able to be part of more successful associations, and those who were not able to do so. For example one interviewee commented:

Now we know many more ways of weaving and we learned different models. Thanks to the training we received from the NGO we know new designs such as purses, bags, earrings, backpacks and others. The other associations of the communities do not know how to weave as well as we do. Because for me being an artisan means having a well-finished product and I think that is why people look for my community. (Interviewee Brillo Nuevo, more-intervened community).

External interventions help to promote organized work and improve their networks of trust among women. Each of them provides support and collaborates to deliver their handicrafts as a group. However, there is a contradiction because at the same time that formalization initiatives promote joint work among naturally skilled women through associations, they also promote divisions between women with more and less skills. For example, a community may start with one association of women artisans, but over time as many as three associations are formed. This is according to the most skilled women and the others are rejected because they need to improve the finishing designs of the weaving. This divides the women who belong to the **star associations** and **less successful associations**. For example one interviewee commented:

In the beginning we were only one group. We were only one group, sometimes one group is not going to be alright, always some difficulties because of different weaving and design skills. So that was the reason we are no longer one group and we formed three groups of women artisans. We are still not formally registered for lack of money because that costs (Interviewee Boras de Pucaurquillo, more-intervened community).

Empowerment in decision making

Both types of communities, the most intervened and the least intervened, have been improving their level of trust and support for each member, formally associated women and informally associated women. Each woman trusts her work group and gives her opinion on the tasks that each one can perform according to her skill in the craft. There are some women who dedicate themselves to painting chambira fiber and others only sell the fiber. Some women divide the orders by what works best for them, for example hammocks, bags and earrings.

One interviewee commented:

Women participate in all the processes to obtain chambira handicrafts. We women have the right to participate in the decisions of how and where to sell our handicrafts **Interviewee Brillo Nuevo, more-intervened community).**

However, the participation of all women is still unequal because there are still women who are afraid to leave their comfort zone to take on new tasks or due to lack of knowledge and simply lack of self-confidence. In this sense, it is necessary to improve or work on the self-esteem of all women because it will depend on whether they feel that their opinion matters. Also, that they are important for their families and for the community and that they all have the capacity to take on new tasks in their lives. For example, one interviewee commented:

I have never participated in butterfly workshops, so I don't know how to weave butterflies. But, there are some women who have made an effort to learn to weave butterflies, and when they ask me for butterflies. I do not know how to weave butterflies, because I had not taken interest and motivation to learn. **(Interviewee Boras de Pucaurquillo, more-intervened community).**

It is necessary to mention that empowerment in decision making seems to be directly related to psychological empowerment. Women have also lost their fear of expressing their opinions because they believe in their abilities, have more support, and have also strengthened their networks of trust and teamwork. The purpose of helping women is to strengthen their leadership capacity and also to help them recognize that their work has value and that they need others to value their efforts.

Cultural Empowerment

In the both more-Intervened communities and less-intervened communities, women artisans weave together both traditional and introduced practices. They continue to use natural paint in their handicrafts because it does not fade and some clients prefer natural paints. Sometimes, they use artificial paint, because it is easier/quicker to buy ready-to-use paint than to make natural paint. For example, one interviewee commented:

We paint our fibers for handicrafts with natural dye and we also buy artificial dye (Interviewee from Santa Lucia de Pro, less-intervened community).

In the more-intervened communities the women learn new weaving techniques and designs (e.g., belts, bird designs, bread baskets, backpacks and earrings) that are highly demanded in the market and are sold at better prices. These new designs are displacing some traditional weaving techniques: not many women artisans apply anymore their traditional designs such as the weft stitch in their jicras and hammocks. The same is occurring in **the less intervened communities**, the traditional designs are decreasing and they no longer weave their handicrafts with the trama design in large quantities. The trama is a traditional design of the communities. For example, one interviewee commented:

In our community we weave little of the traditional weft weave. For example, sometimes a buyer comes and tells me, Madam, you don't have trama bags, I tell him no. We don't weave, now we weave the crochet stitch that we were taught to design. What happens is that most of the orders are for designs like birdies, belts or handicrafts

and we leave aside the trama weave. **Interviewee Brillo Nuevo, more-intervened community).**

Despite the loss or decrease of some specific traditional techniques or materials, women express that the commercialization of Chambira handicrafts, in general, contributes to enhance the value of their culture. For this reason, women can find a market for their handicrafts and show their cultural work through their products.

5. Discussion

The purpose of this research was to analyze the effects of external interventions in Indigenous communities aimed to support the formalization of the production and commercialization of chambira handicrafts. I examined the barriers that women face when trying to be part of formal systems, how informal, traditional organizational practices and formal, new organizational practices interact with each other, and how external formalization initiatives influence the empowerment of Indigenous women. The main findings are discussed below.

Gaps in the incorporation of women into formal organizational systems.

From the results obtained in this research, it can be deduced that women have internal and external barriers that do not allow them to join formal organizational systems – especially in non-intervention communities, but also in intervention communities, where not all women become part of formal associations. The internal barriers are the lack of family support, self-esteem and time, which are specific points that women need to mitigate with the presence of external interventions and also with their own contribution.

The data show that the communities with less intervention (Boras de Colonia and Santa Lucia de Pro) are the ones that show more of a barrier. Therefore, they are not able to access permanent projects or projects with more presence in the communities, which would help them to formally become associations. One internal barrier as family is related to time is that, women

need family support so that they can participate in other activities. It is considered essential that the women artisans feel the support of their families, so that they feel motivated to continue learning and to be able to earn an income that allows them to help their children and themselves.

The self-esteem barrier is considered vital for women artisans to develop self-confidence and be able to take on new tasks. This barrier needs to be mitigated and strengthened in women artisans so that they feel that their opinions and the work they do has value for their families and their community. Wickramanayake et al. (2020) mentioned that Indigenous women often lack self-esteem, which is an added obstacle to their ability to participate in processes within their communities. Women interviewed in Guatemala and Bolivia mentioned lack of self-esteem as a barrier. These women noted that they frequently feel worthless and ashamed.

On the other hand, in the analysis of the communities with intervention (Boras de Pucaurquillo and Brillo Nuevo) the barriers are less because they have more presence and technical and financial support that allows them to improve their economic income. It also helps them to develop different skills and abilities in the commercialization, management and production of their handicraft resources. But there is still a part of women who do not benefit from these projects, either because they do not participate in the association or because there is no interest to improve their skills and other things.

On the other hand, external barriers are present in both types of communities. These barriers limit the commercialization of their handicrafts, related to market/economic restrictions, insufficient political and institutional support, and geographic barriers. Some of the most prominent external barriers are the lack of a fixed market/demand for handicrafts and price instability (dependence on fairs, orders and intermediaries). Globally, non-timber forest products are vital and important to rural and urban society as they provide economic and livelihood support. The different NTFP as medicines, food, floral species, resin and oil and for

handicrafts are used in different market structures, whether domestic trade or international trade. However, handicrafts that have a high value in the economy local populations. It does not have many sales records or a formal economy of this type of products, since most of the handicrafts are made in Indigenous communities and are sold more informally and in some cases international trade (Fight and Weigand 2005). It is necessary to regulate these types of products because they represent the culture of different Indigenous ethnic groups and need institutional support through fair markets (McLain et al. 2008). The lack of political institutions is a major external barrier that women must mitigate in order to enter the handicraft market at a better price. Both local and national governments must improve these policies so that small producers can also grow in their income productivity (Emery et al. 2004).

Interaction of individual or collective organizational practices.

External interventions have had an impact on almost all phases of women's organizational practices in the 4 Amazonian communities. This includes tenure, planting management, handicraft production and commercialization. In terms of management harvesting, both women in more intervened and less intervened communities have replaced their traditional harvesting practices with new tools, such as a special saw that external interventions have provided them with for collecting chambira.

In tenure, there is a complementary interaction. Each artisan woman has her chacra or purmas individually or as a family. However, they also have a collective plot where all the craftswomen can harvest and seed, and eventually they make individual plots as well. With respect to management planting, the women organize themselves individually, family-wise, or collectively to plant their Chambira (using reforestation). They also believe that the añuje is helping to spread the seeds of the chambira in their purmas. In the production and commercialization of the chambira, the women organize themselves individually and collectively to elaborate and sell their handicrafts, with a complementary interaction since they

can collectively formally associate but can also sell individually. This research highlights the need to carefully consider the impact of external interventions on the traditional organizational practices and knowledge systems introduced. In addition, external interventions can also sometimes displace other practices, such as harvesting, but can also positively complement women's economic income and organization. According to Elizabeth M. Lee's research (2013) *Integrating External Interventions and Traditional Practices in the Management of the Chambira Fiber*, the primary results indicate that external interventions can provide new opportunities for sustainable resource management, but also disrupt traditional cultural practices and knowledge systems. The integration of these external interventions and traditional practices may lead to increased resource efficiency, greater economic returns, and improved outcomes for local communities. However, Lee's research also reveals that integration of external intervention into traditional resource management practices requires careful consideration of power dynamics between stakeholders, and the need to ensure equitable outcomes that are based on shared decision-making processes. Another study emphasizes that external interventions have had both positive and negative impacts on women's organizational practices in the Amazon. Positive impacts include increased access to resources, networks and opportunities. Negative impacts include displacement of traditional knowledge and practices, and alteration of social and political power structures (Ogden 2003).

Contributions and challenges of formalization to empowerment.

Women's empowerment can be understood from different sides, not only in terms of economic empowerment. There exist different issues in which women should be strengthened so that they can empower themselves and feel that they are also important in their community. This study shows that formalization helps in the economic, decision-making, collective, psychological and cultural empowerment of indigenous women – in different degrees and ways, across different

communities and women. Nevertheless, empowerment remains unequal because the level of presence and support does not reach all women artisans.

Kruger (2019) pointed out that projects carried out by stakeholders, such as NGOs, improve women's empowerment and help care for forests. However, reality is more complex than that. Support from external entities such as NGOs or regional or local governments can contribute to economic and decision-making empowerment and can have contradictory effects on collective and cultural empowerment.

Support from external entities such as NGOs or regional or local governments can contribute to economic and decision-making empowerment. The data show that women in the communities of Boras de Pucarquillo and Brillo Nuevo have a better economic income from the Chambira. They mention that it helps them regularly in their daily expenses and also for their children. They feel they have the capacity to manage and distribute their earnings to their households and associations, which empowers them economically thanks to external interventions. However, for both the intervened and less intervened communities, the prices of the handicrafts are still low because of all the work that they do to obtain their handicrafts. The handicrafts should have an added value both for their important cultural contribution and also for what this work means for the Indigenous women.

In the empowerment of women in decision-making, it can be interpreted that in the communities with intervention, women are losing their fear of giving their opinions and expressing their perspectives. This generates a significant change in the Indigenous communities since women are considered key to the management of natural resources and because of the skills they develop thanks to the training received. Empowerment in decision making is closely related to psychological empowerment. Both the communities with intervention and the communities with less intervention need to strengthen their confidence in themselves and feel that they are also capable of learning and improving their knowledge in

commercialization, production and other issues. This will allow women to lose their fear and participate in decision making.

Support from external entities such as NGOs or regional or local governments can have contradictory effects on collective and cultural empowerment. With respect to collective empowerment, it was found that women that get together in associations improve their bonds of trust and mutual help among themselves, which means an increase in social capital. But, the results also show that external interventions generate competition among them, since some learn faster and improve their quality of design, which causes internal conflicts, but these are manageable conflicts. So, formalizing associations can cause divisions and tensions between women with different degrees of skills, between women from different associations and between associated and non-associated women. Chiriboga (2012) mentions that successful integration of external interventions and traditional practices in chambira fiber management must take into account local contexts, recognize the importance of collective action and decision-making power, and acknowledge pre-existing systems of hierarchy and resource management. For external interventions to contribute effectively to collective and cultural empowerment, it is essential that they build on existing traditional practices and respond to the specific needs and contexts of local communities.

In terms of cultural empowerment, the women value and preserve their traditional knowledge in their designs with which they make their weavings. Nevertheless, in some occasions the interventions can alter the designs introduced and leave aside traditional designs.

Overall, external interventions can generate positive and negative effects in indigenous communities when it comes to empowering women. The communities with external interventions can experience conflict between women because of their ability to weave and can lose some traditional weaving and painting techniques. However, the positive effect may be

that women have improved in the development of their skills and feel valued and consider that their jobs are important and that they have rights just like men.

6. Conclusion

This study shows that formalization empowers women, but in a limited way because not all women are included in the formal system (association) and it continues to be inequitable because not all women have the same opportunities. There are still great barriers that make this task a little difficult for the entities that promote these issues and for women who wish to improve themselves.

The women artisans in all the four studied communities, with interventions and non-interventions, face one or more internal and external barriers to join formal organizational systems (associations). In order to reduce these barriers, interventions should focus on providing more resources and training, as well as increasing support from the state. Additionally, it is important for families to provide support and motivation to the women artisans so that they can continue their work.

Our analysis also indicates that formal and non-formal organizational systems often do not compete, but rather coexist and complement each other and sometime substitute. In the case of tenure, the chacras and purmas belong only to the family or individually to the artisan women. However, the associated women learned to delimit their plots. Collective use plots were implemented where the associated women could access and also began to have individual plots apart from their chacras and purmas.-With respect to production and commercialization, associated women can produce their chambira individually or collectively in formal associations. With respect to harvest management, traditional practices are replaced by introduced practices.

The different organizational practices, both formal and informal, can influence women's empowerment in different and complex ways. It is complex because both formal and informal association can empower women in different areas, improve the organization of women in marketing, production, management of chambira, but it can have a negative effect in displacing traditional cultural practices, and the predominance of introduced designs. For economic empowerment, women have the ability to distribute profits they can contribute to their family economy. This also helps them to reinvest in their materials so that they can continue with their handicrafts. Culturally, despite external interventions, the women continue to preserve their culture and value it through their traditional designs in their handicrafts. Collectively, there is a strengthening of trust among women. It provides support and they know how to distribute activities and tasks as a group. In decision making women have the ability to assume roles in the association or group of women each one contributes her opinion or perspective. This allows Indigenous women to strengthen their capacities and improve their self-esteem. They can improve their quality of life and help other women to empower themselves, so that, with effort and self-confidence they can overcome and get out of their comfort zones in a successful way.

External interventions can generate impact in the communities directly and indirectly. Directly, by providing women with training to improve the quality of their designs, which makes their products cost a little more. Indirectly, because some women help other communities with craft orders and also some communities invite other women to workshops, which allows them to replicate their designs to other women in the watershed, so that these women receive these teachings and learn new techniques.

Future formalization projects to women artisan in Indigenous communities, need to improve several points and strategies for a more meaningful and equitable empowerment, such as:

- Better integrate traditional and formal practices.
- Consider different types of empowerment and not only see it from economic side.
Empowering more women and communities not only on an economic side if not also in the cultural, collective, and decision making.
- Personalize counseling for different women, to strengthen their self-confidence (psychological empowerment).
- Pay special attention to the most remote communities.
- Incorporate long-term projects to better adapt women to new knowledge.
- Give support through long-term (not short-term) projects.
- Provide technical training to improve their knowledge and ability to manage their resources – which also contributes to their self-confidence, as women who feel valued in their environment and capable to work and obtain their own resources for the good of themselves and their families.

7. Recommendations for future research

- Continue research on different types of empowerment to obtain holistic results with better analysis of different empowerment approaches non-timber forest products in Peruvian Amazon.
- External formalization projects should focus not only on training and technical assistance, but instead they should address all types of barriers (external and internal) in an integrated manner.
- Assessing Empowerment is fundamental and should be continuously investigated in the most vulnerable areas which are the indigenous communities, to obtain baseline information on the status of women and how they are developing in their communities. This will help entities or the state to implement strategies or projects

that strengthen women's capacities and their participation in their communities, thus reducing inequalities between men and women.

- Future research should also focus on the negative effects that external interventions may have when implementing projects in indigenous communities. This result will help to mitigate and improve implementation strategies in the field.
- Consider investigating the available markets for handicrafts in order to establish a price, incorporating levels of design quality where the market price is standardized by the quality of weaving.
- Finally, I believe that the analysis of the formal and informal systems of organization is necessary to establish guidelines where traditional organizational practices are complemented with the introduced organizational practices so that they do not lose their custom.

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