

**Empowering small cacao post-conflict farmer communities in Colombia to reach their fullest potential through co-creating their preferred future**

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*"I want my children to grow up believing that a farmer is a superhero."*

– Chef Christian F. Puglisi

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## Dedication

*Colombia's journey as a nation has been a challenging one. We have tried several peacemaking efforts through the decades, and at times not all successful, we continue to dream for a nation in peace where all can achieve our dreams. We dedicate this project to all the peacemakers, who against the most challenging circumstances, continue to make bold choices to create the conditions for communities and families to live peacefully and thrive.*

To Virgil, my loving husband, this journey of learning would not have been possible without your infinite love and support. This achievement is one we both have walked together.

To my mom, for being a guiding light in my life and for always encouraging me to follow my dreams no matter where they take me.

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- Laura

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- María

## **Abstract**

This research project explores how strategic foresight can empower post-conflict smallholder cacao farmers in Colombia to co-create a resilient and sustainable future. Rooted in the country's complex socio-political history and informed by Colombia's 2016 peace accords, the study examines the systemic challenges faced by cacao-producing communities, including barriers for a sustainable economic income, cacao regions' recognition, informal market structures, and barriers to fair trade. Using a futures-informed design approach within design thinking's Double Diamond framework, the project engaged smallholder cacao farmers through interviews, value chain observations, and a co-creation workshop. This collaboration led to the articulation of two preferred future scenarios, one centered on sustainable and regenerative cacao farming and the other on agritourism.

The project culminated in the development of a Flourishing Business Model and a Strategic Transition Roadmap. These tools aim to support smallholder cacao communities in achieving sustainable income, environmental regeneration, and socio-economic empowerment. The model blends sustainability and tourism and was validated with farmers from multiple cacao regions. A wind-tunneling exercise was used to test the model's resilience against future scenarios. Findings highlight that a strategy grounded in sustainability is the most adaptable and impactful, while agritourism provides opportunities to mitigate labor shortages and diversify income. The research demonstrates how co-design, and foresight can contribute to peacebuilding and rural development by enabling communities to shape their own futures.

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## **1. Understanding our problem's context**

### **a. About Colombia's armed conflict**

Colombia's modern democratic history has been impacted by challenging circumstances and factors such as extreme violence, forced displacement and a wide political and ideological divide between its citizens for more than sixty years. Also, Colombia is one of the most inequitable countries in the world according to the Gini Coefficient which has been globally measured by the World Bank Poverty and Inequality Platform (Joe Hasell, 2023). Furthermore, these circumstances have made it incredibly difficult for the country to create opportunities for its communities to thrive and live peacefully.

Several authors from the Historical Commission of the Conflict and its Victims (CHCV)<sup>1</sup> whose works have been redacted in the Truth Commission's final document have stated the need to understand the origins of and development of the Colombian armed conflict. Amongst these are 'agricultural matters, institutional weakness, the wide income gap, the trend of simultaneous use of arms and polls, or the lack of presence and sometimes traumatic governance from the state in many regions of the country' (Kolumbien, 2022, p 25). The escalation of this conflict at its highest point, also widened the divide between urban centres and rural regions of the country. Colombia's rural regions are in the most secluded areas of the country due to the Andean region mountainous geography, plus amid all the chaos and violence of the conflict meant a debilitated central government presence in its citizen's lives and support for prosperity. In result, rural areas in the country and especially smallholder farmers have been the most affected and of these victims, 95% are living below the poverty line (Garay, 2013).

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<sup>1</sup> Comisión Histórica del Conflicto y sus Víctimas (CHCV): Historic Commision of Conflict and Victims

On the other hand, the different guerilla groups<sup>2</sup> that were involved in the country's internal conflict became very powerful in these rural and impoverished regions.

Increasingly, drug cartels also became interested in the lands where these organizations had major influences, as this is where they could operate their illegal drug production and operational activities from. These issues further heightened the internal violence, this time for the acquisition of resources and land. Moreover, the government's military strategy to cease these actors' illegal activities forced many rural families into displacement, leaving behind their lands, farms and homes with no sight of return.

- **The peace accords**

The Colombian government and the main guerilla group in the country, FARC-EP, after several rounds and years of negotiations, agreed to sign peace accords in November 2016. As mentioned in the Peace Accords Final document's introduction (*Acuerdo final para la terminación del conflicto y la construcción de una paz estable y duradera*, 2018):

It is about building a stable and lasting peace, with the participation of all Colombians. With this purpose, to put an end once and for all to the historical cycles of violence and lay the foundations for peace, we agreed on the points of the Agenda of the General Agreement of August 2012, which develops this Agreement. (p. 6)

This agreement comprehends six mandates to build a long lasting and stable peace for all. Mandate one, The Integral Rural Reform (RRI)<sup>3</sup> establishes a roadmap to sustainably

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<sup>2</sup> Groups with political ideologies that diverged from those of traditional political parties who established themselves mostly in rural regions. They resorted to armed conflict and violence as a means of seeking legitimacy.

<sup>3</sup> The Integral Rural Reform (RRI) aims to help reverse the effects of the conflict on Colombia's regions and territories by integrating them into development, eradicating rural poverty and providing institutional supports for the well-being of rural residents.

transform rural areas and their local economies and bring wellness and prosperity to local farmers and their communities (Aldana et al., n.d.). Current challenge in its implementation have posed a delay to these much-needed changes and the farming community is pushing for the current state government to execute on its promises.

## **b. About the Colombian Government**

In 1991, the new Political Constitution of Colombia was established, stipulating that the Colombian State is a Social State of Law, which "means that the Colombian State, in its organization and functioning, is oriented toward addressing the social needs of the population, which is done within the framework of a set of norms; that is, the State, in its actions, is governed by law" (Departamento Nacional de Planeación, 2011).

Additionally, the Colombian State is a Unitary State. That is to say that Bogotá serves as the governmental and political center, where the sole authority is located, and its society is governed by the same law, regardless of where each citizen is located.

However, there is administrative decentralization, which means that administrative decisions can be taken locally. Consequently, the State, at the national level, reserves the exercise of legislative and judicial functions, while the administrative function is shared with the territorial sections, in the Colombian case with the departments, municipalities, districts and other territorial entities such as metropolitan areas (Departamento Nacional de Planeación, 2011).

In addition to this, the administrative sector is headed by the Administrative Department of the Presidency and one of the main agencies of the administrative power are the ministries. For the purposes of this paper, the ministries of interest are the Ministry of Agriculture and Rural Development and the Ministry of Environment and Sustainable Development.

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### **c. About cacao**

Cacao, a fruit native to Central and northern South America, has long been produced in Colombia. Unlike many other cacao-producing nations, Colombian cacao production is largely focused on satisfying domestic demand, which is deeply rooted in the country's tradition of drinking hot chocolate (P. C. Abbott et al., 2017). Added to this, the country has prioritized coffee production and export since the 19th century due to that crop's ability to thrive without specific growing conditions, its lower production costs, and its faster growth rate. As a result, despite cacao being a highly sought-after commodity for its derivatives worldwide, and Colombia ranking as the 10th largest producer globally (United States Department of Agriculture & Global Agricultural Information Network, 2022), the country remains a relatively minor exporter.

The variety of cacao produced in Colombia is "Fine flavor", the best quality that can be found in the market and is mostly purchased and processed by two large national companies, Nutresa and Casa Luker (P. C. Abbott et al, 2017). In the last 10 years the country has made efforts to continue increasing its production and to make Colombian Cacao known worldwide. For example, following the peace agreements with the FARC-EP guerrilla group, the Colombian government has actively promoted the cultivation of cacao throughout the country as an alternative to illegal coca crops.

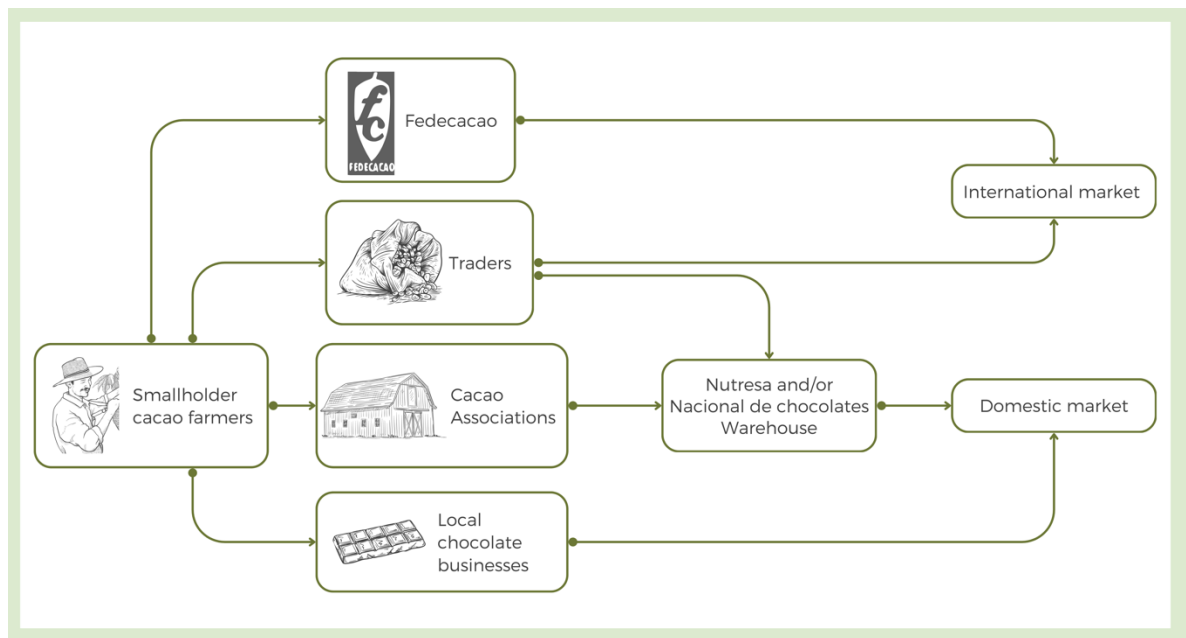


Figure 1: Colombian cacao supply chain

Currently, the world's leading cacao producers are Ghana and Côte d'Ivoire. Cacao prices have reached record highs due to Africa's most significant supply shortage in 40 years (Asplund, 2024). This presents a significant opportunity for Colombian cacao producers to capitalize on the market by positioning themselves as major exporters of high-quality cacao.



## 2. Research Problem

During the framing stage of our research on smallholder cacao farmers in Colombia, three main critical problems emerged:

### a. Power centralization

The Colombian Government's governance model, which is centralized, has resulted in the abandonment of the Colombian rural areas. This is caused by the Government mandates with its top-down approach through the Agriculture Ministry that lack proper communication channels amongst all other departmental and local government entities which cause conflicts in coordination and vision (Comisión de la Verdad, 2022).

This power centralization and abandonment has two main consequences for the smallholder cacao farmers, among others: The lack of infrastructure and insufficient technification.

In particular, Colombia's 'tertiary roads', which are rural roads, are the main connectivity to larger roads and highways in the country. The creation and maintenance of these are under the purview of the National Government and there has been a de-prioritization of work on these roads. This makes transportation and supply chain networks from rural areas much more challenging and costly for smallholder farmers, as these added costs do not allow them to maximize their profits.

On the other hand, the centralization of power has enabled illegal armed groups to further penetrate rural areas, particularly the most remote regions. As a result, due to indirect and direct impacts of the armed conflict, the farmers are reluctant to adopt technology or acquire new skills to scale their businesses and prefer low scale/low risk crops instead (Arias and Ibañez, 2012). This results in the ongoing lack of technical skills and a vicious cycle for them as this halts their expansion into a larger market opportunity resulting in hindered growth. Consequently, the Colombian cacao production system lacks formal skills and capabilities, leading to a reactive rather than proactive approach to business growth (Pradilla, 2024).

## **b. Informal relationships**

Currently, most business relationships that cacao smallholder farmers have are informal. One consequence is that since most payments are made in cash, the majority of farmers are left without access to formal banking services. This represents an opportunity to formalize current relationships and take advantage of the potential for these agribusinesses to flourish.

In addition, the relationship between the National Government and the cacao smallholder farmers is through the local producers' Associations<sup>4</sup>. These organizations play a central role in the relations of the farmers, because while these businesses do not have a close or direct relationship with the national government, Associations have a more direct relationship with and have the capacity to lobby on behalf of small producers.

## **c. Fair-trade**

Despite the significant strides made in the Colombian cacao sector, smallholder farmers are not fairly compensated. For those smallholder farmers that sell through intermediaries, they do not receive the full economic benefits of their hard work. "The amount paid to a farmer for the chocolate he or she produces is quite small relative to the high prices that can be paid for premium chocolate bars in developed country markets" (Abbott et al., 2017).

## **3. Project's scope**

1. The national and local governments, along with the Ministry of Agriculture, are currently leading the agricultural agenda, with the Rural Integral Reform (RRI)

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<sup>4</sup> Associations are defined as a group of people who collectively perform and benefit from an economic activity. In the Colombian context, smallholder farmers join local associations to capture larger volumes of cacao beans and negotiate better prices with big buyers.

Secondly, they benefit from capacity building supports and retributions such as fertilizers, and farming tools.

mandate as a key priority. However, they have not met their original objectives, because of lack of communication between the different state entities in charge of implementing it. (Defensoría del Pueblo, 2023) The direction of the agricultural agenda often changes with each new administration, and the next government, beginning in 2026, may focus on different issues. Consequently, while the government plays a leading role in setting the agenda, our priorities should not be to design to solve its needs. The most crucial objective of this project is to strategically support Cacao smallholder farmers in overcoming their challenges independently of government decisions/mandates.

#### 4. Research Question and objectives

##### a. Main research question

How might we empower post-conflict smallholder cacao farmers in Colombia with foresight to allow these communities to reach their fullest potential and build a flourishing business model?

##### Supporting definitions of Inquiry

- **Post-conflict smallholder cacao farmers:** individual(s) with less than 5 hectares of land that were affected by the internal Colombian conflict before the signing of the peace accords between the government and the FARC-EP.
- **Foresight:** “Strategic foresight is an approach to rigorously look at different possibilities of how the future may unfold over time, given the changing and dynamic drivers of change at work in our world today. Foresight is used by governments, enterprises, and academia around the world to explore shifts in the global landscape and identify possible ways forward. The use of foresight enables rich ways of thinking about the future, informed by research on today’s trends and grounded in human-centred design methodologies.” (Connor & Stein, 2024)
- **Fullest potential and build a flourishing business model:** the ability for a farmer to receive fair trade in exchange for their produce and ensure this creates a sustainable and resilient business.

## **b. Research Goals**

In the journey of our deep understanding on the smallholder cacao farmers in their post-conflict context we would like to ensure the following:

- Clarify the role of the centralized government and the challenges that this creates in establishing flourishing businesses for participants.
- Enable trust between our participants and the rest of the actors of the Colombian cacao context and explain/integrate in this our solution to instill confidence between them.
- Build on our participants' resilience<sup>5</sup> to be able to create a flourishing businesses model for others in the country.
- Synthesize the challenges and pain points that our participants face and leverage these to create and maintain a new fair-trade supply chain plan.
- Highlight and clarify the opportunities in the technification of our participants' businesses to enter bigger markets and the opportunities that this creates.
- Leverage strategic foresight within the double diamond framework to design for our participants desired future through a co-created strategy plan.

## **5. Methodology**

### **a. Research Approach**

Qualitative methods were employed in this research to gain an in-depth understanding of Colombia's cacao system, including the challenges faced by its stakeholders, the opportunities within the system, and its existing gaps. This approach was chosen for its ability to explore not just what is happening, but also why it happens, providing valuable contextual insights. It enabled us to triangulate information gathered with Primary and

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<sup>5</sup> 'Resilience is the capacity of a system, be it an individual, a forest, a city or an economy, to deal with change and continue to develop' (Moberg & Hauge Simonsen, 2014).

Secondary Research, offering a comprehensive view of what smallholder cacao farmers and other key actors in the system say, think, and do.

- **Secondary Research:** A combination of articles, books, toolkits and policies were used to deeply understand the context of the Colombian cacao system, the armed conflict and the signing of the peace treaties between the Government and the biggest armed guerilla group, FARC-EP. These sources also were used to conduct a Horizon Scan and Environmental Scan aimed at identifying emerging signals of change and trends in the production and consumption of agricultural products.
- **Primary Research:** The primary research involved conducting in-depth semi-structured interviews with smallholder farmers and key stakeholders in the cacao production system. The interviewees included smallholder farmers currently producing cacao beans who have been affected by the Colombian armed conflict, as well as subject matter experts with extensive experience in the Colombian cacao production system.

#### **b. Ideation Approach**

A co-creation workshop with the smallholder cacao farming community was conducted as part of the project's ideation process. Involving the community was crucial, as the success and acceptance of both the methodology and the designed solution hinged on their active participation and input.

#### **c. Research Design**

This project is a Futures informed strategy project that used the Double Diamond framework, that suggests diverging and converging research approaches to achieve significant and long-lasting positive change (UK Design Council, 2005). This allowed for a holistic approach resulting in a systematic design intervention. The methodology outlined below correlates to these steps.

1. **Discover:** Gathering signals of change and trends in the production and consumption of agricultural products. The insights gathered informed the development of interview

guides for primary research. The objective was to gain a deep understanding of the challenges, gains, and opportunities faced by the small-holder cacao farmers in Colombia.

2. **Sensemaking:** The data gathered in Step 1 was analyzed in this stage to discover insights and understand the relationships and influences of the industry.
3. **Ideate:** A co-creation workshop was carried out with the the post-conflict smallholder cacao farmers (as they are the user group this project aimed to serve) to expand the possibilities of future strategic approaches.
4. **Develop:** This step involved the creation of a flourishing business model for smallholder cacao post-conflict farmers in Colombia based on their preferred future. In addition, a strategic transition roadmap was created to guide the implementation of the proposed business model.

## 6. Discovery Stage

### a. Interviews with Subject Matter Experts

To begin the fieldwork for this project, it was imperative to start with Subject Matter Experts to understand the Colombian cacao context in a systemic way. Thus, 21 virtual and face-to-face semi-structured interviews were conducted in Bogotá, Colombia depending on the availability and location of each of the Subject Matter Experts.

This sample included chocolatiers, technical assistants, representatives from Fedecacao<sup>6</sup>, non-for-profit organizations that support smallholder cacao farmers throughout the country, cacao production chain experts, RRI experts and members of the Government of Colombia Ministries of interest. All the actors mentioned above are

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<sup>6</sup> Colombia's National Chocolate Association

interested in the research and development of the cacao bean in Colombia and the expansion of its production.

### **b. Interviews of Smallholder Cacao Farmers**

The sample of smallholder cacao farmers was concentrated in the western region of the department of Boyacá. This region was selected due to its reputation for resilience, having endured the impacts of the country's internal conflict over an extended period. Today, it is recognized for its thriving cacao production and the peace and tranquility enjoyed by its inhabitants. Moreover, it is one of Colombia's nearest cacao-producing regions to Bogotá, making it strategically significant. Moreover, six interviews with smallholder cacao farmers were conducted in person, all belonging to the same smallholder farmer Association in this region.

- So, what happened in Boyacá?

Particularly in Boyacá, the conflict emerged first with the rise of violence between 'Esmeralderos' - Emerald gemstone traders, who saw a big economic opportunity to leave farming behind and engage with this new trade that brought in large amounts of income. Furthermore, this industry brought the interest of drug cartels to create alliances with the Emerald traders to increase security in the areas of mining extraction and stirring conflicts amongst their areas of influence. The violence escalated leaving thousands of people dead and finally in July 1990, a signed peace agreement diluted the conflicts 'with the commitment of complete forgiveness and forgetting' from regional leaders (Baquero, 2020).

On the other hand, the conflicts of acquiring and managing territories between the different guerilla groups permeated the region during this new decade, bringing in more violence and displacement of vulnerable farmers. At the same time, farmers that stayed in the region turned to harvesting coca leaves – which is the raw material for illegal drug production such as cocaine from which the drug cartels profited during this time. Farmers then were able to generate a

stable income through their buyer partner, as the profits of farming other crops at this time left them with more debt than benefits. However, these activities increased military presence from the state government as they tried to eradicate these illegal crops. By the early 2010s, farmers in the region decided voluntarily to eradicate the coca production and turned to a new crop instead, the cacao bean, for a new path forward (Campbell, 2022).

Furthermore, three virtual interviews were conducted in other cacao farming areas, the departments of Antioquia, Santander, and Nariño to minimize the risk of regional bias in the sample. These departments were selected based on their status as leading cacao producers in 2024 (Agrosavia, 2024) or their reputation for producing fine flavor cacao.

To provide deeper contextual perspective, we spent 5 days in Pauna, Boyacá, observing and studying the cacao value production chain, conducting interviews with smallholder cacao farmers, and engaging with them to share knowledge and experiences. For more context and details of our journey to Pauna see Appendix 1.

### **c. Chocolate Value Chain Observation**

To better understand the entire chocolate value chain from the harvesting of the cacao beans to the production of chocolate bars by processors, we visited two chocolate production facilities across two different cities and attended Colombia's biggest chocolate fair trade event.

#### **i. Kakaoteros**

Kakaoteros is an artisan chocolate processor in western Boyacá, run by a local farmer family with deep roots in the area. They started their entrepreneurial journey during the pandemic, as a testament to their family's ties to cacao beans as a means of changing illegal crops to establish a sustainable income a decade before, which has brought wholesome peace to the region.



## **ii. Tibitó**

Tibitó is a chocolate processor in Bogotá with a decade's long history of collaborating with smallholder farmers and Associations across the country, to bring the best fine flavour cacao beans to their customers. Their facilities are led by an expert chocolatier with international experience who carefully crafts their chocolate recipe for their award-winning chocolate bars.

## **iii. Chocoshow**

The 'Chocoshow' is an annual event held in Bogotá that showcases the diversity of Colombia's native cacao beans and their chocolate producers from around the country in the city's largest exposhow venue for 3 days in November. The sponsor of this event is Fedecacao – whose role as the industry leader is an open invitation for all visitors to learn about the portfolio of products from local producers and to promote them internationally.

## **7. Sensemaking Stage**

### **a. Introduction to Sensemaking**

Our discovery phase revealed a nuanced understanding of Colombia's cacao system, key factors at play, and interests from each actor identified within and outside of the cacao sphere. Therefore, our sensemaking process helped represent and encode data through systems thinking<sup>7</sup> (Ryan & Hamilton, 2012) and business model innovation tools (Upward & Edward James Consulting Ltd, 2013) to answer our questions of inquiry (Russell et al., 1993). This resulted in a shared understanding of insights that nourished and supported the next phases of this project - ideation and implementation.

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<sup>7</sup> Thinking performed with an appreciation of the broader context, considering dynamic interdependencies within the environment across multiple scales, that deliberately connects potential interventions with their implications for the variety of human values.

### i. Exploring the Cacao Beans System in Colombia

Our exploration of the Colombian Cacao Beans system through secondary research layered the foundations of its system, the main actors and their direct relationships. However, the interviews with subject matter experts and smallholder cacao farmers allowed for exploration of more in-depth concepts such as resilience, fair trade, trust, and intertwined relationships of the Cacao Beans system with different stakeholders and institutions<sup>8</sup>. Consequently, through an *Understanding of the System* approach as authors Jones & Van Ael propose on their book, **Design Journeys through Complex Systems**, we were able to translate through a causal loop diagram how the sum of the system's 'parts are recognized and interact with each other' (Jones & Van Ael, 2022).

### b. Current Business Models

To start unraveling the opportunities for the smallholder cacao farmers in Colombia it was necessary to understand how they create, deliver and capture value as a small business. Consequently, the Flourishing Business Model Canvas (FBMC) was explored to establish a shared understanding of the current business model of these small businesses, as well as their opportunities and threats.

Their business model is a simple one, in which smallholder cacao farmers sell their dried cacao bean production directly to local businesses, traders, and/or Associations. This approach allows the smallholder cacao farmers to offer traceability of the bean to their buyers, especially local businesses, which facilitates a fairer payment.

As for the threats, we found that the use of pesticides as a biophysical stock is critical for cacao bean production, but it could be a barrier for the smallholder cacao farmers to sell their production. As such, the use of chemical pesticides presents a barrier to obtaining sustainability and organic certifications. Without these, buyers are less likely to pay a

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<sup>8</sup> Government entities that play a critical role in funding and managing human and financial resources, at the local, departmental or national level in Colombia

premium price for the cacao. While some farmers have begun experimenting with herbal pesticides, this practice remains an untapped opportunity for the Colombian cacao community. In addition, achieving a sustainable income through cacao farming is a key objective for these farmers.

However, many family members must still take on supplementary jobs to meet their financial needs. Therefore, increasing production efficiency on the same land area is essential to achieving long-term economic stability. Most of the opportunities for smallholder cacao farming businesses lie in areas that have not been fully explored, leading to missed connections, suboptimal decisions, and unmet needs. While some actions have been taken to enhance business outcomes, they remain underutilized or poorly communicated. Key areas for improvement include the communication of the implementation of the agroforestry systems<sup>9</sup>, non-deforestation crops<sup>10</sup> and carbon capture<sup>11</sup> (For more details go to Appendix 2).

During the Discovery Stage it was evident that it is imperative for smallholder cacao farmers, as well as for any small farmer in Colombia, to be part of an Association, as this allows them to receive technical assistance and have a fixed buyer for their production. Therefore, it was decided to map the business model of smallholder cacao Associations.

The smallholder cacao Associations resemble the pattern of a multi-sided platform (see definition below) model which brings buyers, - such as big businesses, local businesses, exporters, traders and chocolate retail customers- into a physical space where they can

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<sup>9</sup> A land management system that combines trees, crops, and/or livestock on the same land to enhance biodiversity, productivity, and environmental sustainability.

<sup>10</sup> A crop grown without clearing existing forests, preserving natural ecosystems and biodiversity.

<sup>11</sup> A strategy to combat climate change by storing CO<sub>2</sub> in vegetation and/or soil, preventing its release into the atmosphere.

access cacao in the desired volume, conditions, and quality. Simultaneously, the model supports local smallholder cacao farmers in continuously improving their production.

The original business model of the Associations aims at making available standardized-quality cacao beans in sufficient volumes in the same space, either for export or for domestic chocolate production.

Business opportunities are found in overlooked areas of the original model, including the biophysical stocks and ecosystem services required for operations, the decision-making entities, the stakeholders involved in the model, and the needs that these Associations aim to address.

- **Supporting definitions of Inquiry**

“**Multi-sided business models** are platforms that bring together two or more distinct but interdependent groups of customers. They create value as intermediaries by connecting these groups.” (Osterwalder & Pigneur, 2010)

- c. **Intervention areas in the system**

The Colombian Cacao Beans system causal loop diagram (see definition below) is composed of 12 causal loops, and five of these have been identified as the **main loops** that have a major influence for future intervention. In contrast, the last *two loops* are considered out of scope from where this major research project has little to no intervention due to the complexity in scale and/or ability to influence due to external factors, including stakeholders and resources.

- **International Expansion**
    - **Technical Assistance**
    - **Compliance = Fair Trade**
    - **Storytelling = Fidelity**
    - **Gender Empowerment, Shifting the Burden**

- Fedecacao
- (International/NGO/Private) Aid
- Associativity
- Post-Secondary Education
- Final (Chocolate) Consumer Education
- *Government Power Centralization*
- *Human Factor = Resistance to Change*
- Supporting definitions of Inquiry

“**Causal loops** are a fundamental model used in system dynamics. They represent stocks and flows and can be seen as continuous patterns of feedback. Positive (or reinforcing) system flows increase a stock by feedback that increases its gain. Negative (or balancing) loops are feedback that decrease or limit a stock”. (Jones & Van Ael, 2022). Stocks refer to quantities at a point in time, and flows reference change over time.

## i. International Expansion Causal Loop

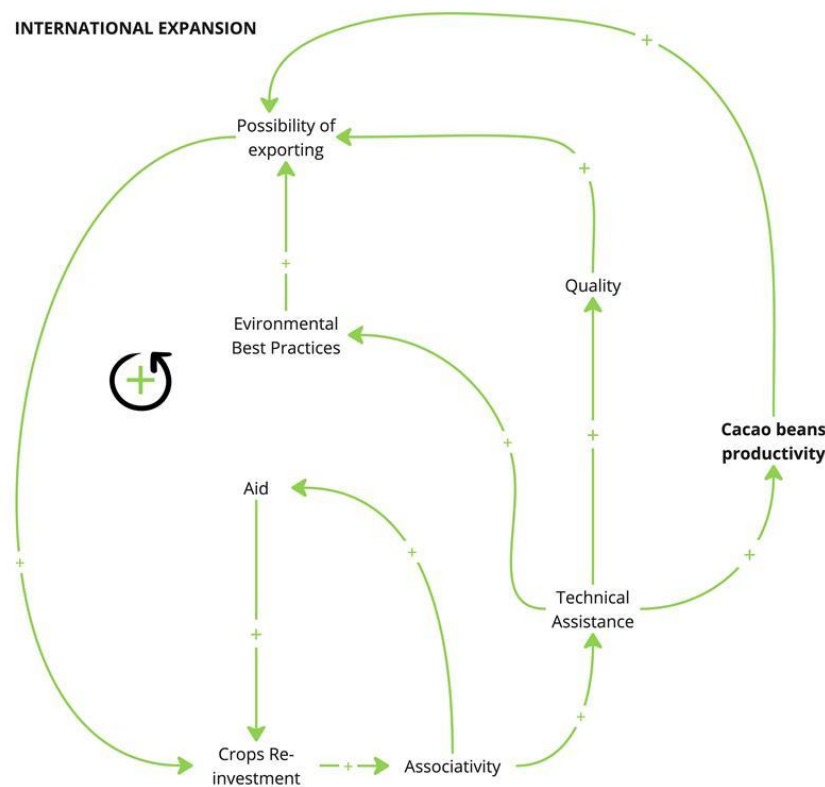


Figure 2: International Expansion Causal Loop

**Associations need to find ways to diversify their customer portfolio outside of domestic buyers. Exporting quality dried cacao beans provides a unique opportunity to expand to international markets that currently are seeking new producers that can meet their needs.**

Globally, the cacao beans market demand is at an all-time high due to the scarcity of cacao production in the biggest producers, such as Ghana and Côte d'Ivoire. Big chocolate producers, especially European and Asian buyers, are finding new partnerships through local Associations that can meet their requirements for quality, quantity, and sustainability in cacao beans. For this to happen, smallholder farmers need to enhance their environmental practices, quality assurance processes, and follow

through with technical assistance guidance from the Association, to reach a higher yield of productivity per hectare on their farms. In addition, Associations need to continue to seek aid to support their operations that enable the forementioned technical assistance for smallholder farmers, as well as expanding on administrative capabilities that strengthen their objectives.

## ii. Compliance = Fair Trade Causal Loop

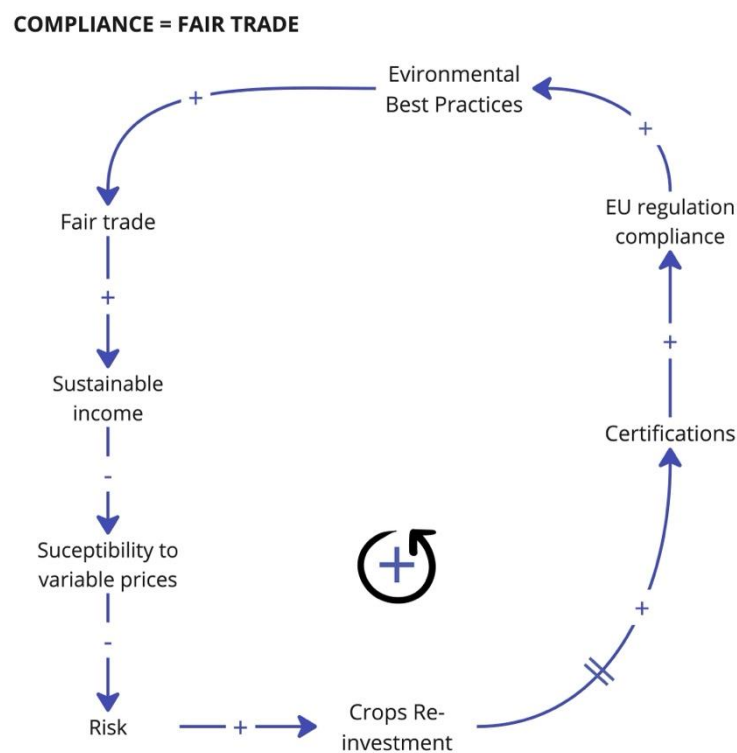


Figure 3: Compliance = Fair Trade Causal Loop

Smallholder farmers want their cacao beans to be purchased at a fair price so that they can achieve a sustainable income for their families. This goal needs to be achieved through the process of acquiring and maintaining an international

**certification, such as the UTZ Certified<sup>12</sup>, so their product has an extra value add for potential buyers.**

Cacao fair trade can be achieved through the compliance of environmental best practices, which means compliance of sustainable agroforestry systems, as this is where most cacao harvests live. Furthermore, a big driver of change is the European Deforestation Regulation (EUDR) requirements 2023/1115, for those seeking to sell to European markets. Nonetheless, smallholder farmers have had a challenging time acquiring the resources needed for these certifications to come to fruition, and some, once they have acquired it, face obstacles to maintain them due to high fees and continued lack of resources.

### iii. Storytelling = Fidelity Causal Loop

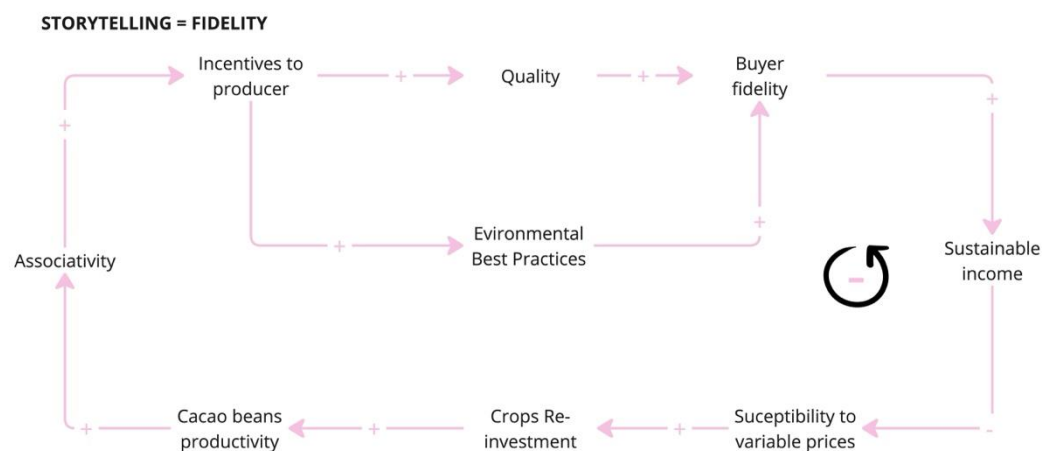


Figure 4: Storytelling = Fidelity Causal Loop

<sup>12</sup> UTZ Certified is a program and label that promotes sustainable farming practices. The UTZ label indicates that a product has been produced in a way that is socially and environmentally responsible.



**Environmental practices and quality cacao beans are at the core of the storytelling required for buyer fidelity. Smallholder farmers struggle to communicate these concepts, and this creates an opportunity for embedding these into their narratives through branding and partnerships.**

Colombia's cacao beans are already exceptional due to the country's native cacao profile - 'fine and aroma', which has proven time and again to be a top world challenger in world cacao competitions. But these characteristics have not been communicated enough to direct consumers locally, however international buyers are picking up on what Colombian cacao has to offer. If smallholder farmers can acquire the capabilities to tell this important narrative for their cacao beans, both direct consumers and wholesale buyers will become loyal customers, thus enabling a sustainable income that will benefit all families that belong to the industry.

#### iv. Technical Assistance Causal Loop

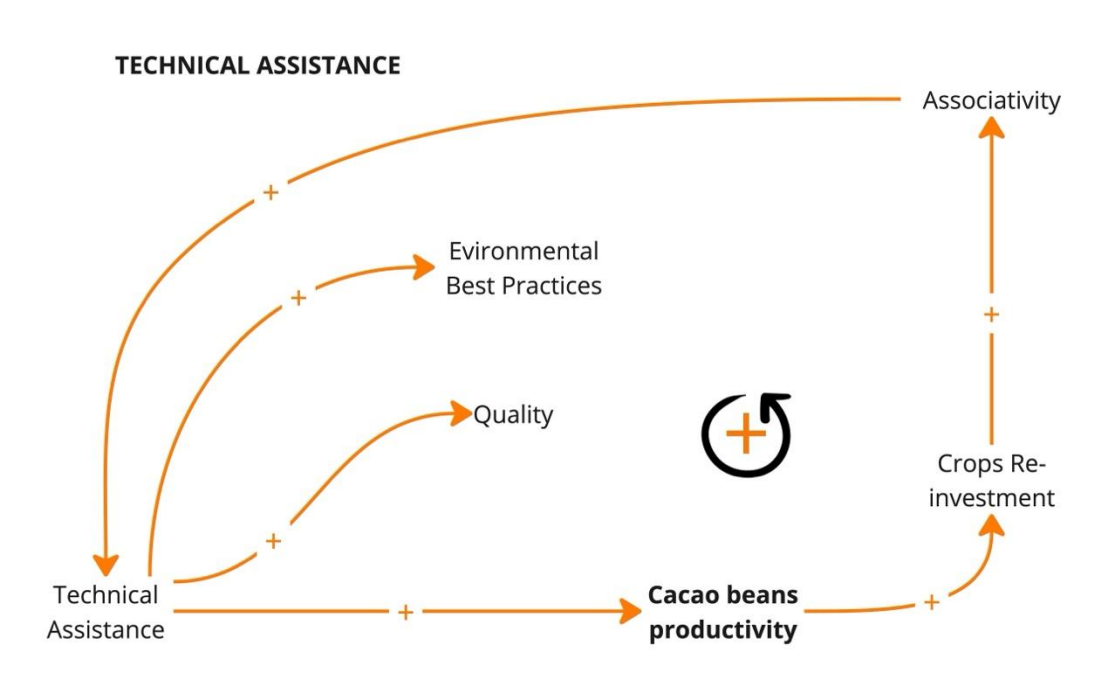


Figure 5: Technical Assistance Casual Loop

When smallholder cacao farmers join an Association, they gain greater access to technical assistance, which enables them to adopt improved environmental best practices and enhance the quality of their harvests. Additionally, the knowledge acquired through technical assistance contributes to increased productivity of their cacao trees. Consequently, farmers generate higher incomes, allowing them to reinvest in their crops. This reinvestment not only benefits individual farmers but also strengthens the Associations, fostering greater collaboration and collective capacity.

**This makes technical assistance a key element in increasing the productivity of smallholder cacao farms, creating more opportunities for smallholder cacao farmers.**

#### v. Gender empowerment, Shifting the Burden Causal Loop

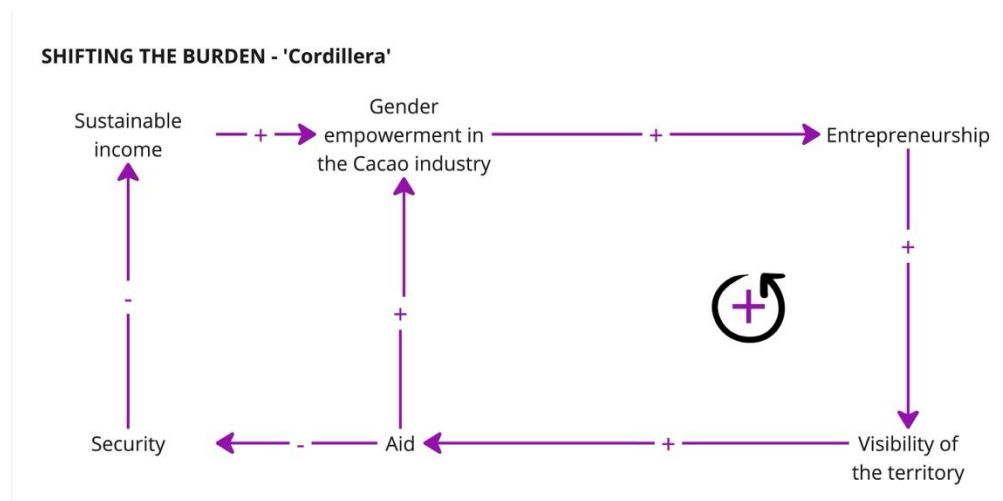


Figure 6: Gender empowerment, Shifting the Burden Casual Loop

**The empowerment of women has played a pivotal role in Colombia's cacao system, a field of agriculture predominantly led by women. This leadership has driven the development of various enterprises centered around cacao, including artisanal chocolate production, ice cream brands utilizing cacao mucilage, and handicrafts made from cacota (the fruit's shell). As a result, cacao-producing regions have gained greater visibility both nationally and internationally.**



**Smallholder farmers' ability to change is directly impacted by a myriad of factors surrounding capabilities, access to post-secondary education, confidence from government institutions and strategic thinking, alongside a complex external environment which impacts cacao bean prices.**

Most smallholders farmers in Colombia have not been able to achieve post-secondary education, nonetheless, their children, the new generation, are in progress to complete it - some by staying closer to home and others by moving away to urban centres. Soon, this will be enabling and will create possibilities for a rebirth of rural areas in the country through the knowledge, expertise, and experiences brought back to the regions and territories by the new generations who hope to make a dent in the future of their households and communities.

## ii. Government Causal Loop

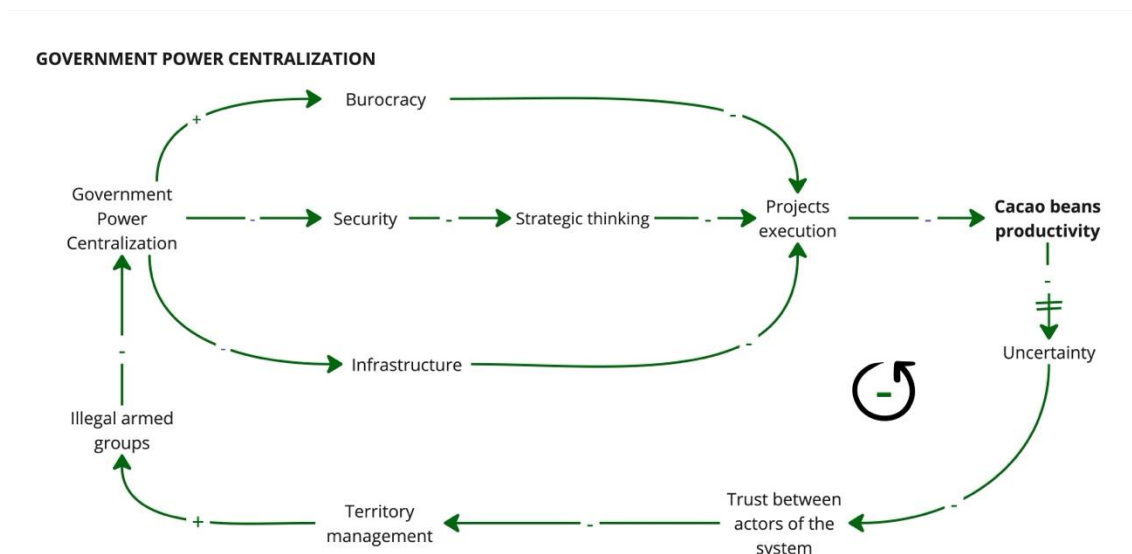


Figure 8: Government Power Centralization

**Although there have been improvements, the centralization of government power remains evident, leaving many rural areas of the country heavily reliant on bureaucracy to implement any type of project. This has particularly hindered the development of road infrastructure and has allowed some dissidents of illegal armed**

**groups to take back control of these territories even after the signed peace treaty of 2016.**

As a result, smallholder farmers often lack strategic planning, as their primary focus is on ensuring daily subsistence with their limited resources. Consequently, few initiatives are undertaken to enhance cacao production in these areas, leading to low production volumes and stagnant productivity.

The centralization of government power is rooted in historical, political, and structural factors and fall beyond the scope of this project. However, this limitation must be considered when designing and implementing solutions.

#### **e. New Research Question**

Based on the findings from the Sensemaking Stage, it became evident that the project's scope was narrower than initially anticipated. Consequently, the research question was redefined as follows:

**How might we empower post-conflict small cacao farmer communities in Colombia reach their fullest potential through co-creating their preferred future?**

- **Supporting definitions of Inquiry**

**Post-conflict farmer communities:** Rural communities that, following the signage of the peace agreements with the FARC-EP, have successfully fostered harmony between their society and visitors. As a result, the inhabitants now live in relative tranquility, with a significant decrease in crime levels and no territorial control by illegal armed groups. This stability has led to the emergence of entrepreneurial projects centered around agriculture, driven by the region's positive developments and increased visibility.

#### **8. Ideate Stage**

After identifying the leverage points and opportunities for cacao smallholder farmers during the sensemaking stage, we conducted an ideation process to explore the Colombian cacao community's preferred future. As previously mentioned, actively involving the cacao

community was essential to ensuring both the effectiveness and acceptance of the methodology and proposed solutions.

#### **a. Co-creation workshop**

During the ideation stage, it was important to involve the knowledge, perspectives, and ideas of smallholder cacao farmers, recognizing their expectations for the future and the resilience of their businesses as agricultural producers. Therefore, a participatory approach was essential to the ideation process. To ensure meaningful engagement, we conducted a co-creation workshop with the cacao community in the western region of Boyacá, fostering collaboration and expanding the possibilities for future strategic solutions.

#### **i. Goals and objectives**

The primary objective of this workshop with the cacao community was to align their expectations regarding the ideal future of the Colombian cacao system. It aimed to help to envision their desired future, understand the implications for their crops and businesses, and identify the changes to successfully transition toward that future.

The explored preferred future during the workshop was projected over a 10-year horizon. Accordingly, it aimed to explore the potential future of the Colombian cacao system in 2036. This approach acknowledges that by the time this document becomes accessible to smallholder cacao farmers in Colombia, it will be closer to the end of 2025, and any tactical implementations will align with the broader strategic plan for 2036.

In greater detail, the workshop activities were designed to foster discussions about their challenges as cacao smallholder farmers in the present. Additionally, we sought to gain insights into their aspirations for the future. And finally, we pursued to understand what they might need to achieve in order to address those present challenges and futures aspirations.

## **ii. Participants and activities**

The co-creation workshop was conducted in the Western Region of Boyacá, with the participation of 10 smallholder cacao farmers as well as the technical assistant, general secretary and a member of the board of directors from one of the local Associations. This allowed us to form 2 groups of between 5 to 8 participants. As part of the workshop agenda, the Three Horizons framework (International Futures Forum, n.d.) was implemented to support the achievement of the previously outlined objectives.

Accordingly, to be able to develop Horizon 1 and fulfill the objective of this step of the Three Horizons we proposed to carry out a STEEP-V (society, technology, economy, environment, politics, values) prefilled with the description of the main loops of the Causal Loop Diagram described above to fully understand the current context of the cacao community in Colombia. (To see more details go to Appendix 3)

Following this, Horizon 3 was carried out which sought to explore the community's preferred future. This was achieved by constructing a headline envisioning the state of cacao in Colombia by 2036, using relevant trends in agriculture and food systems (To see all the trends go to Appendix 4). These trends were obtained through a horizon scan previously carried out. In addition, this tool develops all the detailed elements of the headline, such as the actors involved, the resources required, the timeframe, and other relevant factors (To see more details go to Appendix 5). The methodology was based on the "Collective Vision: Co-Ideation" step from the Weaving Futures Toolkit (2023), developed by UNFPA Colombia.

Finally, Horizon 2 was initially intended to be developed through a timeline of milestones to be achieved between the present and 2035 to get to the preferred future scenario defined in the previous step (To see more details go to Appendix 6). However, the discussions generated by the first two tools were exceptionally rich and comprehensive, exceeding the time allocated. As a result, this final tool could not be implemented during the workshop. A detailed explanation of how this step was later addressed in the development of the final solution will be provided.

### **iii. Results**

The outcomes of the co-creation workshop were two preferred scenarios; one developed by each group. Group 1 envisioned a 2035 scenario in which every smallholder cacao farm in Colombia adopts regenerative and sustainable farming practices, leading to the emergence of a self-sufficient and resilient cacao-producing community.

In this scenario, agroforestry systems have continued to be implemented, incorporating fruit trees, livestock, and timber species to support the restoration of the biodiversity of the region. Additionally, organic waste is repurposed as fertilizer, and only organic pesticides are used. This scenario highlights the recognition and appreciation of farmers, along with their ancestral, sustainable and regenerative ways of living and farming. These practices position Colombian cacao as the most sustainable cacao in the world, enabling it to obtain key certifications that support and promote fair trade principles. As a result, cacao farms serve as a reliable and sustainable source of income for smallholder cacao families, and new generations prefer to stay on the farms than going to the big cities to secure better job opportunities.



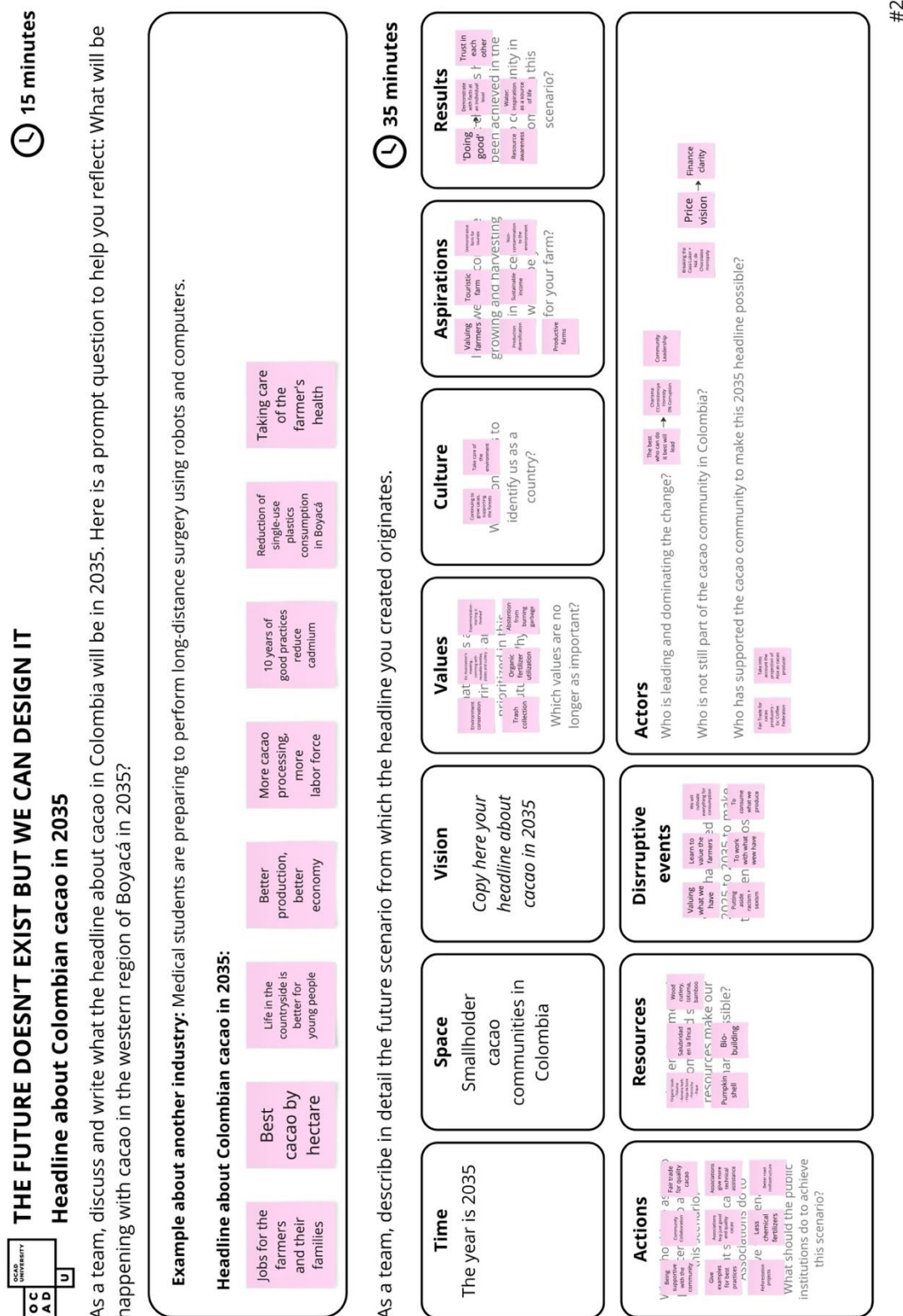


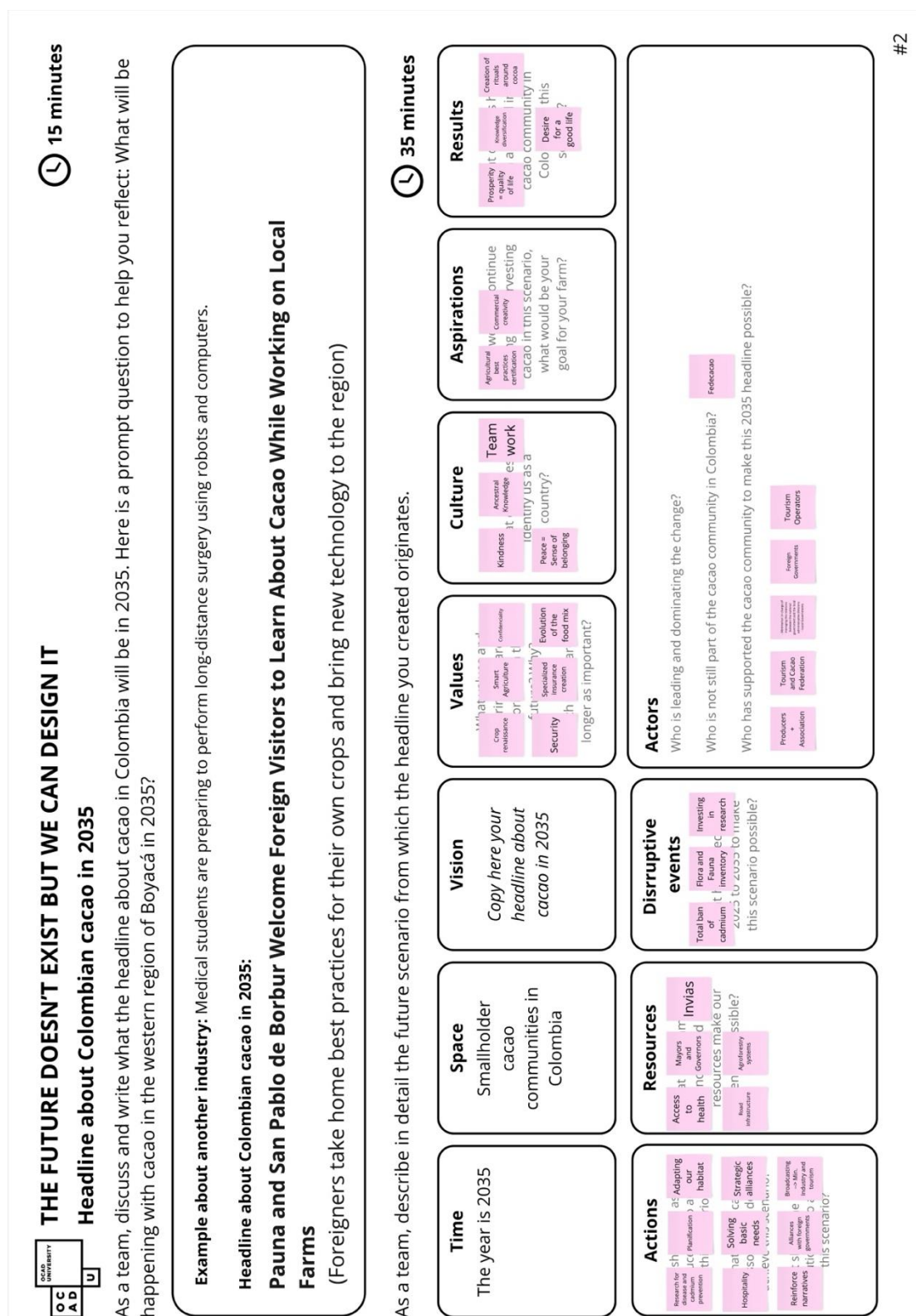
Figure 9: Workshop results Group 1

As for the results of Group 2, they envisioned a 2035 scenario in which smallholder farmers continue to grow cacao but is complemented by a diversification strategy that integrates agritourism.

In this future the community leverages their natural landscapes and cultural heritage to host foreign tourists who are willing to work on cacao farms in exchange for food and accommodation. This approach helps to address the current labor shortage in cacao production in two key ways: first, by supplementing the existing workforce with the labor of visiting tourists; and second, by creating new opportunities for younger generations — who are not interested in farming — to engage in roles related to logistics and hospitality associated with hosting visitors.

Additionally, this scenario was envisioned to enhance the resilience of the smallholder cacao businesses in the event of potential challenges, such as the decline of global cacao prices or the implementation of a total ban on cadmium concentrations in the crop.

During the discussion, the participants recognized the need to build strategic partnerships with government institutions to secure funding for the development of the agritourism initiative. They also emphasized the importance of forming additional alliances aimed at raising international awareness of the cacao-producing community and building capacities in storytelling, hospitality and logistics.



#2

Figure 10: Workshop results Group 2

## 9. Develop Stage

Following the co-creation workshop and a comprehensive understanding of the cacao community's expectations for the future, we initiated the Develop Stage. This phase aimed to translate the outcomes of the ideation process into a tangible solution that smallholder cacao farmers could realistically implement over the course of the next 10 years.

### a. Purpose

To propose a viable solution, it was essential to establish a clear purpose guiding the design process. This involved understanding both the rationale behind the proposed solution and the target audience it was intended to serve.

In defining this purpose, we considered the key intervention areas of the system previously identified during the Sensemaking Stage, with the aim of influencing them either directly or indirectly. It is important to recall that these untapped areas of intervention center around the critical role of technical assistance, the potential for international market expansion, the value of certifications, the impact of storytelling in fostering buyer loyalty, and the importance of gender empowerment. Combined, these factors contribute to ensuring a sustainable and reliable source of income for smallholder cacao families—positioning cacao as their primary means of economic income.

Therefore, the purpose of the solution of this project is:

*To establish **socio-environmental resilience** for post-conflict smallholder cacao families in Colombia through agritourism and regenerative farming.*

As stated in the purpose, the primary beneficiaries of the solution are **the post-conflict smallholder cacao families in Colombia**. The proposed solution will be made accessible to them upon its publication.

In addition, it is anticipated that other actors of the Colombian cacao system will be impacted by the implementation of this solution, thereby serving as secondary beneficiaries. These include:

- Local government
- National government
- Tourism Operators
- Insurance Providers
- Cacao Associations
- International tourists

#### **b. Approach**

With the purpose already defined, it was essential to establish a clear approach for implementation. Based on the purpose above and the co-creation workshop results, we concluded that the embodiment of the preferred future should take elements from the results of the two co-creation workshop groups, arriving at a solution that blends sustainable and regenerative cacao production with agritourism. These considerations led to the formulation of our Innovation Intent:

*By 2036, Colombia will export only fine-flavor, sustainable cacao from smallholder farmers while inspiring 1% of national tourists to explore and share in its regenerative agricultural innovation journey.*

With the Innovation Intent clearly defined, it became significantly easier to envision the preferred future scenario. This, in turn, facilitated the development of a corresponding flourishing business model that embodies and supports that vision. The following section provides a detailed description of the proposed business model.

### **c. Proposed Flourishing Business Model**

To effectively accomplish the defined purpose and approach, we designed a flourishing business model alongside a strategic transition roadmap to guide smallholder cacao farmers in the adoption of the proposed solution.

#### **i. Validations**

To ensure that the flourishing business model is useful and implemented, we needed it to fit the reality and context of smallholder cacao farmers in Colombia. Therefore, we conducted 5 validation sessions with smallholder cacao farmers from different cacao growing regions of Colombia during which they gave us feedback on elements of the model that should be rethought and iterated to better respond to the real needs of cacao communities in the country. In this regard, the most commonly repeated suggestions and the ones we chose to revise and improve were:

- Design agroforestry systems tailored to the specific environmental characteristics of the regions where they will be implemented.
- Foster long-term connection to the land and promote environmental stewardship by providing incentives to smallholder cacao farmers.
- Delegate simple and clearly defined tasks to volunteer tourists to support farming activities.
- Engage academic institutions in conducting research that reflects the unique conditions and needs of each region.
- Involve the Ministry of Information Technology and Communications in the integration of technological tools to enhance the efficiency and productivity of cacao operations.
- Add complementary touristic activities depending on the region.

## ii. Final Business Model

The Flourishing Business Canvas (FBC)<sup>13</sup> was used as a visual collaborative tool to co-design the Community Driven Business Model (CDBM) for smallholder cacao farmers considering their preferred futures of sustainability and agritourism (Upward, 2023). This tool enabled us to find a common language between stakeholders to highlight the interdependency of economy, society and environment in the re-imagined cacao system in Colombia.

In addition, our main objective from using the FBC as our major research project's deliverable is to help smallholder farmers understand the nuances of transitioning from an only profit-driven business model to a flourishing business model, hence prioritizing societal and environmental goals as part of these efforts.

The CDBM's blends the strategic transition roadmap to sustainability in production, operations and maintenance of cacao with the activities from agritourism in smallholder cacao farms. These objectives resulted in a diversification of the smallholder cacao community's product and services across the cacao value chain. As a result, smallholder cacao farmers will need to achieve the highest quality cacao beans through regenerative farming practices as its sustainability will be their most important value proposition. More specifically, this will need to be supported by sustainability and organic certification(s) to provide credibility and traceability for buyers and consumers.

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<sup>13</sup> The Flourishing Business Canvas is a new generation of a visual collaborative tool to design business models that are fit-for-the-21st Century – an ever more

complex world in which enterprises must recognize their interdependencies with the economy, society and the environment.

Moreover, this includes the activities within and around the farm(s) as part of the new Community-based tourism (CBT)<sup>14</sup> approach (CBI, 2023.). New services will need to accommodate for visitors who will play a substantial role in provisioning labour force supports for smallholder farmers activities while gaining experience and insights into the development of a sustainable cacao system.

Similarly, the proposed services and products will need a new future governance model. This endeavour requires the creation of a new board of directors that will hold the renewed identity from the collective vision of the community. New leadership roles will emerge to manage the operations and coordination teams for a sustainable cacao production and agritourism activities. For instance, roles related to the sustainability and hospitality efforts will need to be created and integrated in the planning of future capability building activities. This comprehensive and detailed training will be a requirement for the success of the community to claim the goal of the most sustainable and quality cacao in their regions whilst providing a delightful experience to their visitors.

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<sup>14</sup> Refers to tourism experiences that are owned, hosted and managed by local communities. Well-managed CBT creates jobs, generates income and safeguards the local environment. CBT also inspires CBT travellers and promotes cross-cultural understanding.



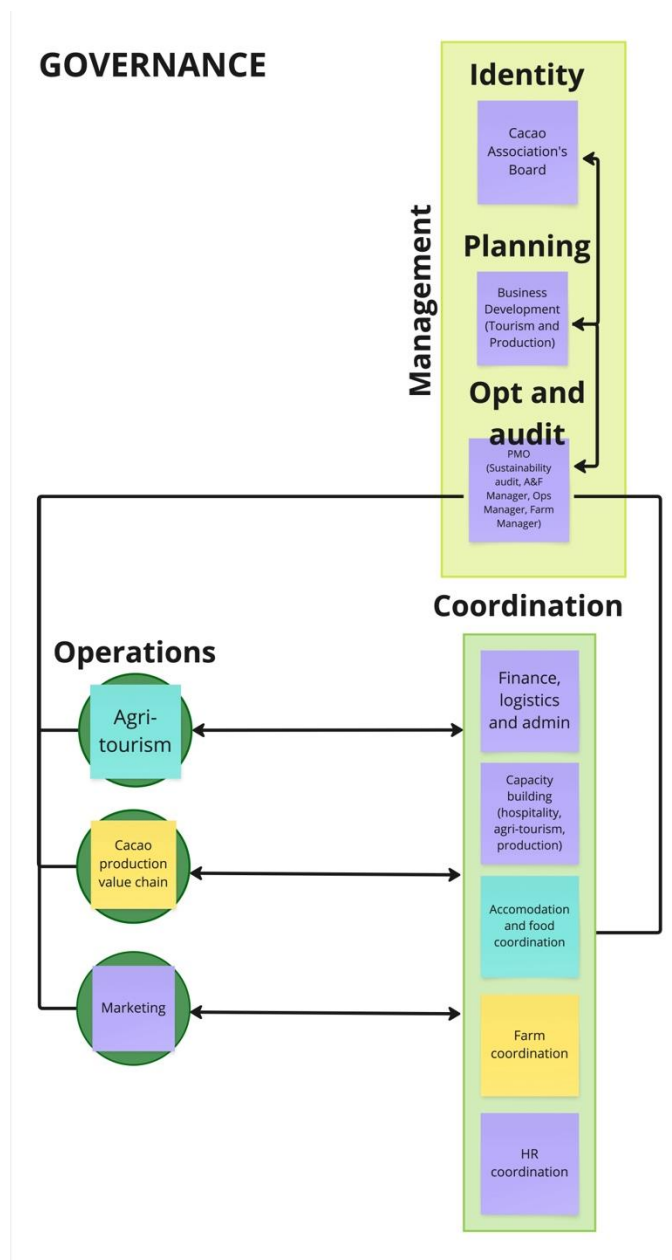


Figure 11: Future governance model based on the Viable System's Model (VSM)

On the other hand, it's worth acknowledging that this new flourishing business plan requires collaboration and supports through new partnerships with several Ministries and broader partners in the country. It's crucial to reach out to these networks with intention and renewed purpose to build stronger relationships. Besides, it will bring awareness to decision-makers about their role in building this new path for cacao communities, whose desire is to continue to uplift economic benefits for all, but now with a larger purpose of including social and environmental benefits

In sum, the FBM presented below depicts the new business model that will achieve the goals and desires into the future of the smallholder cacao farmers who graciously contributed to this research and its outputs. To review more in detail aspects of each of the topics from the FBM please see Appendix 7.

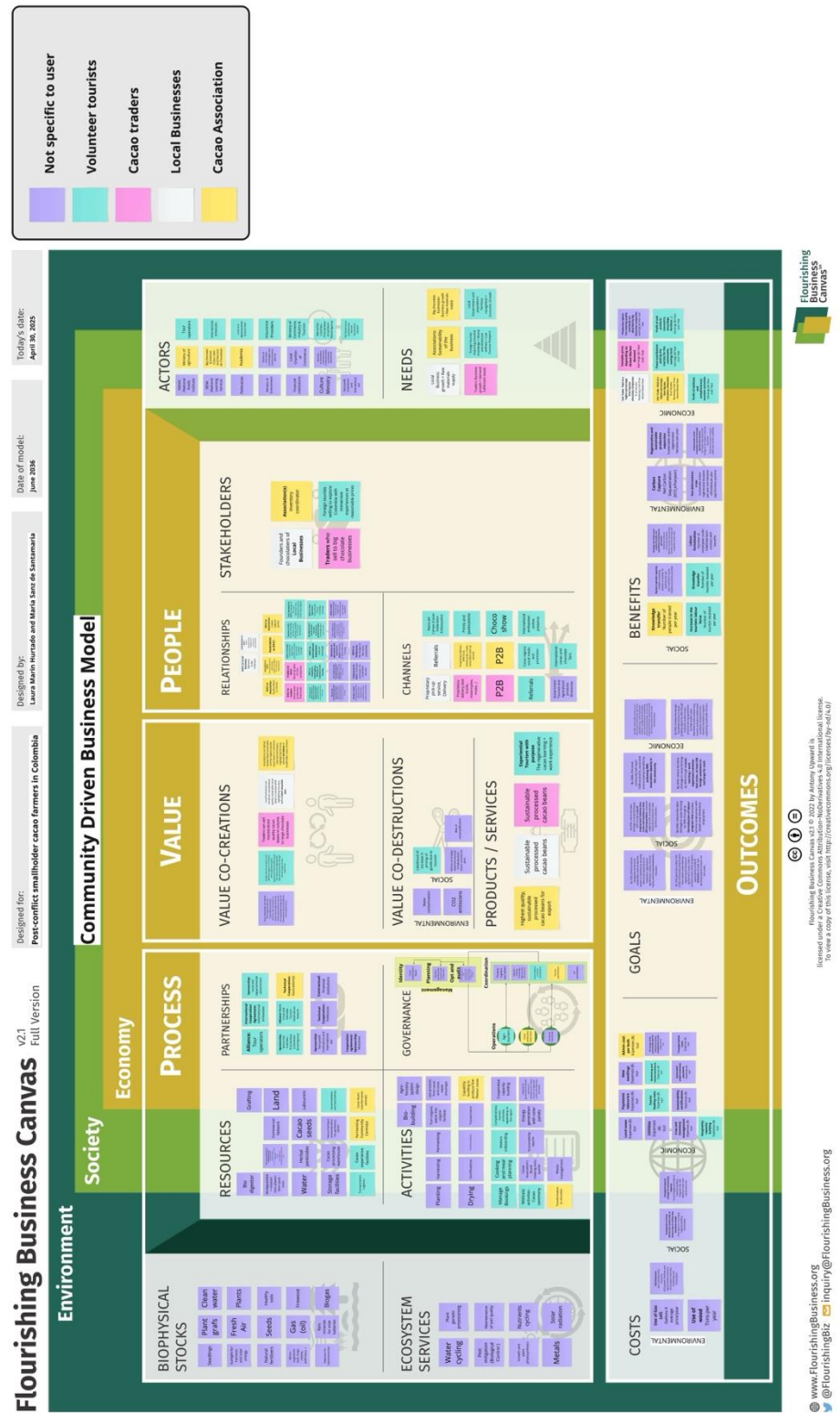


Figure 12: Community Driven Business Model (CDBM)

#### d. Proposed Strategic Transition Roadmap

Now that a clear vision and flourishing business model has set the stage, we wanted to delve into the details of how these would unfold into the strategic transition roadmap for smallholder cacao communities to get to the 2036 envisioned scenario. Here is where strategic foresight methodologies and tools were applied to not only explore the plausibility of the community's preferred future but also to stress test the features against specific possible crafted scenarios which may impact their desired results.

#### i. Backcasting

As we envision our smallholder cacao farmers' preferred future of sustainability through regenerative agriculture and agritourism for 2036, our biggest gap from the 3 Horizons workshops was the lack of time to co-create the steps from Horizon 2 with the community. Thus, we explored the backcasting method as a scenario enrichment approach to 'identify critical pathways and societal shifts necessary to bring that vision to fruition' (Kerr & Miedema, 2024) and address the need at hand.

The timeline for the backcasting was developed into four phases. Each one prioritizes a specific milestone and achievements for our desired strategy roadmap for the next decade. These backcasting results laid the foundation of the strategic responses and tactics presented in the next section.

2025 - 2027: Laying the Foundation
Farmer cooperatives and associations are strengthened, giving smallholders greater bargaining power and access to resources, encouraged by 'informal institutional' trust built within cacao communities.
The successful implementation of the MiCacao App as a traceability system, allows farmers to track their products from farm to market.
The government, through the Ministry of Agriculture and Ministry of Environment, introduced incentives for regenerative cacao farming, supporting farmers committed to sustainability.
Women and youth took on leadership roles in cacao cooperatives, driving innovation and entrepreneurship in the sector.
Community-led education scholarships help train the next generation of cacao farmers and cacao hospitality, ensuring knowledge transfer.
Smallholder cacao farmers begin to implement auto-consumption strategies on their farms, allowing them to trade and/or sell surplus with other farmers in their community.

Local governments implement circular economy frameworks based on Cajica's successful implementation of its recycling and organic waste program.
Implementation of conscious agroforestry system techniques and specialty trees starts in cacao regions.
All water resources in Colombia are declared as legal entities, granting them rights to conservation, maintenance, and restoration under the responsibility of the state. This law recognizes the participation rights of local communities in the river's conservation.
Fedecacao strengthens cacao research in alliance with regional universities (academia) to ensure new seedlings are adapted to local varieties

<b>2028 - 2030: Scaling &amp; Strengthening</b>
Rural road infrastructure projects are prioritized, improving secondary and tertiary transportation roads for cacao producers in remote regions.
The first agritourism training programs are launched, preparing cacao farmers to host visitors and showcase their craft.
MiCacao App helps to ensure transparency in trade and fair compensation for farmers.
Solar-powered fermentation and drying facilities are installed.
Farmers successfully diversify their income streams by generating other raw materials for cacao sub-products and expanding their buyers to confectionery, cosmetics, and artisanal goods producers.
Carbon credit programs are scaled up, allowing cacao farmers to earn income from reforestation and climate-friendly practices.
Intergenerational knowledge transfer programs ensure that young farmers continue to innovate while respecting traditional practices.
Climate-resilient cacao varieties are fully developed and cultivated, safeguarding production against environmental changes by partnership amongst Fedecacao, Agrosavia, Universities (Academia), Casa Luker and Nacional de Chocolates (Big Chocolate Businesses).
Agritourism initiatives expand, attracting international visitors interested in sustainable farming experiences.
Tighter cadmium restrictions in EU

<b>2031 - 2033: Maturity &amp; Recognition</b>
Colombia secures new international trade agreements, positioning its fine-flavor cacao as a premium product in global markets.
Colombia's cacao industry achieves zero-waste processing, with byproducts being repurposed for fertilizers, bioplastics, and cosmetics.
Colombia's national cacao sustainability certification is internationally recognized, further boosting exports.
The country becomes a global model for regenerative cacao farming, drawing interest from investors, governments, and research institutions.
Cacao communities begin creating Ecosystemic Services Patrol Pods to start sharing and co-creating best practices to protect the local water resources

2034 - 2036: Global Leadership & Sustainability
Colombia officially becomes a recognized exporter of fine-flavor cacao, who embodies sustainable and ethical practices, integrating biodiversity conservation, circular economy principles, and ethical business practices.
International policies recognize Colombia as a leader in agritourism and regenerative cacao farming, securing long-term market stability and growth.

## ii. Strategic Responses and Tactics

As previously stated, it was essential to develop a strategic transition roadmap to provide the Colombian cacao community with a clear pathway toward achieving their preferred future by 2036 and successfully implementing the proposed business model. For this purpose, we formulated a primary strategic response, accompanied by a corresponding tactic or step-by-step actions designed to support the implementation of the proposed model that integrates agritourism and sustainability.

Accordingly, the first strategic response and its corresponding tactic are articulated as follows:

***Agritourism + Sustainability:*** *Cacao communities in Colombia create agritourism experiences through regenerative and sustainable living and farming practices to attract tourists from around the world. Visitors can learn about and experience the entire cacao value chain, from cultivation to chocolate production.*

At this stage, it became clear that it is equally valid for smallholder cacao farmers to focus on just one of the two components of the proposed business model—either agritourism or sustainable and regenerative cacao production. The model was designed with the flexibility to allow farmers to implement a strategic response and its corresponding tactic based on how future conditions evolve.

As a result, we developed two additional strategic responses, each accompanied by its respective tactic, as outlined below:

**Agritourism:** Cacao communities in Colombia focus their efforts to turn their farms into touristic venues where tourists from all around the world come to live the cacao experience from the cacao tree to the chocolate bar.

**Sustainability:** Community driven initiatives empower smallholder cacao farmers in Colombia to create a sustainable value chain based on regenerative farming and living practices resulting in benefits for all.

The following tables present the corresponding tactics for each strategic response. If the community intends to implement the Agritourism + Sustainability strategic response, all of the steps outlined below should be followed. However, if the focus is solely on the Agritourism strategic response, only the steps marked in purple and light blue should be followed. Similarly, if the community chooses to pursue only the Sustainability strategic response, they should follow all steps indicated in dark blue and light blue.

### 2025 - 2027: Laying the Foundation

Output	How?	Who is in charge?	Details	Outcome	Objective	Evidence
Create trust	Unite among producers who are agents of change to lead the generation of trust with other smallholder farmers in the community and other actors in the system.	Producers who are agents of change		Building trust among producers and other system actors, like Fedecacao as a mean to establish an informal institution	Generate mutual benefits	Governing the commons by Elinor Ostrom (1990)

<b>Establish community's Board of Directors</b>	Electing and creating the Community's Board of Directors, including youth and women	Producers who are agents of change	1. Creating bylaws 2. Strategically identifying community capacities – Identifying capacity gaps and generating a plan for integration with training partners 3. Assigning leadership for planning, auditing, and optimization	Co-create a governance and project charter that sets the foundation for a renewed community pathway to establish accountability mechanisms	Community transparency and stewardship	
<b>Design project Charter</b>	Co-create a Project Charter using participatory methods that include youth and women perspectives	Board of Directors		A Project Charter that includes social, environmental (e.g. water resources) and economic values as a bridge to define strategic alliances	Informed decision making by and for the community	<a href="#"><u>Project Charter Template</u></a>
<b>Seek sponsors and partners</b>	Mapping potential sponsors and partners according to the Project Charter	Planning Leadership team		A systems map of actors inside and outside the community that are in alignment with already defined values principles and identified in the Flourishing Business Model Canvas	Prioritization of partnerships	



<b>Seek ministries sponsorships</b>	Seeking sponsorship from the various partner ministries for the creation of projects that benefit both the cacao community and the respective ministry	Planning Leadership team and Board of Directors	This task needs to be repeated as part of quarterly planning activities	Sponsorships with Ministries already identified in the Flourishing Business Model Canvas	Fund prioritized initiatives	
<b>Create seed bank</b>	Creation of a seed bank and community seedlings	Farm manager and farm coordinators	Farmers' Market - On Sundays in the village, farmers exchange seedlings	Value exchange of goods system that generates mutual benefits within the community  Variety of seeds within the community that are already adapted to the local climate and environment	A seedlings knowledge base and network within the community that can help with co-creation of each farm's design agroforestry system	<a href="#"><u>Amazonía Emprende</u></a>
<b>Document ancestral practices</b>	Documentation of sustainable ancestral practices such as using crops for animal feed, reusing materials to create work tools, etc.	Capacity building team		Documented community ancestral knowledge base	Inter-generational knowledge sharing	<a href="#"><u>Ancestral system of knowledge of the four indigenous peoples, Arhuaco, Kankuamo, Kogui and Wiwa</u></a>

<b>Build capacity</b>	Building capacity in sustainable and regenerative cacao production and tourism and hospitality.	Capacity building team	<p>1. SENA</p> <ul style="list-style-type: none"> <li>– Hospitality training</li> <li>– Technical assistance training in sustainable and regenerative cacao</li> <li>– Technical assistance training in agroforestry systems</li> </ul> <p>2. Creation of partnerships with international aid, private entities, and non-profit organizations for extracurricular training for children and youth</p> <p>3. Creation of extracurricular activities and curricula to include youth in cultural, technological, hospitality, and agricultural communication skills</p>	<p>Opportunities for employment within the community, allowing for youth and women to be integrated in the local ecosystem</p> <p>New career paths complementary to the cacao production ecosystem, which includes administrative, tourism and hospitality roles</p>	Acquired capabilities to ensure the sustainability of the new business model	
<b>Design circularity and waste recycling model</b>	Create a circularity and waste recycling model on farms and in the community	Planning Leadership team	Research success implementations such as the circular waste management of Cajicá, Cundinamarca	Community based recycling waste management program	New opportunities for circular practices by and for the community	<u><a href="#">Circular Waste Management Cajicá, Colombia</a></u>

<b>Establish strategic alliance with the MinTIC</b>	Creation of a strategic alliance with the Ministry of Information Technology and Communications	Planning Leadership team and Board of Directors		Documentation and traceability for sustainable cacao farms that can leverage future plans for Carbon Credits	Implemented technology for traceability and transparency in production - MiCacao App  Fair Trade as the cacao is paid at a higher percentage than big box chocolate producers	<u>Choco4Peace</u>
<b>Design agroforestry system</b>	Co-design of an agroforestry system according to the needs of the territory	Project Management Office (PMO)	<ol style="list-style-type: none"> <li>1. Planning of co-creation workshops for community agroforestry initiatives</li> <li>2. Technical assistance in agroforestry systems</li> <li>3. Planting alternative crops as agroforestry systems on cacao farms</li> <li>4. Planning certifications (organic, fair trade, sustainability)</li> </ol>	Implementation of local and adaptive agroforestry system in the community	<p>Regenerated land and on going sustainable best practices</p> <p>Benchmarks for organic, fair trade and sustainability certifications for the community</p> <p>Increased volume of cacao production</p> <p>Self-sufficiency of the community</p> <p>Less use of agrochemicals</p>	<u>Jaguar Siembra</u>

<b>Document Flora and fauna inventory</b>	Create an inventory of flora and fauna in the region hand in hand with the Regional Autonomous Environmental Corporation	Planning Leadership team		Documentation of Fauna and Flora inventory	Enhanced region's biodiversity Increased tourist market	<a href="#">La Palma y el Tucán</a>
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### 2028 - 2030: Scaling & Strengthening

Output	How?	Who is in charge?	Details	Outcome	Objective	Evidence
<b>Constitute monetary benefits from the circularity model</b>	Monetary leverage of the community's circularity model through the use and sale of organic fertilizer, confectionery (chocolate and musilage), and handicrafts as souvenirs from the region.	Planning leadership team	Launch pilot and establish operations of the community's circularity model	Successful implementation of a pilot program and lessons learned to provide social, economical and environmental benefits within the community	Develop sub-products from cacao waste	<a href="#">Mücilage - freeze-dried cacao mucilage</a>
<b>Create the community savings fund</b>	Creation of a community savings fund fueled by fixed contributions paid by tourists.	Admin and Finance Manager		Funds for administrative, and operational activities and for capacity building programs tied to new roles in the community	Increased pool of funds for community initiatives	<a href="#">Rates National Natural Parks of Colombia</a>

<b>Obtain certifications</b>	<p>Obtaining organic, fair trade, and sustainability certifications by the association through third-party partnerships.</p> <p>Obtaining GSTC certification.</p>	Planning and Project Management Office (PMO)		Organic, fair trade, sustainability, and GSTC certifications	<p>Fair Trade as the cacao is paid at a higher percentage than big box chocolate producers</p> <p>Better visibility and market opportunities</p>	<a href="#"><u>Rainforest Alliance</u></a>
<b>Strategic use of capacities</b>	Assignment of roles according to community capacities	HR Coordination team	Creation of the Human Resources Leadership team in the community	<p>Formalization of labour</p> <p>Youth and women's employment</p>	Reduced rural labour shortage in Colombia	
<b>Construction with Bio-building</b>	Construction of a processing center and tourist facilities using bio-building	Planning and Project Management Office (PMO)	<p>1. Installation of solar panels in processing centers as a pilot program for energy generation.</p> <p>2. Use of solar energy.</p>	All new construction in the community's farms are designed with the environment and agroforestry system in mind to reduce any environmental impact	Regenerated land and on going sustainable best practices	<a href="#"><u>Tacuara - Biobuilding</u></a>

<b>Share ancestral knowledge</b>	Workshops to share ancestral knowledge with new generations.	Capacity building team		Embed ancestral knowledge practices on the day-to day operations, farm activities and food/cuisine within the community	Inter-generational knowledge sharing	<a href="#">Documenting Traditional Knowledge – A Toolkit</a>
<b>Strengthen Infrastructure</b>	Lobbying with the government for infrastructure construction and promoting agriculture as a tourist destination.	Planning Leadership team and Board of Directors		Increased infrastructure and maintenance for secondary and tertiary roads for the region	Easier access for cacao producers, and tourists visiting cacao regions in Colombia	
<b>Seek partnerships with non-profit organizations and international aid</b>	Creation of partnerships with non-profit organizations and international aid to finance and create young cacao-growing ventures and sustainable tourism companies.	Planning Leadership team and Board of Directors		Sponsorships with Non-for-profit and International Aid organizations that are in alignment with already defined values principles	Fund prioritized initiatives  Add administrative capacity to the prioritized initiatives	<a href="#">Fundación Ayuda en Acción</a>
<b>Seek partnerships with Tourism Operations</b>	Partnerships with tourism operators aligning with community values.	Planning Leadership team	Creation of complementary tourism activities.	Outsource logistic needs and other needed capabilities that are not within the community's expertise	Increased tourist market	<a href="#">Swell</a>

<b>Seek partnerships with International embassies</b>	Partnerships with international to seek and grow marketing channels and communications	Planning Leadership team and Board of Directors	Embassies provide cultural exchange and networking opportunities that can benefit local, regional and national organizations	Diversification of marketing channels and communication with tourists in other regions of the world	Increased tourist market	
<b>Launch Agri-tourism pilot program</b>	Launch of pilot program to welcome the first volunteer tourists	Hospitality Manager		Lessons Learned to apply in the future tourist experience	<p>Develop and validate MDE pilot</p> <p>A "Minimum Delightful Experience" (MDE) focuses on delivering a product or service that not only meets essential user needs but also aims to create a memorable and enjoyable experience from the start, going beyond just functionality to foster customer satisfaction and engagement.</p>	<a href="#"><u>WWOOF Canada</u></a>
<b>Sale of Carbon Credits</b>	The cacao association manages documentation and requirements for the sale of carbon credits as a community	Project Management Office (PMO), Sustainability Auditor and Cacao Association	<ol style="list-style-type: none"> <li>1. Choose an intermediary/broker to create a carbon capture project</li> <li>2. Co-create a project for the sale of carbon credits</li> </ol>	Sale of Carbon Credits to increase source of income of the community by generating economic benefits	Fund envisioned initiatives	<a href="#"><u>CO2CERO</u></a>

<b>Export as an association</b>	Establishment of the association as a legal and regulated entity to be able to export	Cacao Association	<p>1. Engage with ProColombia to understand requirements and legal needs for exporting</p> <p>2. Establish the exportation legal entity and international and commercial partners</p> <p>3. Design the exportation process according to the agreements with the partners</p>	Increase awareness at the international level of producing and delivering quality cacao beans that are sustainable by selling directly to customers internationally	Diversified and increased economic benefits	<a href="#"><u>Business Model for special coffee exports</u></a>
<b>Apply Agri-tourism adjustments</b>	Gathering lessons learned from the agri-tourism pilot and adjusting the model to scale it up.	Hospitality Manager		<p>Implementation of Flourishing Business Model (FBM)</p> <p>New hospitality capacities are implemented</p>	<p>Scaled tourism experience beyond the MDE pilot</p> <p>Iterative feedback mechanisms</p>	
<b>Implement sustainable practices audits</b>	Implementing sustainable practices audits on each farm in the community to ensure certifications are maintained.	Sustainability Auditor	The optimization and Audit leadership team must ensure that sustainable specialists are engaged with the rest of the teams to ensure application of best practices	Application and validation of best practices in each of the community's farm	<p>Maintained sustainability and organic certifications.</p> <p>Regenerated land and on going sustainable best practices</p>	<a href="#"><u>Basic Guidelines for sustainable cocoa</u></a>



**2031 - 2033: Maturity & Recognition**

Output	How?	Who is in charge?	Details	Outcome	Objective	Evidence
<b>Scale of communications and marketing</b>	Creation of alliances with local governments (mayors' and departmental governors), the country brand, and the World Cocoa and Derivatives Tourism Destinations Network to scale communication and marketing of cacao agrotourism in the region.	Marketing Coordinator		Diversification of marketing channels and communication with tourists in other regions of the world	Increased tourist market	
<b>Establish payments for environmental services</b>	Creation of an incentive system (payments for environmental services) for farms interested in the preservation, conservation, and restoration of environmental services.	Sustainability Auditor		Recognition and award of incentives for the implementation of sustainable best practices	Social, Economic and Environmental:  Cleaner and increased supply of water in terms of quantity or quality.  Conserved and enriched biological diversity that inhabits strategic areas and ecosystems.  Greenhouse gas mitigation.	<u>Payments for environmental services</u>

<b>Seek International Trade</b>	The association begins international trade.	Cacao Association		Increase awareness at the international level of producing and delivering quality cacao beans that are sustainable by selling directly to international customers	Diversified and increased economic benefits	
<b>Install Solar Panels in the farms</b>	Installation of solar panels on the community's cacao farms.	Planning and Project Management Office (PMO)		Sourcing clean energy by creating a self-sufficient community ecosystem in the long term	Regenerated land and on going sustainable best practices	<a href="#"><u>Hacienda La Florida Case</u></a>
<b>Build Cacao transformation centre</b>	Construction of a center for transforming cacao into byproducts (confectionery, organic fertilizer, and handicrafts) using bio-building.	Planning and Project Management Office (PMO)		Development of sub-products from cacao	Enhanced social, economical and environmental benefits within the community  Zero-waste processing processes for cacao waste	

<b>Participate in International Fairs</b>	Participation of the association in international cacao, chocolate, and tourism fairs.	Planning Leadership team and Board of Directors		Awareness and positioning of the community within the international market  Identify and map international collaborators and buyers, further boosting exports.	International recognition of cacao sustainability certifications.	<a href="#">Partners in Transformation Import Promotion Desk</a>
<b>Exhibit regenerative and sustainable best practices</b>	Exhibition of regenerative and sustainable best practices at the international level (conferences, summits, forums, etc.).	Planning leadership team, PMO and Board of Directors		Interest from governments, investors and research institutions	Global recognition as regenerative cacao farmers	<a href="#">Chocolate scorecard</a>
<b>Establish wellness Tourism Services</b>	Creation of wellness tourism services related to cacao.	Hospitality Manager		Diversification of complementary tourist activities bringing in economic benefits to the community	Increased tourist market	<a href="#">Casa Rivera Del Cacao</a>
<b>Design Native Plants Nutrition plans</b>	Creation of food plans for volunteer tourists based on native plants (ancestral food).	Accommodation and Food Coordinator		Recover native edible plants  Take advantage of edible plants from the agroforestry system	A self-sufficient community ecosystem in the long term	<a href="#">Ancestral foods: What should you know before using it in your menu?</a>

**2034 - 2036: Global Leadership & Sustainability**

Output	How?	Who is in charge?	Details	Outcome	Objective	Evidence
<b>Renew certifications</b>	Renewal of organic, fair trade, and sustainable certifications for tourism and farming best practices	Planning and Project Management Office (PMO)		Renewed sustainable tourism certifications provide tourists/visitors reassurance of values and commitment from the community	Fair Trade as the cacao is paid at a higher percentage than big box chocolate producers	
<b>Establish Official trading partnerships</b>	The Association establishes itself as the official partner of quality cacao specialized companies worldwide.	Planning, Project Management Office (PMO) and Cacao Association		Long term partnerships that create mutual benefits	Recurring revenue for the community's financial sustainability	
<b>Establish Official partnerships with sustainable tourism communities</b>	The Association establishes itself as the official partner of sustainable tourism communities worldwide	Planning, Project Management Office (PMO) and Cacao Association		Establish rapport in the global sustainable tourism community and provides thought leadership	Increased the tourist market	

## 10. Finding resiliency

Post-conflict smallholder cacao farmers in Colombia have the innate ability to be resilient as they have overcome adversity under extreme conditions like the ones experienced due to the armed conflict and/or the precarious economic conditions while keeping their farms afloat. This resilient ability is put to the test today, as they are challenged with fluctuating cacao prices, and the looming effect of stringent regulations from governments that might make their produce unable to reach certain markets abroad soon.

Consequently, investing in a resilient business model is an important focus, as many of these cacao farmers are feeling the weight on their shoulders of running a small business. Put differently, many of them require the support to thrive in their role as business owners, through guidance and capacity building. As previously mentioned, the purpose of this project is to create resiliency beyond the sphere of economic benefits. We believe that including societal and environmental tactics woven into the 2036 model will make smallholder cacao farmers communities thrive but also have ripple effects for the future of cacao regions and the younger generations. Our hope is that we can build from the walked path of peacemaking to flourishing making for all.

### a. Development of possible 2036 scenarios

To facilitate informed decision-making and validate both the business model and its underlying tactics, we constructed three alternative future scenarios, derived from signals of change identified during the research phase. This resulted in a rigorous testing of resilience and adaptability of the proposed flourishing business model over the coming years.

Thereby anticipating future scenarios - specially their implications, it can help differentiate alternatives prior to the decision-making of strategic choices for the cacao

community's preferred future. To fully explore these futures, we developed three possible scenarios for 2036 using the Casual Layered Analysis (CLA)<sup>15</sup> tool.

These scenarios were developed using five parameters that were considered relevant to the smallholder cacao farmers system:

- Political government leadership in the country
- Development of Colombia's rural region
- Global prices of Cacao and development of the market
- Tourism awareness and development
- Implementation of technology in Colombian farming

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<sup>15</sup> Causal Layered Analysis (CLA) is a foresight technique used to deconstruct dominant understandings of the present to allow for alternative perspectives on the future (Kerr & Miedema, 2024).

## 1. Continued growth

The systems and ways of being for smallholder cacao farmers continue to develop along their current trajectory.

### Causal Layered Analysis: Continued Growth


The systems and ways of being for smallholder cacao farmers continue to develop along their current trajectory.					
	Government	Colombia's rural regions	Cacao Worldwide	Tourism	Implementation of technology in Colombian farming
<b>Litany</b> Our day-to-day, viewed through current events, social and behavioural trends.	Government leadership continues towards social development and inclusion  Government loses territorial control of most remote regions in the country to illegal groups	Urban population returns to the rural regions  Continued investment from government and institutions for rural development  Revival of ancestral practices and knowledge, applied to rural development	Higher prices  More production per hectare  Development of more cacao varieties adaptable to climate change	Double digits increase year over year. Approx 17,000,000 tourists by 2036.  Discovery of new destinations in Colombia	Rural regions have limited connectivity and low technology capacity
<b>Systems</b> Social structures including but not limited to economic, cultural, political and historical factors.	Colombia's farmers and youth claimed a social change  Challenges with 'Total Peace' implementation	RRI  Peace agreements opened up rural regions that were inaccessible due to illegal actors  Remote work have shifted families to move to other areas	Climate change  R&D  More and better best practices for technical assistance	Hybrid work arrangements  Colombia's Digital Nomad Visa	New generations are moving away from rural areas  Older farmer's resistance to change  Centralization of Government power in Bogotá
<b>Worldviews</b> A more "imaginative" landscape which affects the structures we put in place and the way we understand the events.	'Gobierno del Cambio' Legacy of conservative governments	Going back to the old ways of living  Healthier ways of living	Regenerative agriculture	Lifestyle influencing	Lack of secondary education for older generations of farmers
<b>Myths</b> The usually unconscious and collective archetypes, paradigms and cultural stories and images which shape the worldviews.					

Figure 13: Continued Growth - Casual Layered Analysis (CLA)

For written description of the Continued Growth Casual Layered Analysis please see Appendix 8.

## 2. Collapse

Smallholder cacao farmers' current trajectory comes to a sudden halt. Their systems and ways of being fall apart.

### Causal Layered Analysis: Collapse




Smallholder cacao farmers' current trajectory comes to a sudden halt. Their systems and ways of being fall apart.					
	Government	Colombia's rural regions	Cacao Worldwide	Tourism	Implementation of technology in Colombian farming
<b>Litany</b> Our day-to-day, viewed through current events, social and behavioural trends.	Right-wing government from 2026 'Seguridad democratica 2.0'	Divestment from government and institutions for rural development Loss of income/aid for rural regions Isolation of rural regions	Cacao Worldwide prices low Production per hectare low Cadmium legislation EU changes from restrictions to no requirements	Tourism stagnates Tourists prefer safer destinations, such as urban regions	Better telecommunications in rural regions Blockchain implementation for production tracking by private sector
<b>Systems</b> Social structures including but not limited to economic, cultural, political and historical factors.	Incomplete promises from previous left-wing government Slow economy	Less Infrastructure Building (roads to get to rural regions) Prioritization of services, and oil & gas industry	Asia enters as a new cacao producer Low adoption of sustainable and regenerative best practices Africa rebounds from low production of cacao	Impacts from tariffs and loss of international relations from Global North Detriment of relationships with China	Government's investments reduce the digital infrastructure gap Interests from international aid/organizations for better trading partners
<b>Worldviews</b> A more "imaginative" landscape which affects the structures we put in place and the way we understand the events.	Lack of citizen trust	Less Infrastructure Building (roads to get to rural regions) Loss of trust from informal institutions	Lack of Cacao institutional leadership to drive initiatives Lack of strategic thinking for future preparedness	World order Mindshift	Power from technology industry
<b>Myths</b> The usually unconscious and collective archetypes, paradigms and cultural stories and images which shape the worldviews.	  				

Figure 14: Collapse - Casual Layered Analysis (CLA)


For written description of the Collapse Casual Layered Analysis please see Appendix 9.



### 3. Transformation

Entirely new systems and ways of being are found; smallholder cacao farmers lives transcend the present order.

#### Causal Layered Analysis: Transformation

Entirely new systems and ways of being are found; smallholder cacao farmers lives transcend the present order.					
	Government	Colombia's rural regions	Cacao Worldwide	Tourism	Implementation of technology in Colombian farming
<b>Litany</b> Our day-to-day, viewed through current events, social and behavioural trends.	Coalition of diverse political parties  Remaining armed groups, disarmed and returned to civilian life	Construction of secondary and tertiary roads Revival of ancestral practices and knowledge, applied to rural development There is a new balance between urban and rural populations Ecosystem rights protection	Colombia's Cacao becomes #1 worldwide for quality and sustainability Fair trade in Cacao is led from organic, and sustainable values Cadmium warning label is a requirement but at discretion of consumers to buy products	More boutique tourism experiences Tourism with purpose	Technology is implemented ethically and consciously Technology developed by locals Empowering tech for better agriculture outcomes Round year production
<b>Systems</b> Social structures including but not limited to economic, cultural, political and historical factors.	Generational change in politics	Trust of land caregivers Change of leadership in industry Leverage of infrastructure as economic growth for rural regions Implementation of sustainable and regenerative practices	Prioritization of quality and sustainable cacao supply from cacao producers  Cacao production is understood and value due to its manual labour	Seek for personalized and cultured experiences	Fight food insecurity Food is produced without additives Labour shortage
<b>Worldviews</b> A more "imaginative" landscape which affects the structures we put in place and the way we understand the events.	Mindset shift of 'living on my own bubble' Citizens are done with civil war	Generational change in workplace Food as medicine	Cacao consumers are educated and knowledgeable about it's production and impact for farmers' livelihood	Tourists seek experiences that are educational and impactful - in a way to connect with others around the world	Seek for healthier life styles Increasingly difficult food production More accessible prices for technology
<b>Myths</b> The usually unconscious and collective archetypes, paradigms and cultural stories and images which shape the worldviews.					

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Figure 15: Transformation - Casual Layered Analysis (CLA)

For written description of the Transformation Casual Layered Analysis please see Appendix 10.

## **b. Wind-tunneling and takeaways**

To test and validate the resiliency of the strategic responses created for our smallholder cacao farmers, we performed a wind-tunnelling<sup>16</sup> (UNDP, 2022) exercise against the three scenarios developed: Continued growth, Collapse and Transformation.

Each strategic response had three main criteria against which it would be evaluated. We used desirability, viability and feasibility, as these criteria are part of the design thinking toolkit (IDEO.org, 2015) to determine ideal conditions for innovation. Considering the context and circumstances of this project, the definition of desirability is the community's desire and willingness for this change. Secondly, viability means that this change will create socio-economic resilience for the community. Finally, feasibility refers to the extent to which the community possesses the requisite tools, skills, and resources to implement the proposed changes.

And so, each criterion was measured on a 1-5 points scale, resulting in the following overall scores in sequential order:

- Strategic response #1: Agritourism + Sustainability: 34 points
- Strategic response #2: Agritourism: 30 points
- Strategic response #3: Sustainability: 38 points

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<sup>16</sup> 'Foresight method that allows us to stress-test our strategies against a range of alternative futures or scenarios'.

		Scenario 1: Continued Growth	Scenario 2: Collapse	Scenario 3: Transformation	Total Score Overall
<b>Strategic response 1: Agritourism + Sustainability</b>	Desirability	4	4	4	
	Viability	3	4	5	
	Feasibility	3	2	5	
	<b>Total</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>34</b>
<b>Strategic response 2: Agritourism</b>	Desirability	4	4	5	
	Viability	2	3	4	
	Feasibility	3	2	3	
	<b>Total</b>	<b>9</b>	<b>9</b>	<b>12</b>	<b>30</b>
<b>Strategic response 3: Sustainability</b>	Desirability	5	3	5	
	Viability	4	4	5	
	Feasibility	4	3	5	
	<b>Total</b>	<b>13</b>	<b>10</b>	<b>15</b>	<b>38</b>

Figure 16: Scenario/Strategy Matrix

- What did we learn?

*When exploring how points were allocated for each depicted scenario, a crucial factor was the fact that Colombia's upcoming presidential elections in 2026 would dramatically influence outcomes and prioritization for investments and security for rural regions. Also, at the time of finalizing this major research project, new developments around the world have started to shift global alliances and trade partnerships, causing concern for economic and social stability. The U.S. has now set a baseline 10% tariff under their new protectionist policy, and this has impacted Colombian exports (except oil), despite the United States–Colombia Free Trade Agreement from 2012 (Cohen, 2025). Many countries including Colombia, are considering expanding their global presence by diversifying to other markets including Europe, Asia and the Middle East. On the other hand, foreign arrivals to the U.S. have dropped 10% in March (in a year-over-year comparison) and travellers are looking to expand their travel options to other regions of the world (Wong, 2025). This could result in Colombia being an interesting destination specially for the upcoming travel season. This new global context has been considered in terms of the impacts to the Colombian economy and the possible changes to the Global World order in the coming years.*

In the Continued Growth scenario, we saw how the Sustainability strategic response would be a more resilient and robust strategy. Simply put, cacao is already a sustainable crop, and implementing best practices and scaling it is the easiest pathway to success. Alternatively, isolated violent events in rural areas expanding to the rest of the country in the next decade could have a huge impact on security nationwide and any agritourism initiatives could fail if these conditions come true. The second-best option would be the implementation of the Agritourism strategic response alongside sustainability as a diversification of the portfolio would be beneficial in terms of meeting new market demand for tourism. Currently, international visitors to the country have increased 8,5% per year alone in the period of 2023-2024 (Ministerio de Comercio, Industria y Turismo, 2025). Interest for rural tourism has been made possible by social

media strategies from grassroots cacao communities and from ministries, local and governmental institutions.

In the Collapse scenario, we saw how the Agritourism + Sustainability strategic response would be the preferred choice. This would maintain a balance between the possible divestments from the new government in 2026 in rural development, a decrease in cacao prices and production plus tourism stagnation. International tourists could prefer safer destinations, such as urban centres in other regions of the world. In this scenario, smallholder farmers would need to ensure the diversification of their portfolio was intentional, scalable and sustainable. In result, this could mean moving towards leaner operations to manage their cacao farming activities in addition to providing capacity for tourist activities in their farms for local and national visitors with a view to safety.

On the contrary, the Transformation scenario scored the highest for all three strategic responses, having the Agritourism + Sustainability strategic response ranking first, Sustainability second and Agritourism third. In many ways, the Transformation scenario is quite like the preferred futures envisioned by our smallholder cacao farmers of blending sustainability and regenerative practices with agritourism activities in their farms. Hence, it is easily understood that if the Agritourism + Sustainability strategic response is pursued, and with dedicated efforts to integrate sustainability on the agritourism track, big things will be achieved for the larger benefit of the community.

All in all, the Transformation scenario ranking is the same one when we stack each strategic response against each scenario of possible futures (See *Total Overall Score column*). It's safe to say that we need to ensure conditions are met for smallholder farmers to achieve sustainability as their highest and immediate priority. Their biggest reward will come from maximizing the benefits of larger quality sustainable beans volumes which will result in fair trade and ensure a sustainable income for years to come.

## 11. Limitations

This major research project has been invaluable as we have had an opportunity to co-create with a varied group of smallholder cacao farmers across the country and their knowledge and expertise has enriched the results that you see in this document. However, there are a few limitations that we want to acknowledge as we close the develop phase:

- **Perspectives in validations:** The flourishing business model validations with smallholder cacao farmers was made possible only through videoconferencing tools and with a limited time of one-hour per participant.

First, these circumstances reduced the quantity of people that could engage in this process due to the lack of digital connectivity in some areas of the country and use of virtual collaboration tools. Secondly, the one-hour time allocated for feedback, only permitted for certain areas of the Flourishing Business Model Canvas to be reviewed with each participant. Thus, resulting in researchers presenting the model at a high level and asking specific feedback about the flourishing business model with each participant depending on their area of expertise and/or knowledge.

- **Shifting context in some post-conflict rural areas of Colombia:** In 2024, some of the rural areas of the country which had been conflict-free after the signature of the peace treaty in 2016, have started to experience violence and displacement of their inhabitants. This is causing concern from the public as guaranteed peace and security is at risk across the country. The Colombian government and local authorities are expanding military operations to stop violent actors, but this crisis puts in question the future and stability of people and communities of the country's rural areas, including those of smallholder cacao farmers. Therefore, there is a possibility that the proposed strategy could be at risk for implementation.
- **Implementation supports:** As researchers and designers in this major research project, our scope has been limited to co-designing a flourishing business model and a strategic roadmap for smallholder cacao farmers. Providing implementation

capacity for the execution of the strategy would require researchers to play an active role and engagement which at this time is challenging given researchers are located outside of cacao regions.

## 12. Next Steps

The proposed flourishing business model and strategic roadmap are an inspiration for smallholder cacao farmers and communities in Colombia to advance their efforts to achieve a more sustainable and resilient future. Nonetheless, when exploring how any of the three strategies can be implemented, it is important to consider each specific cacao community journey and establish a starting point.

However, our recommendation, supported by the insights, and exploration of the plausible futures in 2036, would be for cacao communities to start aligning their strategic plans for the immediate future to the sustainability and regenerative farming tactics. In doing so, they can set the foundations for resiliency of threats such as an imminent freeze of cacao prices coming from Big Chocolate businesses (nationally and internationally) and stringent market conditions from the upside of tariffs and possible stricter regulations for exporting products.

Furthermore, doubling down on these tactics would be a head start in possibly changing economic and investment government decisions with the 2026 elections. Currently uncertainty around candidates' government plans and priorities leave organizations and businesses with difficulty in decision-making and more specifically how to mitigate the risk of unknown outcomes. Possibly, if the 2026 election comes to a change of the current political party in power, it would be recommended to review the agritourism tactics and gauge conditions for implementation for desirability, viability and feasibility.

In conclusion, the smallholder cacao communities' desire to succeed through sustainability and regenerative farming is the key to providing them with economic, social and environmental benefits. Comparably this will result in a specialization of the craft and will reduce the dependency on other sources of income for their livelihood.

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## 15. Appendix

### Appendix 1: Context and details of our journey to Pauna

- **Timeline**

**Day 1** – Visit to Finca San Luis and semi-structured interview with cacao farmer

- Welcome to Finca San Luis and interview
- Tour of the farm with explanation of each of the stages, ideal agroforest systems, plagues and post-harvest processes of cacao production
- Chocolate tasting of the chocolate made with Finca San Luis' cacao

**Day 2** - Visit to the regional Association's collection centre

- Tour of the Association's office
- Observation of the smallholder farmers selling their cacao in the Association's collection centre and how the Association pack it to sell it to their customers

**Day 3** – Meeting with the smallholder cacao farmers

- Workshop attendance: Learn how to take advantage of mucilage of the cacao besides the bean.
- Presenting ourselves and our project to the farmers
- Participation of a technical assistance session given by the Association to the farmers

**Day 4** – Visit to San Pablo de Borbur and smallholder farmers semi-structured interviews

- Visit to a high-quality cacao producing and exporting farm, its processing and storage center
- Interview to the farm's manager

- Visit to San Pablo de Borbur Association and transformation (to chocolate) facilities
- Interview to San Pablo de Borbur former mayor
- Interviews to smallholder cacao farmers

**Day 5 – Visit to cacao farms and semi-structured interview with cacao farmer**

- Welcome to the farm and interview
- Tour of the farm and its post-harvest facilities

Appendix 2: Current Business Models Descriptions

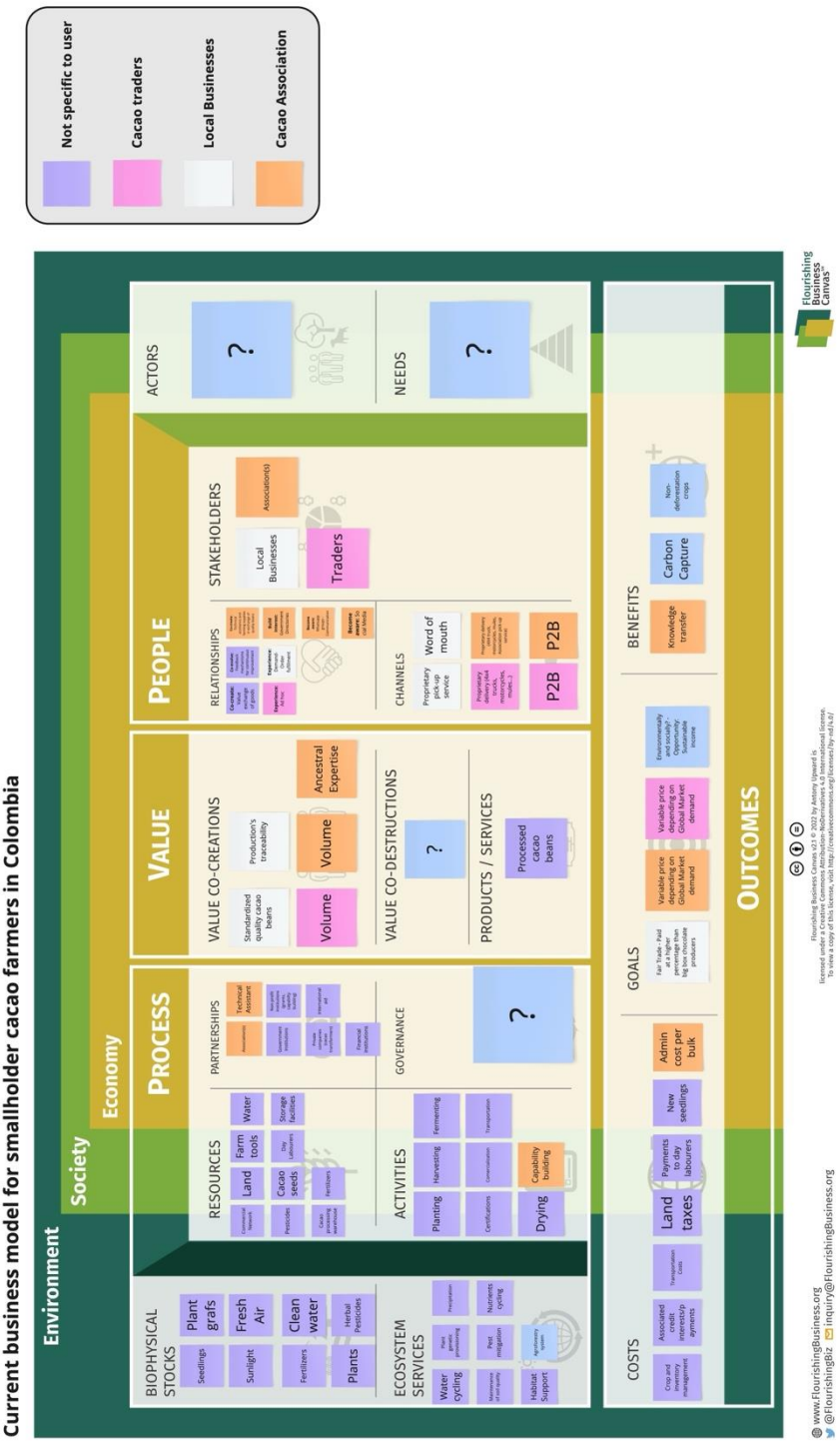


Figure 17: Current business model for smallholder cacao farmers in Colombia



- **Current business model for smallholder cacao farmers in Colombia**

**Stakeholders**

Smallholder Cacao farmers cater to three target segments of customers: **local businesses, smallholder farmer Associations** and **traders**. All these customers acquire dry cacao beans through a direct or indirect relationship with the smallholder farmer, and typically this happens at the epicentre of the local town.

**Value Co-creations**

Smallholder farmers hold the key to the raw material needed for chocolate producers to be able to offer end consumers a delightful chocolate bar or cup. Therefore, smallholder farmers through their ancestral expertise, standardized quality cacao beans, sustainable practices that highlight the product's traceability plus capacity can provide the raw material that all chocolate producers are looking for.

**Goals**

Smallholder farmers achieve a sustainable revenue through fair trade and currently, due to the high demand of cacao beans globally, a higher variable price. For customers that can pay a fair price, they take into consideration factors such as cacao beans that meet their own quality standards and so, this could mean samples are sent to the customer to validate in-house before any shipment is sold.

**Channels**

Cacao beans are sold and shipped through a single channel or a combination of channels – word of mouth, proprietary pick-up service (including 4X4 trucks, motorcycles, mules) and through a P2B (Person to Business) relationship.

**Relationships**

**Smallholder farmer Associations:** Cacao farmers are typically linked to their local smallholder farmer Association through an initial binding agreement. This provides them with supports such as technical assistance, involvement in being part of a broader cacao

beans ecosystem such as participating in local or governmental sponsored events, and they are constantly communicating through WhatsApp groups.

**Local businesses:** Some smallholder farmers through local networks sell directly to local businesses that need quality raw materials for their products, as an example, a small manufacturing chocolate bar company in town.

**Traders:** These are intermediaries that acquire cacao beans in bulk to sell to national or international buyers. They have more of an informal relationship with smallholder cacao farmers as their interest lies with their immediate purchasing needs.

### **Activities**

Cacao beans need to be planted, harvested, fermented, dried, transported and commercialized by their farmer to reach their customers. This process also requires the farmer to perform fertilization and pruning to the cacao trees, to ensure they are maintained healthy through the two harvest seasons of the year. These activities are highly achieved through the capacity building and support provided by their local smallholder farmer Association.

### **Resources**

Smallholder farmers usually have a small plot of land, inherited through their ancestors or acquired by purchase to another farmer/entity. An initial upfront investment is required for farm tools, to build storage facilities and a cacao processing warehouse, to acquire seeds (if cacao trees are not already on the land), pesticides and fertilizers. Also, the plot of land should have access to a creek or nearby water supply to irrigate the land. Finally, during the harvest season, day labourers are required to help with the work needed as well as supports for commercialization efforts.

### **Partnerships**

Strategic partnerships with local smallholder farmer Associations and their technical assistant are crucial for any cacao farmer's success. In addition, other partnerships that

provide supports include government institutions (ex: Fedecacao), Non-for-profit institutions (who provide grants and capacity building), private company sponsorships (Cacao producers), International Aid (US Aid) and national and local financial institutions.

### **Costs**

The main costs of operating a smallholder cacao farm starts with the initial investment of new seedlings and tools, crop and inventory management and transportation to the local town. Furthermore, there are costs associated with the land, such as taxes and payments to day labourers as needed for specific activities throughout the farm. If a landowner has any associated credit, they will need to incur in credit interest and payments. Finally, for any cacao beans sold to the local smallholder farmers Association, there is a 3% charge, that goes to the national cacao Association, Fedecacao.

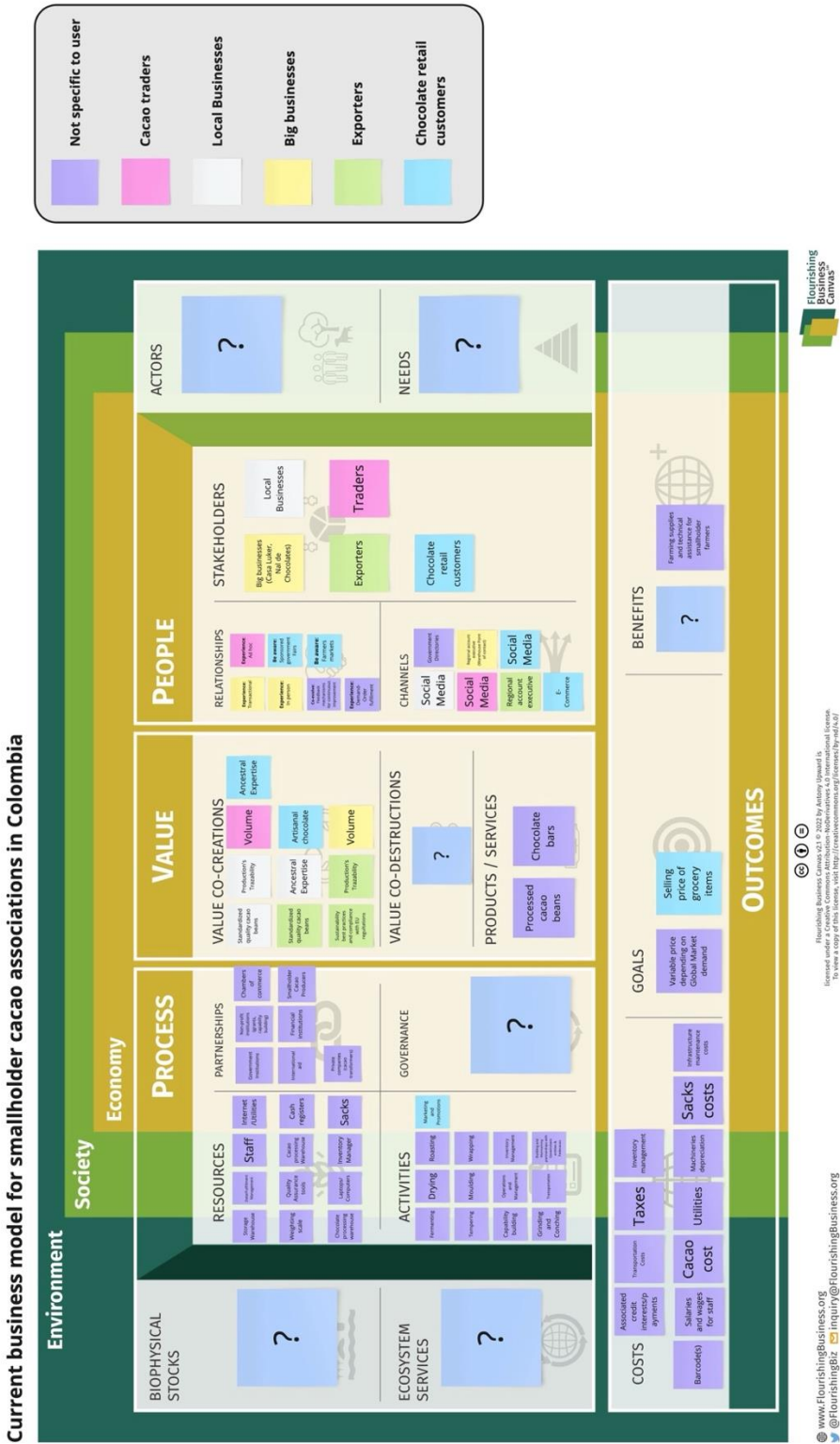


Figure 18: Current business model for smallholder cacao associations in Colombia

- **Current business model for smallholder cacao Associations in Colombia – Multisided platform pattern**

**Stakeholders**

Smallholder farmer Associations cater to five target segments of customers: **local businesses, big businesses (Casa Luker and Nacional de Chocolates), Exporters, Chocolate retail customers and traders**. Most of these customers acquire dry cacao beans through a direct or indirect relationship with the Association or buy transformed cacao beans into retail products, such as chocolate bars.

**Value Co-creations**

Smallholder Associations sell raw material in large volumes for national and international chocolate producers ensuring the highest quality, and they do so through the collection of all their smallholder farmers associates cacao beans. Furthermore, they sell artisan retail chocolate products which support sustainability practices in compliance with EU regulations and make them more appealing to buyers abroad.

**Goals**

Smallholder farmer Associations revenue is achieved through selling high quality cacao beans in bulk to meet the high demand of national and global buyers, and, through the sales of their artisan retail chocolate products.

**Channels**

Cacao beans are sold and shipped directly to through a regional account executive to big businesses (Luker and Nacional de Chocolates) and similarly to exporters ad-hoc.

Associations also attend local, governmental and national trade fairs which allows them to sell both cacao beans in bulk and their artisan retail chocolate products to customers B2C or B2B. Finally, through social media they have started to create an online presence so that customers can inquire and buy products online.

## Relationships

**Local businesses:** Some smallholder Associations through networks sell directly to local businesses that need quality raw materials for their products and work together for continuous improvement.

**Traders:** These are intermediaries that acquire cacao beans in bulk to sell to national or international buyers. They have more of an informal relationship with Associations as their interest lies with their immediate purchasing needs.

**Exporters:** High quality demands through order fulfillments require smallholder Associations to coordinate and work with logistic partners to ensure a smooth and timely delivery.

**Chocolate retail customers:** Associations through local farmer's markets and sponsored government fairs attend to educating and introducing customers to new artisan chocolate products.

**Big Businesses:** The Associations liaison with their Big Business regional account executive allows for a transactional relationship based on client needs and fixed purchase price.

## Activities

Cacao beans received by the smallholder Association can be fermented (if cacao beans are received in slime), and dried to be sold later in bulk. When receiving dry cacao beans to be transformed, they are roasted, grinded and shelled, to later be tempered, moulded and wrapped to create the artisan chocolate bars. The Association also provides capacity building to their associates through technical assistance, which requires larger operations and management to coordinate logistics for these activities. The cacao beans Association also requires inventory management, as daily smallholder farmers sell their dry cacao beans directly and receive payments in cash. The leadership at the Association also requires building and maintaining partnerships with government

institutions as well as Fedecacao. Finally, the Association requires support for their marketing and promotions to ensure visibility of the activities and product portfolio.

### **Resources**

Smallholder farmer Associations usually have a storage warehouse in town where a small operation team manages daily intake of dry cacao beans and ensures payments are made directly in cash to the smallholder farmer. This requires a cash register with substantial cash flow for payments, an inventory management system, laptop/computer, weighting scale, sacks, support staff and paid utilities such as internet for connectivity. For transforming dry cacao beans into artisan chocolate bars, a separate processing area/facility is required with specialized machinery.

### **Partnerships**

Strategic partnerships with local smallholder farmers are key for the success of any smallholder farmers Association to ensure volume and quality of dry cacao beans. In addition, other partnerships that provide supports include government institutions (ex: Fedecacao), Non-for-profit institutions (who provide grants and capacity building), private company sponsorships (Cacao producers), International Aid (US Aid), Chambers of Commerce and national and local financial institutions.

### **Costs**

The main costs of operating a smallholder cacao Association include payments to smallholder farmers for their dry cacao beans, salaries and wages for staff, barcodes for inventory management, sacks for holding and transporting products. In addition, utilities and infrastructure maintenance for the warehouse, taxes, credit interest, payments and any machineries' depreciation costs.

### Appendix 3: Pre-filled STEEP-V

**THE FUTURE DOESN'T EXIST BUT WE CAN DESIGN IT**

**Current context Analysis**

OC	AD	U
OC	AD	U

30 minutes

Please share with the group the topics you noted during the individual reflection time. Taking into account all participants' contributions, discuss and record how each of the quadrants — Society, Technology, Economy, Environment, Politics, and Values — currently appears.

Note: You may use the following guiding questions:

- What are the short-term goals of smallholder cacao farmers in Colombia? What are the short-term goals of the Associations?
- What are the main concerns of smallholder cacao farmers in Colombia? What are the main concerns of the Associations?
- Which aspects of the current context no longer address the needs of smallholder cacao farmers in Colombia?
- What is currently not working well?

[illegible]

1#

Figure 19: Pre-filled STEEP-V



## **Appendix 4: Trends about agriculture and food systems, with emphasis on the Colombian context**

- **Round year production**

Combination of scientific and technological innovation to ensure food availability under any climatic condition.

- **Super farmers**

A combination of the farmers' characteristic solidarity with the strategic use of digital technologies and physical spaces to transform the relationship between rural areas and cities.

- **Rural sustainable economy**

An approach that recognizes the value of rural areas not only for ensuring food security but also as a foundation for strengthening rural communities and promoting social stability.

- **Alternative Raw Materials**

The search for alternative raw materials is revolutionizing the way we produce food and everyday objects, focusing on minimizing environmental impact and increasing sustainability.

- **Personalized nutrition**

Personalized nutrition, driven by the pursuit of well-being after COVID-19, tailors meal plans to individual needs to prevent diseases.

- **Mainstream produce as superfoods**

Common foods are now being fortified with additional nutrients, while brands are removing harmful ingredients. This is redefining everyday consumption towards healthier and more functional options.

- **Smart farming: Empowering tech for better agriculture outcomes**

To address the labor shortage, large farms have begun implementing technologies such as robots, drones, and artificial intelligence, improving agricultural efficiency and productivity.

- **Ecosystem and human rights protection in agriculture production**

Agriculture, once associated with child exploitation and deforestation, is now driving laws and incentives to protect ecosystems and human rights, promoting responsible and sustainable practices.

- **Farm to Table**

Consumers and Food producers are now more connected than ever through partnerships and collectives that allow fresh produce to reach their local communities faster than ever before.

- **Rural Gender Equality**

There has been a global growing recognition of the role that women play in agriculture, making way for new leadership roles by women entrepreneurs in the farming industry.

- **Achieving the Organic Economy**

The organic food production and supply chain faces a great challenge against the current food production business models, as achieving this goal poses a high investment and the same product is costlier to produce at first.

- **On plates and not on landfills**

Food producers and retailers are finding creative ways to educate consumers about the current practice of disposing of crops that do not meet aesthetic standards, which creates a huge surplus of food waste.

- **Going back to the old ways of living**

Authors and community leaders concerned with the loss of food ancestral knowledge, and sustainable agricultural practices, are using contemporary social media and future narratives to spread knowledge so people can make better conscious decisions today that determine their future health and wellbeing.

- **The rebirth of the Colombian countryside**

Colombia's Agriculture Industry has had an exponential growth in the last few years specially after the signing of the peace agreement in 2016, bringing opportunities for smallholder farmers and large-scale industries to expand their businesses (Food and Agriculture Organization of the United Nations, 2024).

The following trends are the ones that inspired the Colombian cacao community's preferred scenario and flourishing business model.



Figure 20: Agritourism Trend – Page 1



Figure 21: Agritourism Trend – Page 2



Figure 22: Sustainable Farming Trend – Page 1



Figure 23: Sustainable Farming Trend – Page 2



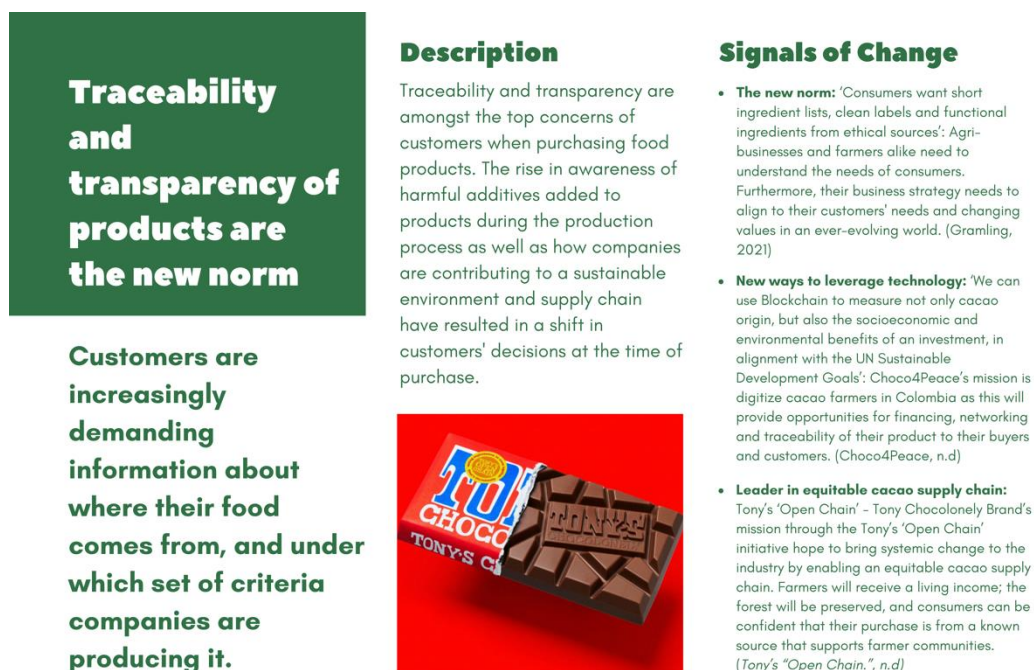


Figure 24: Traceability and transparency of products are the new norm Trend – Page 1



Figure 25: Traceability and transparency of products are the new norm Trend – Page 2



Figure 26: Regenerative Farming Trend – Page 1

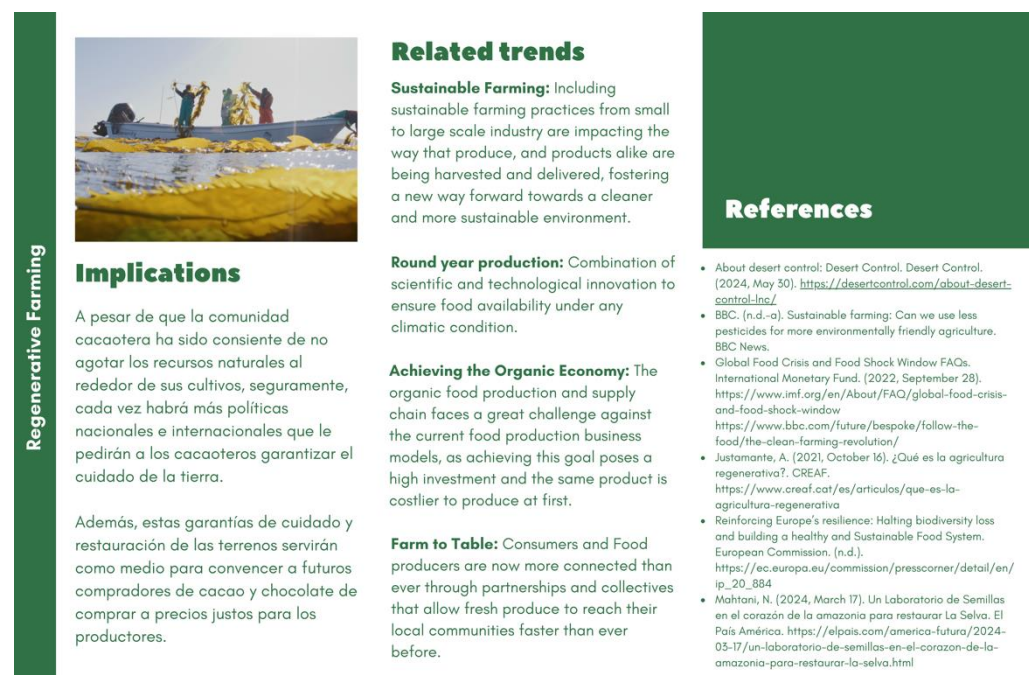


Figure 27: Regenerative Farming Trend – Page 2

Appendix 5: Headline about Colombian cacao in 2035

OCADU

OPEN COLLABORATIVE  
ADDITIONALITY

THE FUTURE DOESN'T EXIST BUT WE CAN DESIGN IT

Headline about Colombian cacao in 2035

🕒 15 minutes

As a team, discuss and write what the headline about cacao in Colombia will be in 2035. Here is a prompt question to help you reflect: What will be happening with cacao in the western region of Boyacá in 2035?

Example about another industry: Medical students are preparing to perform long-distance surgery using robots and computers.

Headline about Colombian cacao in 2035:

🕒 35 minutes

As a team, describe in detail the future scenario from which the headline you created originates.

<b>Time</b> The year is 2035	<b>Space</b> Smallholder cacao communities in Colombia	<b>Vision</b> <i>Copy here your headline about cacao in 2035</i>	<b>Values</b> What values and principles are prioritized in this future? Why?  Which values are no longer as important?	<b>Culture</b> What continues to identify us as a country?	<b>Aspirations</b> If you were to continue growing and harvesting cacao in this scenario, what would be your goal for your farm?	<b>Results</b> What changes have been achieved in the cacao community in Colombia in this scenario?
<b>Actions</b> What should we as cacao producers do to achieve this scenario?  What should cacao Associations do to achieve this scenario?  What should the public institutions do to achieve this scenario?	<b>Resources</b> What environmental, economic and social resources make our scenario possible?	<b>Disruptive events</b> What happened from 2025 to 2035 to make this scenario possible?	<b>Actors</b> Who is leading and dominating the change?  Who is not still part of the cacao community in Colombia?  Who has supported the cacao community to make this 2035 headline possible?			

#2

Figure 28: Headline about Colombian cacao in 2035 template

Appendix 6: Step by step to get to 2035

OCAD  
UNIVERSITY

OCAD  
AD

U

THE FUTURE DOESN'T EXIST BUT WE CAN DESIGN IT

Step by step

⌚

30 minutes

As a group, discuss and write down the steps that the cacao community, public institutions, large companies (such as Luker and Nacional de Chocolates), and other key stakeholders must take to reach the future scenario created in the previous activity. Place these steps on a timeline in chronological order. Some guiding questions that may help include:

- How will the cacao community in Colombia reach this future scenario?
- How would you, as cacao producers, prepare for the changes and developments in this scenario? How would the Associations prepare?
- What needs to happen for this scenario to become a reality?
- Which aspects of the current situation need to be reduced or even eliminated to make this scenario possible?

●

2025

→

2035

#4

Figure 29: Step by step to get to 2035 template



## Appendix 7: Community driven business model

### Flourishing Business Canvas

**Designed for:** Post-conflict smallholder cacao farmers in Colombia

**Designed by:** Laura Marin Hurtado and Maria Sanz de Santamaria

**Date of Model:** Summer 2026

**Today's date:** April 30, 2025

**PEOPLE:** Who are all the people involved in this business: the people this business does it to, for and with?

### STAKEHOLDERS

The new community driven business model for smallholder cacao farmers will encompass four major stakeholders. First, the **Association(s)** inventory coordinator plays an important role in acquiring the highest quality cacao beans that the community produces sustainably. **Founders and Chocolatiers of local businesses** plus **traders** acquire sustainable and standardized quality cacao beans that perhaps do not meet the highest quality standards set for the Association's buyers. Yet, these beans will be purchased by big chocolate businesses from traders whose interest is to acquire cacao beans in quantity over quality. This in return will be generating a fair trade for smallholder cacao producers.

Lastly, this includes foreign **tourists** willing to explore Colombia with immersive experiences at reasonable prices. For this stakeholder group, is important to ensure experiences are purposely crafted, and their time in the cacao farms provide the needed labour supports for producers.

### RELATIONSHIPS

- **Founders and chocolatiers of Local Businesses: Build trust and interest**
  - From smallholder cacao farmers to Local Businesses
    - Demand-order fulfillment

- From Local Businesses to smallholder cacao farmers
  - Create order requirements
  - Feedback for continuous improvement
- **Association(s): Co-create value**
  - From smallholder cacao farmers to Association(s)
    - Quality and sustainable cacao beans in volume
    - Carbon capture profits
  - From Association(s) to smallholder cacao farmers
    - Technical assistance and farming supplies
    - Feedback for continuous improvement
    - Hospitality capacity building for smallholder farmers
- **Traders: Build trust and interest**
  - From smallholder cacao farmers to traders
    - Active cacao production flow to sell
  - From traders to smallholder cacao farmers
    - Secure sales of their production
- **Tourists: Co-create value and experience**
  - From smallholder cacao farmers to tourists
    - Sustainable and regenerative practices
    - Ancestral and cultural knowledge exchange
  - From tourists to smallholder cacao farmers
    - Foreign knowledge and labour force exchange

- Feedback for continuous improvement
- From tour operators to smallholder cacao farmers
  - Co-design of the cacao experience and bringing the tourists to the cacao regions
- From smallholder cacao farmers to tour operators
  - Ancestral and cultural knowledge exchange
- From Colombia's brand agency, Ministry of Commerce and Tourism and the International Embassies to smallholder cacao farmers
  - Presence of the cacao community on events and social media
- From smallholder cacao farmers to Colombia's brand agency, Ministry of Commerce and Tourism and the International Embassies
  - Increase of tourists through agritourism initiatives
- From smallholder cacao farmers to Embassies
  - Cultural exchange
- From The World Cocoa and Derivates Tourism Destinations Network to smallholder cacao farmers
  - Knowledge about cacao tourism
- **All: Collaborate/support and co-evolve**
  - From Big chocolate businesses/Finagro/Ministry of Environment + Agriculture to smallholder cacao farmers
    - Being change agents of sustainable practices who incentivize cacao bean providers

- From smallholder cacao farmers to Big chocolate businesses/Finagro/Ministry of Environment + Agriculture
  - Increase the sustainability of cacao farming in the country
- From Ministries of agriculture and tourism to smallholder cacao farmers
  - Presence in directories and funding
- From smallholder farmers to Ministries of agriculture and tourism
  - Increase of tourists through agritourism initiatives
- From INVIAS to smallholder cacao farmers
  - Complying with the delivery of the infrastructure needed to access cacao communities
- From Fedecacao to smallholder farmers
  - Technical assistance for smallholder farmers
- From smallholder cacao farmers to Fedecacao
  - 3% charge of the cacao production

## CHANNELS

**Founders and chocolatiers of Local Businesses:** They work with proprietary pick-up services and third-party delivery providers to acquire dry cacao beans from producers. Also, founders and chocolatiers work through referrals to connect with producers in their region and nationally.

**Association(s):** They work with proprietary pick-up services including 4X4 trucks, motorcycles, mules, to acquire cacao slime from producers to take back to the fermenting community centre. This encompasses what we like to call a Producer to Business (P2B) channel.

**Traders:** They work with proprietary pick-up services including 4X4 trucks, motorcycles, mules, to acquire dry cacao beans to be shipped to big cacao businesses in Colombia and/or to

international buyers via airplane cargo or maritime transport. This encompasses what we like to call a Producer to Business (P2B) channel.

**Foreign Tourists:** They will be sought through a mix of channels to engage with local producers. Maria del Campo (Colombia's cacao Federation Ambassador) will play a key role in showcasing women's role in the cacao industry, along with inviting tourists to seek experiential exchanges in all of Colombia's cacao regions. Through prints and publications, local and national residents will learn about quality cacao beans grown in Colombia, and the multi-faceted nutritional benefits native cacao has to offer for a healthy lifestyle. The Choco show, hosted by Fedecacao and happening yearly in Colombia's capital will need to strive to engage with international visitors who are looking to learn more about the quality beans and varieties offered by all cacao regions to expand marketing opportunities. Furthermore, people already experiencing local cacao products and farms can be advocates and engage in referrals to friends, and family networks outside of the country, to invite them to seek the cacao culture and communities. Complementary, at the community level, cacao regions can increase their social media presence through content creation showcasing their role and efforts whilst creating promotional opportunities to invite visitors from all over the world. In partnership with international embassies, efforts will need to be put in place to promote Colombia's cacao regions experiential activities specially during winter season for the Global North, as during this time tourists seek experiences in warmer regions of the world. Lastly, Marca Pais Colombia through ProColombia will need to promote Cacao regions as a destination at international cacao and chocolate fairs to engage potential international visitors.

For **all** stakeholders, it's crucial that agritourism promotion comes from local and departmental governments tourism boards (ex: Instituto Distrital de Turismo (IDT) de Bogota, Secretaria de Turismo de Cundinamarca) and agricultural products directories currently available such as 'The Green Businesses Portfolio' from the Ministry of Environment and Sustainable development.

## ACTORS

### Association(s):

- Ministry of Agriculture
- Big Chocolate Businesses (Casa Luker and Nacional de Chocolates)

### Foreign Tourists:

- The World Cocoa and Derivates Tourism Destinations Network
- Tour Operators
- International Embassies
- Local Government
- Insurance Providers
- Ministry of Commerce, Industry and Tourism
- Marca Pais Colombia - Procolombia (Colombia's Brand Agency)

### All:

- INVIAS (National Roads Institute)
- SENA (National Learning Service)
- Fedecacao
- Ministry of Environment and Sustainable development
- Finagro (Agricultural Sector Financing Fund)

## NEEDS

**Founders and chocolatiers of Local Businesses** primary need is to acquire standardized and sustainable quality cacao beans, as this is their raw materials supply for their chocolate bar production. In addition, they are always looking to grow their customer base, and so the

creation of new chocolate bar recipes requires experimenting and tasting with new cacao varieties from different regions of Colombia.

**Association(s)** fundamental need is to be a financial sustainable business through:

- Paying fair trade prices to their smallholder cacao farmer producers
- Ensuring Association's workers are fairly compensated
- Providing standardized sustainable quality cacao beans to all customers
- Maintaining strong partnerships and relationships with customers/buyers for continued business growth

**Trader's** primary needs are to maintain a healthy pipeline of standardized and sustainable cacao beans to fulfill customer demands. Secondly, traders must ensure revenue growth through more customer acquisition strategies, be it at the national or international level.

Foreign **tourists'** agritourism experience needs are varied:

- Acquiring ancestral knowledge from the exchange of labour at the smallholder cacao farms
- Looking for mental and emotional wellness experiences within the cacao smallholder communities
- Wanting to leave a low tourism footprint during their stay and travel itineraries
- Fulfill efforts from local governments and population as their work exchange brings recognition to the cacao territories, resulting in economic growth for communities

**VALUE:** What value is co-created and co-destroyed now and/or in the future between this business and all the Stakeholders involved?

## **VALUE CO-CREATIONS**

**Association(s):** deliver standardized and the highest quality sustainable cacao beans in volume to international buyers, highlighting the story behind the labour of smallholder cacao farmers

**Founders and chocolatiers of Local Businesses:** transform standardized sustainable quality cacao beans in volume while highlighting the story behind their chocolate bars

**Traders:** sell standardized cacao beans in volume to large chocolate businesses

**Foreign tourists:** get to visit different regions in Colombia while experiencing the background story behind cacao, the culture and regenerative agricultural practices through the exchange of work experience

Every stakeholder can benefit from regenerative and sustainable production practices and processes in cacao smallholder farms which will restore grass- lands, agro-forestry systems, and local ecosystems. Furthermore, this will ensure the sustainable production of food preserving soil fertility for future generations.

## **VALUE CO-DESTRUCTIONS**

### **Environmental**

#### **All:**

- Water Contamination from agricultural processes and farming activities
- CO2 Emissions from transportation vehicles, cooking and farming activities

### **Social**

#### **All:**

- Dilution of community's strategic objectives because of individualistic goals within members and stakeholders
- Risk of Commodification of product and services for the local community

### **Tourists**

- Likelihood of increase in pricing of goods due to tourism

## **PRODUCTS/SERVICES**



**Founders and chocolatiers of local businesses:** Sustainable processed cacao beans

**Association(s):** Highest quality sustainable processed cacao beans for export

**Traders:** Sustainable processed cacao beans

**Tourists:** Experiential tourism with purpose. The regenerative cacao learning and work experience

**PROCESS:** How, where and with what does this business co-create its value to achieve its goals?

## **PARTNERSHIPS**

### **Association(s)**

- Technical cooperation amongst several associations in the region
- Leverage lessons learned and best practices

### **Tourists:**

- Alliance with Tour operators in alignment with community's values
- International Cooperation Agreement with International Embassies
- Sponsorship(s) through Local government, Marca Pais - Procolombia, The World Cocoa and Derivates Tourism Destinations Network for promotion opportunities

### **All:**

- Sponsorships with Non-for-Profit institutions and International Aid agencies
- Technical cooperation through Fedecacao's regional office
- Contractual: Financial Institutions
- Cooperation agreement/sponsorship(s) with Colombia's Ministries

## RESOURCES

### Association(s):

- Fermenting Community Centre(s)

### Tourists:

- Accommodation and food facilities
- Transportation Logistics
- Cacao experiences facilities

### All:

- Biodigester
- Grafting
- Biodegradable and resistant (non-plastic) farm work tools
- Bio raw materials for bio building and tools:
  - Totuma (Gourd)
  - Plantain leaves
  - Bore plant and leaves
  - Palmicha
  - Fique
  - Guadua Bamboo
  - Wooden cutlery and kitchen tools
  - Stainless steel
- Commercial Network
- Land
- Water
- Herbal pesticides
- Cacao Seeds
- Labourers
- Storage facilities

- Cacao processing warehouse
- Natural fertilizers produced within the agroforestry system

**ACTIVITIES:****Association(s):**

- Capacity building to produce fine-flavour cacao

**Tourists:**

- Manage bookings
- Cooking and meal planning
- Visitors onboarding
- Touristic activities
- Wellness activities, ie. Cacao ceremony

**All:**

- Bio-building
- Agroforestry system design
- Planting
- Harvesting
- Fermenting
- Turn organic waste into fertilizer
- Sub-products from cacao and cacao waste (mucilage)
- Drying
- Certifications
- Commercialization
- Transportation

- Cooperative
- Capacity Building
- Cacao Association's Board meeting every quarter
- Accountability reports every quarter
- Energy generation with solar panels
- Lobbying the government to prevent the entry of institutions with values that do not align with community objectives and values

## **GOVERNANCE**

The governance of the Community Business Model is based on the Viable Systems Model (Beer, 1981). This establishes five system functions providing a flexible framework for organizations, that allow for adaptability to balance external and internal perspectives, as well as long and short-term thinking (Espejo & Gill, 2011).

### **S1 Operations**

The operations team role will comprise of three focus areas supporting the community's initiatives of products and services: Agritourism, Cacao production value chain and Marketing. These teams will co-create and collaborate with the different coordination teams on execution of projects and maintenance operations.

### **S2 Coordination**

Based on the three focus areas mentioned previously, we have established the following coordination roles:

- Finance, logistics and admin
- Capacity building (including but not limited to hospitality, agritourism, production)
- Accommodation and food coordination for tourism activities
- Farm(s) coordination activities

- Human Resources coordination

## Management

- S3 Optimization and Audit
  - **Project Management Office (PMO):** This function should establish the leadership roles and procedures required for the operations and coordination teams to execute on. We recommend the following roles to be created as a supporting team for the PMO:
    - Sustainability auditor
    - Admin and Finance Manager
    - Operations Manager
    - Hospitality Manager
    - Farm(s) Manager

These roles will ensure products and services are delivered and proper supports are in place for execution of certification audits as required.

- S4 Planning
  - **Business Development (Tourism and Production):** This function should oversee the development of new business in the interest of the community's products and services. It should be noted that it's imperative for this team to continue to explore signals of change and trends impacting the cacao and tourism industry, enhancing their ability to adapt to changes more easily.
- S5 Identity
  - **Cacao's Association Board:** Board membership should be established by nomination from community members and a democratic election process should be held to confirm yearly membership. We recommend ensuring two memberships be allocated to a youth and a women producer in the community, as these two perspectives ensure diversity, equity and inclusion benefitting the

decision-making process. In addition to, there should be one or two memberships allocated to advisors from outside the community to bring an unbiased perspective to enhance the plurality of voices to the board.

## **BIOPHYSICAL STOCKS**

- **All:**
  - Seedlings
  - Plant Grafts
  - Clean water
  - Sunlight for harvests and solar energy
  - Fresh Air
  - Plants
  - Natural fertilizers
  - Seeds
  - Healthy soils
  - Micro-organisms (soil, fungi, insects, pollinisers)
  - Gas (oil)
  - Firewood
  - Materials for bioconstruction
  - Rare minerals for solar batteries
  - Biogas

## **ECOSYSTEM SERVICES**

- **All:**
  - Water cycling
  - Plant genetic provisioning
  - Pest mitigation (Biological Control)
  - Maintenance of soil quality

- Growth and plant photosynthesis
- Nutrients cycling
- Metals
- Solar radiation

**OUTCOMES:** What outcomes demonstrate whether this business has achieved its goals, achieving its stakeholder's definition of success over time?

## **COSTS**

### **1. Environmental**

#### **All:**

- Use of gas (oil): Gallons x average price/year
- Co2 Emissions:
  1. Fuel and Machinery Emissions: (tCO<sub>2</sub>e/year)
  2. Fertilizer and Agrochemical Emissions: (tCO<sub>2</sub>e/year)
  3. Electricity and Energy Use: (tCO<sub>2</sub>e/year)
- Use of wood: Tons per year

### **2. Social**

#### **All:**

- Investment of time within the community to ensure buy- in of the new business model
  1. Time Spent in Training & Capacity Building: (hours/year)
- Intergenerational change of community capacity
  1. Youth Engagement Rate in Capacity-Building Programs (%):  $\text{Youth Participants in Training} / \text{Total Youth Population in Community} \times 100$

2. Skill Retention Rate Over Generations (%): Youth Applying  
Learned Skills/Total Trained Youth×100

**3. Economic:**

**Association(s):**

- Admin costs per bulk: Expenses (\$) Year over Year (YoY)

**Tourists:**

- Tourists feeding costs: Expenses (\$) Year over Year (YoY)
- Marketing and communications: Expenses (\$) Year over Year (YoY)
- Hospitality capacity building: Expenses (\$) Year over Year (YoY)

**All:**

- Land taxes: Expenses (\$) Year over Year (YoY)
- Payment's labourers: Expenses (\$) Year over Year (YoY)
- New seedlings: Expenses (\$) Year over Year (YoY)
- Utilities: Expenses (\$) Year over Year (YoY)
- Crop and inventory management: Expenses (\$) Year over Year (YoY)
- 3% charge of the cacao production for Fedecacao (Cacao Development Fund): Expenses (\$) YoY
- Sustainability certifications: Expenses (\$) YoY
- Associated credit interests/Payments: Expenses (\$) YoY
- Transportation Costs: Expenses (\$) YoY

**GOALS**

**1. Environmental**



**All:**

- By 2036, achieve national recognition as the most sustainable cacao production system in Colombia by ensuring 90% of participating farms implement regenerative agroforestry, reduce chemical inputs, and increase biodiversity indicators
- By 2036, generate at least 10% of the community's total income from carbon credit sales by registering all hectares of agroforestry cacao under a certified carbon offset program, sequestering at least 5 tCO<sub>2</sub>e/ha annually, and securing long-term buyers for the credits.

**2. Social****All:**

- By 2036, reduce the labor shortage in cacao farming by 40% through a youth employment initiative that trains and employs at least 200 young workers, improves wages by 20%, and provides financial incentives for local workforce retention.
- By 2036, reduce the labor shortage in cacao farming by 40% through a formalization of labour program that provides full-time employment with (health and retirement) employment
- By 2036, the cacao community will reach 100% economic, social and environmental benefits by achieving 90% association capacity in the community
- By 2036, reduce the labor shortage in cacao farming by 40% through a cacao learning + work experience initiative that trains at least 200 foreign volunteers in exchange for work

**3. Economic:****All:**

- By 2036, achieve 80% circular use of cacao waste by developing high-value byproducts (e.g., cacao husk-based fertilizer, mucilage-based beverages, and cacao-shell biofuel), establishing local processing facilities, and securing market partnerships to generate at least 5% in annual revenue from waste-derived products.
- By 2036, increase the average household income in cacao-growing regions by 30% through improved market access, premium pricing agreements for high-quality cacao, diversified income streams (e.g., tourism and value-added cacao products), and government-backed investment programs supporting smallholder farmers.

## **BENEFITS**

### **1. Environmental**

#### **All:**

- Carbon Capture: Net Carbon Sequestration (tCO<sub>2</sub>e/ha/year)
- Non-deforestation crops: Sustainable and/or regenerated hectares per year and Hectares reforested per year (agroforestry systems)
- Regenerative and sustainable production expansion: Sustainable and/or regenerated hectares per year
- Enhancement of the ecosystem services through agroforestry systems: Soil Health Improvement (% change in Soil Organic Carbon & Nutrients). Tracks the increase in organic matter and nutrient availability

### **2. Social**

#### **Association(s):**

- Knowledge transfer: Number of people trained per year

#### **Tourists:**

- Increase in the touristic labour force: Number of tourists received per year
- Knowledge transfer: Number of tourists received per year

**All:**

- Equity in gender capacity: number of working women vs number of working men per year involved in cacao-related economic activities
- Strategic use of the cacao community skills and capabilities including new generation: Satisfaction Index of Community Members -Based on surveys measuring how members perceive the value and recognition of their skills.
- Labour formalization: Number of employees under indefinite-term contract with benefits

**3. Economic****Founders and chocolatiers of local businesses:**

- Fair Trade - Paid at a higher percentage than big box chocolate companies: % of Farmers Receiving a Fair Price Above Market Rate

**Traders:**

- Variable price depending on Global Market demand: Earnings (\$) Year over Year

**Association(s):**

- Fair Trade - Paid at a higher percentage than big box chocolate companies: % of Farmers Receiving a Fair Price Above Market Rate

**Tourists:**

- Fixed contribution paid by the tourists for the community savings fund:  
Earnings (\$) Year over Year
- Profit of sub-products (souvenirs, mucilage, fertilizer): Earnings (\$) Year over Year
- Profit of wellness and complimentary touristic activities: Earnings (\$) Year over Year

**All:**

- Production rejects not meeting quality standards are absorbed by big chocolate companies: Earnings (\$) Year over Year

**Appendix 8: Continued Growth Scenario – Casual Layered Analysis (CLA)**

<b>Government</b>	<ul style="list-style-type: none"> <li>• Government leadership continues towards social development and inclusion</li> <li>• Government loses territorial control of remote regions in the country to illegal groups</li> </ul>
<b>Colombia's rural regions</b>	<ul style="list-style-type: none"> <li>• Urban population continues to return to the rural regions</li> <li>• Continued investment from government and institutions for rural development</li> <li>• Revival of ancestral practices and knowledge, applied to rural development</li> </ul>
<b>Cacao</b>	<ul style="list-style-type: none"> <li>• Higher cacao prices</li> <li>• More cacao production per hectare</li> <li>• Development of more cacao varieties adaptable to climate change</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Double digits increase year over year. Aprox. 17.000.000 tourists by 2036.</li> <li>• Discovery of new tourist destinations in Colombia</li> </ul>
<b>Implementation of technology in Colombian farming</b>	<ul style="list-style-type: none"> <li>• Rural regions have limited connectivity and low technology capacity</li> </ul>
<b>Government</b>	<ul style="list-style-type: none"> <li>• Colombia's farmers and youth claimed a social change</li> <li>• Challenges with 'Total Peace' implementation</li> </ul>
<b>Colombia's rural regions</b>	<ul style="list-style-type: none"> <li>• RRI - Integral Rural Reform</li> <li>• Peace agreements opened up rural regions that were inaccessible due to illegal actors</li> <li>• Remote work have shifted families to move to other areas</li> </ul>
<b>Cacao</b>	<ul style="list-style-type: none"> <li>• Climate change</li> <li>• Research &amp; Development</li> <li>• More and better best practices for technical assistance</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Hybrid work arrangements</li> <li>• Colombia's Digital Nomad Visa</li> </ul>
<b>Implementation of technology in</b>	<ul style="list-style-type: none"> <li>• New generations are moving away from rural areas</li> <li>• Older farmer's resistance to change</li> <li>• Centralization of Government power in Bogotá</li> </ul>

<b>Colombian farming</b>	
<b>Government</b>	<ul style="list-style-type: none"> <li>• 'Government of Change'</li> <li>• Legacy of conservative governments</li> </ul>
<b>Colombia's rural regions</b>	<ul style="list-style-type: none"> <li>• Going back to the old ways of living</li> <li>• Healthier ways of living</li> </ul>
<b>Cacao</b>	<ul style="list-style-type: none"> <li>• Regenerative agriculture</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Lifestyle influencing</li> </ul>
<b>Implementation of technology in Colombian farming</b>	<ul style="list-style-type: none"> <li>• Lack of secondary education for older generations of farmers</li> </ul>
	<ul style="list-style-type: none"> <li>• Cacao farming plantations with a modern city in a horizon</li> <li>• Sunset of a mountainous landscape were cacao workers walk towards the river while some ride horses.</li> <li>• Cacao farming plantation waking up to a misty morning in the horizon</li> </ul>

**Appendix 9: Collapse – Casual Layered Analysis (CLA)**

<b>Government</b>	<ul style="list-style-type: none"> <li>• Right-wing government from 2026</li> <li>• 'Democratic Security 2.0': Government's military takes control back of country's safety and violence escalates primarily in rural regions</li> </ul>
<b>Colombia's rural regions</b>	<ul style="list-style-type: none"> <li>• Divestment from government and institutions for rural development</li> <li>• Loss of income/aid for rural regions</li> <li>• Isolation of rural regions</li> </ul>
<b>Cacao</b>	<ul style="list-style-type: none"> <li>• Cacao Worldwide prices hit a new low</li> <li>• Cacao production per hectare is low</li> <li>• Cadmium legislation EU changes from restrictions to no requirements</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Tourism stagnates</li> <li>• Tourists prefer safer destinations, such as urban regions</li> </ul>
<b>Implementation of technology in Colombian farming</b>	<ul style="list-style-type: none"> <li>• Better telecommunications in rural regions</li> <li>• Blockchain implementation for production tracking funded by private sector</li> </ul>
<b>Government</b>	<ul style="list-style-type: none"> <li>• Incomplete promises from previous left-wing government</li> <li>• Slow economy</li> </ul>
<b>Colombia's rural regions</b>	<ul style="list-style-type: none"> <li>• Less Infrastructure Building (roads to get to rural regions)</li> <li>• Prioritization of services, and oil &amp; gas industry</li> </ul>
<b>Cacao</b>	<ul style="list-style-type: none"> <li>• Asia enters as a new cacao producer</li> <li>• Low adoption of sustainable and regenerative best practices</li> <li>• Africa rebounds from low production of cacao</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Impacts from tariffs and loss of international relations from Global North</li> <li>• Detriment of relationships with China</li> </ul>
<b>Implementation of technology in Colombian farming</b>	<ul style="list-style-type: none"> <li>• Government's investments reduce the digital infrastructure gap</li> <li>• Interests from international aid/organizations for better trading partners</li> </ul>

<b>Government</b>	<ul style="list-style-type: none"> <li>• Lack of citizen trust</li> </ul>
<b>Colombia's rural regions</b>	<ul style="list-style-type: none"> <li>• Less Infrastructure Building (roads to get to rural regions)</li> <li>• Loss of trust from informal institutions</li> </ul>
<b>Cacao</b>	<ul style="list-style-type: none"> <li>• Lack of Cacao institutional leadership to drive initiatives</li> <li>• Lack of strategic thinking for future preparedness</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• World order Mindshift</li> </ul>
<b>Implementation of technology in Colombian farming</b>	<ul style="list-style-type: none"> <li>• Power from technology industry</li> </ul>
	<ul style="list-style-type: none"> <li>• Small town with farmers on colorful outfits selling their crops near the railroad</li> <li>• Portrait of a rural town in Colombia that looks decayed as people walk through the main street</li> <li>• Mountainous landscape with a dirt road that communicates a small cacao farmers village</li> </ul>



**Appendix 10: Collapse – Casual Layered Analysis (CLA)**

<b>Government</b>	<ul style="list-style-type: none"> <li>• Coalition of diverse political parties</li> <li>• Remaining armed groups disarmed and returned to civilian life</li> </ul>
<b>Colombia's rural regions</b>	<ul style="list-style-type: none"> <li>• Construction of secondary and tertiary roads</li> <li>• Revival of ancestral practices and knowledge, applied to rural development</li> <li>• There is a new balance between urban and rural populations</li> <li>• Colombia's ecosystems acquire rights protection</li> </ul>
<b>Cacao</b>	<ul style="list-style-type: none"> <li>• Colombia's Cacao becomes #1 worldwide for quality and sustainability</li> <li>• Fair trade in Cacao is led from organic, and sustainable values</li> <li>• Cadmium warning label is a requirement but at discretion of consumers to buy products</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• More boutique tourism experiences</li> <li>• Tourism with purpose</li> </ul>
<b>Implementation of technology in Colombian farming</b>	<ul style="list-style-type: none"> <li>• Technology is implemented ethically and consciously</li> <li>• Technology developed by locals and in collaboration with academia</li> <li>• Empowering tech for better agriculture outcomes</li> <li>• Round year production</li> </ul>
<b>Government</b>	<ul style="list-style-type: none"> <li>• Incomplete promises from previous governments</li> <li>• Generational change in politics</li> </ul>
<b>Colombia's rural regions</b>	<ul style="list-style-type: none"> <li>• Trust of land caregivers</li> <li>• Leverage of infrastructure as economic growth for rural regions</li> <li>• Change of leadership in industry</li> <li>• Implementation of sustainable and regenerative practices</li> </ul>
<b>Cacao</b>	<ul style="list-style-type: none"> <li>• Prioritization of quality and sustainable cacao supply from cacao producers</li> <li>• Cacao production is understood and value due to its manual labour</li> </ul>

<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Seek for personalized and cultured experiences</li> </ul>
<b>Implementation of technology in Colombian farming</b>	<ul style="list-style-type: none"> <li>• Fight food insecurity</li> <li>• Food is produced without additives</li> <li>• Labour shortage</li> </ul>
<b>Government</b>	<ul style="list-style-type: none"> <li>• Mindset shift of 'living on my own bubble'</li> <li>• Citizens are done with civil war</li> </ul>
<b>Colombia's rural regions</b>	<ul style="list-style-type: none"> <li>• Generational change in workplace</li> <li>• Food as medicine</li> </ul>
<b>Cacao</b>	<ul style="list-style-type: none"> <li>• Cacao consumers are educated and about its production and impact for farmers' livelihood</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Tourists seek experiences that are educational and impactful - in a way to connect with others around the world</li> </ul>
<b>Implementation of technology in Colombian farming</b>	<ul style="list-style-type: none"> <li>• Seek for healthier lifestyles</li> <li>• Increasingly difficult food production</li> <li>• More accessible prices for technology</li> </ul>
	<ul style="list-style-type: none"> <li>• Smallholder farmers on a plantation field where modern towers hold crops in a mountainous region</li> <li>• Rural region were bio-construction homes sit and integrate with the green environment of plantations</li> <li>• Sunrise in a mountainous landscape where two modern jeeps are passing through the road</li> </ul>