



SCHOOL OF  
ECONOMICS AND  
MANAGEMENT

Understanding the Interplay between Rural Entrepreneurship  
and Sustainable Environmental Development in the Cartama  
Region of Antioquia, Colombia

Case Study: Agroparque Biosuroeste

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May 2023

MSc Entrepreneurship and Innovation

Submission Date: May 24, 2023

Seminar Date: May 31, 2023

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## **Abstract**

This research paper examines the relationship between rural entrepreneurship and sustainable environmental development, focusing on a single study case in a rural setting in Colombia. The objective is to portray how Agroparque Biosuroeste has contributed to environmental value and development in the Cartama region.

Qualitative research methods were employed, involving in-depth interviews with key stakeholders involved in the venture's creation and management, supplemented by secondary data resources. The findings highlight the significance of biophysical space and its resources in recognizing opportunities, designing value propositions, and strategic planning. Concepts such as embeddedness and bridging are identified as crucial in understanding the dynamics of the entrepreneurs' interaction with multiple stakeholders. An integrated framework is presented to showcase the relationship between the enabling factors of rural entrepreneurship and the mechanisms to achieve sustainable environmental development.

The aim of this study is to illustrate how a unique case of rural entrepreneurship has served as a catalyst for sustainable and regenerative regional development. This paper seeks to inspire researchers and the general audience to explore and emphasize the importance of fostering entrepreneurship in rural areas with a focus on sustainability.

**Keywords:** Rural entrepreneurship, environmental sustainable development, holistic management, regenerative practices, bridging, embeddedness, bio physical spatial context.

## **Acknowledgments**

We want to express our sincere gratitude to our supervisor, Solomon Akele Abebe, for his unwavering support, engagement, and guidance throughout the process of writing this master's thesis. His expertise and valuable insights have been fundamental in shaping the direction of our research.

Furthermore, we would like to extend our heartfelt appreciation to the five informants from Agroparque Biosuroeste. Their willingness to share their time, experiences, and knowledge has been invaluable to our study. Their participation has provided us with unique and insightful perspectives on the remarkable and thriving venture they are involved in, which has far-reaching impacts on various dimensions of the region.

Engaging with this case has not only enriched us academically but also on a personal level. We deeply admire and acknowledge the holistic and integrative approach adopted by Agroparque Biosuroeste in creating a significant impact on the region, its community, and its environment. We aspire to become advocates for their innovative practices and hope to replicate them in our future endeavors.

Once again, we extend our heartfelt appreciation to our supervisor and the informants for their invaluable contributions to this research.

Manuel Botero and Lorenza Piedrahita

# Table of Contents

1.	Introduction.....	7
1.1	Objective of Study.....	8
1.2	Overview of the Relationship between Rural Entrepreneurship and Sustainable Development.....	9
1.3	Context of Study.....	10
1.4	Definition of Key Concepts.....	12
1.4.1	Entrepreneurship.....	12
1.4.2	Rural Entrepreneurship.....	12
1.4.3	Sustainable Development.....	13
1.5	Disposition of the Thesis.....	14
2	Related Literature and Conceptual Foundation.....	15
2.1	The Concept of Rural Entrepreneurship.....	15
2.2	Benefits of Rural Entrepreneurship.....	18
2.3	Rural Entrepreneurship as a Scholarly Field.....	18
2.4	Sustainable Development.....	19
2.4.1	Economic Dimension.....	20
2.4.2	Social Dimension.....	20
2.4.3	Environmental Dimension.....	21
2.5	Relationship between Rural Entrepreneurship and Sustainable Development.....	22
2.6	Key Takeaways from the Literature Review.....	23
3	Methodology.....	25
3.1	Research Paradigm.....	25
3.2	Research Design.....	26
3.3	Case Selection.....	27
3.4	Data Collection.....	28
3.5	Data Analysis.....	31
3.6	Ethical Considerations.....	32
4	Findings.....	33
4.1	Enablers of Rural Entrepreneurship.....	33
4.1.1	Biophysical Spatial Context.....	33
4.1.2	Social and Cultural Embeddedness.....	35

4.1.3	Access to the Entrepreneurial Ecosystem .....	37
4.2	Mechanisms that Enable Environmental Sustainable Development.....	39
4.2.1	Regenerative Practices .....	39
4.2.2	Holistic Management .....	40
4.2.3	Bridging .....	42
4.2.4	Diversification.....	43
4.2.5	Educating the Community .....	45
4.3	Impacts on Sustainable Environmental Development .....	47
4.3.1	Direct Impacts .....	48
4.3.2	Indirect Impacts .....	49
5	Discussion .....	52
5.1	Key Findings.....	52
5.1.1	Enablers.....	52
5.1.2	Mechanisms .....	53
5.1.3	Impacts .....	54
5.2	An Integrated Framework .....	55
6	Conclusion .....	58
6.1	Theoretical Contributions and Suggestions for Future Research .....	58
6.2	Practical Implications.....	59
6.3	Limitations .....	60
	References .....	61
	Appendix.....	66
	Interview Guideline .....	66

## List of Tables

Table 3.1: Information about interview informants

29

## List of Figures

Figure 3.1: Description of themes and subthemes	32
Figure 5.1: Integrated Framework	55

# 1. Introduction

In recent years, sustainable development has become increasingly important and influential for both businesses and policymakers (Hall, Daneke & Lenox, 2010). This recognition is driven by the need to reduce detrimental environmental and societal impacts created by unsustainable business practices (Brown, 2003). Sustainable development involves managing and maintaining natural resources and implementing technological and organizational changes to meet the needs of present and future generations (Zivdar & Sanaeepour, 2022). Within this context, entrepreneurship is increasingly seen as a means for innovation and transformation towards more sustainable products, services, and processes (Hall, Daneke & Lenox, 2010). Policymakers and scholars consider entrepreneurship as a solution to many societal and environmental issues (Hall, Daneke & Lenox, 2010). However, the academic discussion on sustainable development within rural entrepreneurship literature is limited.

This study examines the relationship between rural entrepreneurship and sustainable environmental development. Rural entrepreneurship will be defined as the entrepreneurial activities undertaken on a micro level in rural areas that aim to generate a macro-level impact in the market. Scholars argue that rural entrepreneurs not only help to prosper the local community and improve the standard of living in rural areas but also serve as a vehicle for exploiting emerging opportunities with societal needs and contribute to the transformation into a more sustainable society (Bosworth, 2012). Nevertheless, there is little understanding of how this process unfolds and its specific impact on the environment (Hall, Daneke & Lenox, 2010).

The research field of rural entrepreneurship is still emerging, and most studies have focused on the rural entrepreneur, the spatial context, the entrepreneurial process, and the outcomes and benefits to the community (Moreno, Rodríguez & Morris, 2021). There is a clear gap in studying this phenomenon in developing countries (Moreno, Rodríguez & Morris, 2021). Moreover, the pressure to increase production on croplands and livestock areas in South America has raised over the years, and it has been found that most practices undertaken in agriculture and farming are not suitable for long-term soil quality, making land prone to soil degradation and erosion (Wingeyer



et al., 2015). This constitutes a major challenge in terms of the rising demand for food and finding sustainable ways of production (Brown, 2003).

However, few studies exploring the relationship between sustainable development within the rural entrepreneurship literature exist in entrepreneurship journals (Hall, Daneke & Lenox, 2010). There is a knowledge gap in the literature consisting of the lack of varied articles relating rural entrepreneurship with its impacts on sustainable environmental development. This thesis aims to fill this gap by investigating **the relationship between rural entrepreneurship and sustainable environmental development in the region where it unfolds**. To answer this question, a single study case was conducted in a rural region within Antioquia, Colombia.

Researchers in entrepreneurship could identify South America's rural land and its socio-economic context as a robust framework for academic work that aims to illustrate the scholar community the challenges and opportunities represented here for further rural entrepreneurial processes.

## 1.1 Objective of Study

This research aims to explore the interplay between rural entrepreneurship and sustainable environmental development in the region where it unfolds. To address the research aim, the following specific research questions (SRQs) guide the study:

1. What factors enable rural entrepreneurship in the study region?
2. What are the mechanisms through which rural entrepreneurship enables sustainable environmental development?
3. What are the environmental impacts of rural entrepreneurship in the study region?

Addressing these questions helps to extend the existing theory of rural entrepreneurship and its influence on sustainable development by conducting qualitative research through a single case study. By examining the selected case in depth and reviewing the existing literature, this study aims to describe the factors and mechanisms that shape the relationship between rural entrepreneurship and sustainable environmental development, as well as its outcomes.

The findings of this research have both theoretical and practical implications. Theoretical contributions include partially bridging the gap in the existing literature on the interrelation between rural entrepreneurship and sustainable environmental development in a developing country like Colombia where most studies on this topic have been conducted in developed countries (Moreno, Rodríguez & Morris, 2021).

On a practical level, the study's results have a significant impact by highlighting the critical role of rurality and rural entrepreneurship in mitigating the environmental crisis. This study also highlights the opportunities that rural areas offer for entrepreneurs and become a focal point for institutions interested in emerging industries within the region.

Policymakers can further determine and adjust land usage and regulations to enable entrepreneurial activity in rural areas. Potential investors with an interest in sustainability and regenerative ventures can use the findings of the study to guide their investment decisions. Rural communities can have a beacon and example of successful entrepreneurial activity with a sustainable regenerative approach that contributes to sustainable development and ensures the preservation of their spatial context for future generations. Further development of these implications will be described in the last chapter.

## **1.2 Overview of the Relationship between Rural Entrepreneurship and Sustainable Development**

Entrepreneurship has been recognized as a catalyst for sustainable development (Hall, Daneke & Lenox, 2010). It has the potential to create economic value while also promoting environmental sustainability (Dean & McMullen, 2007). Entrepreneurs play a crucial role in identifying and pursuing opportunities for sustainable development (Patzelt & Shepherd, 2011) and in developing entrepreneurial solutions to environmental problems (Dean & McMullen, 2007) by allocating resources in ways that promote more sustainable practices and processes (York & Venkataraman, 2010). However, this can only be achieved with the proper entrepreneurial ecosystem and policies that encourage entrepreneurial activities and the involvement of multiple stakeholders (Brugmann & Prahalad, 2007; Hall & Vredenburg, 2003; Jabareen, 2008; Patzelt & Shepherd, 2011).

The existing literature discusses this relationship, however, all studies refer to sustainable entrepreneurship (Cohen & Winn, 2007; Dean & McMullen, 2007; Parrish, 2010) or environmental entrepreneurship (Meek, Pacheco & York, 2010). Limited studies refer to rural entrepreneurship (Zivdar & Sanaeepour, 2022). Several gaps have been identified, including uncertainty about the role of entrepreneurship in sustainable development or the process of how they relate. The current literature appears optimistic and utopian (Hall, Daneke & Lenox, 2010). Furthermore, there are few studies on the relationship between the entrepreneur and the environment (York & Venkataraman, 2010) and limited research on how rural entrepreneurship can positively impact sustainable environmental development. Most studies on rural entrepreneurship have been conducted in developed countries (Moreno, Rodríguez & Morris, 2021), and there is a lack of studies exploring the relationship between entrepreneurship and sustainable development in developing economies (Hall, Daneke & Lenox, 2010). Scholars argue that more research is needed in this field (York & Venkataraman, 2010).

This study aims to understand how a case of rural entrepreneurship in a developing country can influence the sustainable environmental development of a region. This topic is crucial and gaining relevance as the environmental crisis worsens, with threats of food shortages, social and economic instability, and environmental degradation (Brown, 2003). There is a need for the global economy to prioritize sustainable development and environmental protection (Brown, 2003). This study will contribute to filling existing gaps in academic literature and reinforcing the importance of rural entrepreneurship as an enabler of sustainable environmental development, inspiring policymakers to provide a proper entrepreneurial ecosystem and regulations.

### **1.3 Context of Study**

The corporation Agroparque Biosuroeste was chosen as a case study due to its innovative characteristics as a rural entrepreneurship case. The selection decision took into consideration the accessibility and willingness to collaborate from the shareholders, managerial team, strategic leaders, and academic partners involved in the venture.

This corporation was founded in the Cartama region of Antioquia, Colombia. This area has a long history of agricultural exploitation, with cattle, coffee, and citrus being the main producers in the region.

The Agroparque Biosuroeste corporation was established in 2013 when the Colombian government granted titles for 600 hectares of land to two neighboring municipalities, Tamesis and Valparaiso. The land had been standing still for 15 years and was seized by the government from owners who had acquired it with illegal funds. In 2019, the first shareholder, Proantioquia, formed the team and convinced the municipalities to contribute to the usufruct and usage of the land for 30 years to the corporation. This became Colombia's first case of collective land restitution, a milestone that would cement the vision and drive of the company to be a focal point of innovation and impact generation for all stakeholders.

This case is important for many interested parties. Firstly, it is a novel case of rural entrepreneurship that could not be developed anywhere else. With special conditions such as the availability of land and the lack of debt with the investment by the shareholders who came to support the project, Agroparque Biosuroeste serves as an incubator of ideas and practices for the region and the usual rural businesses that operate in the country.

Historically, rural businesses in Colombia have lacked the combination of different efforts, including the public sector, private sector, academic community, and a platform with time, funds, and space, to drive innovation and generate impact. Agroparque Biosuroeste has become such a platform by connecting and transmitting information, opening books, and sharing practices, results, data, empirical knowledge, and holistic practices. This case represents a complete novelty and a focal point of micro-level actions aimed at generating macro-level outcomes.

In the next section, the key concepts associated with the case will be defined and framed for a better understanding of the literature and conceptual foundation used to analyze the case.

## **1.4 Definition of Key Concepts**

### **1.4.1 Entrepreneurship**

Entrepreneurship is a term that has different definitions depending on the context and the author's perspective. This study considers the definition of entrepreneurship from . Davidsson, (2016) as *“the competitive behavior that drives the market process”* ( p.19) to frame the case. This definition portrays entrepreneurship as a micro-level phenomenon that has an impact on a macro level, based on behavior that affects the market or society (Davidsson, 2016). The competitive behavior could entail introducing a new service, product, process, or recombination of resources, and it can be carried out undertaken by a new entrant or an existing company (Lee, Peng & Song, 2013).

An entrepreneur can be an innovator, coordinator, organizer, risk-taker, leader, opportunity identifier, and gap-filler (Kirzner, 1983). This set of definitions provides a framework for analyzing the case of Agroparque Biosuroeste as an entrepreneurship and defines it in the academic field of study. Agroparque Biosuroeste aims to challenge the traditional ways in which economic rural activities have been historically developed in the region. By incorporating novelty in their design, they intend to produce remarkable results and generate a macro-level impact in the industry from micro level actions (Kirzner, 1983)

### **1.4.2 Rural Entrepreneurship**

In 1990, Wortman Jr. established rural entrepreneurship as an independent subject of study. Different authors have provided varying definitions for this topic, which can all be narrowed down to the study of how entrepreneurial activities develop in a rural setting. This raw definition includes the creation of businesses in rural areas, the recombination of available resources, and the impact of relationships with the rural community (Bosworth, 2012). It builds upon the definition of entrepreneurship by Davidsson (2016) by adding the “rural” setting to it.

The main distinction of rural entrepreneurship from mainstream entrepreneurship is the spatial context or the rural area where the venture unfolds (Bosworth, 2012). These places possess unique environmental, geographical, cultural, and experiential characteristics (Korsgaard, Ferguson &

Gaddefors, 2015; Zivdar & Sanaeepour, 2022) that represent opportunities (Anderson, 2000) and challenges that rural entrepreneurs must overcome, such as remoteness, resource limitations, and accessibility (Gashi Nulleshi & Tillmar, 2022; Korsgaard, Ferguson & Gaddefors, 2015).

### **1.4.3 Sustainable Development**

Sustainable development was defined by the United Organization in 1987 to address the global environmental crisis and establish boundaries in the management of resources (Brundtland, 1987). It entails that the development of regions or societies should occur in a way that does not compromise the ability of future generations to develop (Brundtland, 1987). Thus, management, and distribution of economic, social, and environmental resources must be carried out responsibly and ethically (Brundtland, 1987; Mieszajkina, 2016). Sustainable development is critical as it allows communities, regions, and countries to grow, improve their living standards, provide opportunities, and adapt to the rapidly changing world and the arising challenges from environmental crises (Mieszajkina, 2016).

To achieve sustainable development, it is necessary to consider and fulfill the three dimensions: economic, social, and environmental (Dillard, Dujon & King, 2008). The economic dimension provides the economic means to sustain, preserve and develop the other dimensions of sustainable development (Mieszajkina, 2016). Thus, entrepreneurship plays a crucial role as an enabler of innovation, the creation of new ventures, the development of opportunities, and resource recombination that can promote and accelerate sustainable development, especially in rural areas (Müller, 2016).

Agroparque Biosuroeste was established to promote sustainable development in the Cartama Region of Antioquia by combining five pillars (Alcaldía Municipal de Caramanta, Antioquia, 2020) that consider economic, environmental, and social aspects:

- Agro-industrial productivity and competitiveness.
- Functional and productive environmental conservation.
- Tourism, recreation, and culture.
- Education and specialized formation.

- Science, technology, and innovation.

This case is an interesting example that illustrates the vital role of rural entrepreneurship in achieving sustainable development and how it interacts and considers the three dimensions.

## **1.5 Disposition of the Thesis**

This chapter introduced the background of the study, the next chapter provides a review of the related literature on rural entrepreneurship and sustainable development to establish the conceptual foundation for the study, where each of the concepts is presented in detail. The chapter will also include a review of the existing literature that explains the relationship between these two concepts. Chapter three presents the research methodology and explains how this study was conducted, including the research design, data collection, and analysis procedures. Chapter four presents the findings of the data collected and analyzed. This will be followed by chapter five that organizes a discussion of the key findings and presents an integrative framework. Finally, chapter six concludes by presenting the most important reflections, the theoretical and practical contributions of this study suggesting directions for future research, and its limitations.

## **2 Related Literature and Conceptual Foundation**

This chapter aims to establish the conceptual foundation by conducting a literature review. One of the primary topics to be discussed in this section is rural entrepreneurship, both as a concept and as a scholarly field. The goal is to provide an overview of how this concept has been approached in the academic community, as well as to identify the main gaps in the existing literature. The other key topic to be examined is sustainable development, including its three dimensions and the relationship it has with entrepreneurship. Given that one of the key distinguishing features of rural entrepreneurship is the spatial context, particular attention is given to the environmental dimension of sustainable development. Finally, the chapter concludes with a summary and reflection on the topics discussed, including their relevance to the present study.

### **2.1 The Concept of Rural Entrepreneurship**

Rurality is a term that has been defined in many ways depending on the specific context and purpose. However, reaching a unified definition has been challenging due to theoretical limitations and the multitude of factors involved (Hart, Larson & Lishner, 2005).

When rurality is combined with entrepreneurship, a clear distinction arises between Rural entrepreneurship and mere entrepreneurship in rural areas (Korsgaard, Müller & Tanvig, 2015). According to Korsgaard, Müller, and Tanvig (2015), rural entrepreneurship is closely intertwined with the social and spatial context of its location, resembling a symbiotic relationship. Relocating entrepreneurship to a different place without a specific social or spatial context would fundamentally alter its nature (Korsgaard, Müller & Tanvig, 2015).

This aspect is addressed by considering two crucial factors that shape entrepreneurial processes and could help in further definitions of rural entrepreneurship: the level of spatial embeddedness achieved through the utilization of endowed resources and the bridging activities undertaken by entrepreneurs (Mueller & Korsgaard, 2014). To aid this research further along, four different



typologies of entrepreneurial processes with different combinations between the degree of embeddedness and the degree of bridging are proposed by Mueller & Korsgaard (2014) as follows:

- Type 1: *Low embeddedness + high bridging*: This type of entrepreneurial process utilizes local resources, albeit primarily for convenience and with a tendency to commodify them. It establishes connections between the local area and non-local customers. However, the authors argue that despite the use of local resources, these processes can be easily relocated, indicating that the resources employed are not critical and can be found elsewhere.
- Type 2: *High embeddedness + high bridging*: This type of entrepreneurial process actively engages with both local and non-local customers. The venture offers its products and services both within its premises and in non-local marketplaces. It establishes connections between place-specific resources and wider markets, thereby enhancing the value of these distinct resources and the overall value of the locality. Due to their high embeddedness and the transformation of place-specific resources into valuable local resources, these ventures contribute to the optimized utilization of resources within the local context. Relocating such ventures without compromising their key value propositions poses a significant challenge, as they are uniquely embedded in the local context.
- Type 3: *High embeddedness + low bridging*: These entrepreneurial processes primarily focus on producing for niche markets and do not actively engage with broader non-local markets, resulting in limited bridging within the spatial context. These ventures typically utilize and transform local raw materials, which they sell either on-site or in markets outside the local area. Entrepreneurs often prioritize maintaining a smaller scale and prefer the lifestyle provided by the local context. They tend to establish deep connections with the local communities and play a significant role in supporting local economies and enhancing their resilience capacity.
- Type 4: *Low embeddedness + low bridging*: These entrepreneurial endeavors are situated in a rural area but lack intimate engagement with the local community. They rely on few or non-local resources to fulfill their key value propositions. Their market reach extends

beyond the local areas as their products or services often have limited local demand. These ventures primarily contribute to job generation, learning, and income generation. While they have some level of anchorage to the rural context, they can be easily relocated without significant challenges.

In the context of this study and alignment with other scholarly articles, types 2 and 3 will be recognized as rural entrepreneurial processes. Conversely, the remaining types will be regarded as instances of entrepreneurship within a rural setting, with less reliance on the utilization of endowed resources from the local context.

The rural area is the main component that defines and distinguishes rural entrepreneurship (Bosworth, 2012) from mainstream entrepreneurship. As a spatial context, the rural area has unique environmental, cultural, geographical, and experiential characteristics (Korsgaard, Ferguson & Gaddefors, 2015) that differ in each place (Zivdar & Sanaeepour, 2022) and condition and constraint the business dynamics (Gashi Nulleshi & Tillmar, 2022; Korsgaard, Ferguson & Gaddefors, 2015) such as remoteness, resource limitations, accessibility.

What becomes interesting is how rural entrepreneurs have transformed the challenges of the rural areas into the competitive advantages of their ventures and business models (Anderson, 2000) by highlighting those unique attributes of the location through interaction with nature and the landscape (Bosworth, 2012). Bosworth (2012) claims that the innovation of rural entrepreneurs is highly influenced by the geographical factors surrounding the business. However, there is no relevant literature that studies the impact of entrepreneurial activities on the environment.

Therefore, specifically for this research, rural entrepreneurship will be considered under the premises that the actions undertaken are on a micro level and aim to generate a macro-level impact in the market (Davidsson, 2016) together with the dependence of the entrepreneurial process on the specific spatial location and context of the venture development (Korsgaard, Müller & Tanvig, 2015).

## **2.2 Benefits of Rural Entrepreneurship**

The impact of rural entrepreneurship on rural communities is a significant aspect that has not been extensively researched (Moreno, Rodríguez & Morris, 2021). Scholars argue that rural entrepreneurship can stimulate the development of rural areas (Gashi Nulleshi & Tillmar, 2022; Zivdar & Sanaeepour, 2022). Therefore, policymakers are interested in identifying ways to promote entrepreneurial practices in rural areas. The rural community is one of the most important stakeholders in this ecosystem (Bosworth, 2012), as the venture can offer numerous opportunities, such as new jobs, products or services, skill development, as well as laying the foundation for future ventures to drive the development of the community and environment while respecting and preserving the traditions and culture of the community. A key success factors for rural entrepreneurship is embedding into the environment and the community by inviting them to participate in the co-creation process of recombination of the available resources to create value propositions and competitive advantages (Gashi Nulleshi & Tillmar, 2022).

## **2.3 Rural Entrepreneurship as a Scholarly Field**

Scholars have shown increasing interest in rural entrepreneurship as an independent phenomenon in the field of entrepreneurship (Gashi Nulleshi & Tillmar, 2022). In 1990, Wortman Jr. established the basis for studying rural entrepreneurship as an independent subject, highlighting the need to conceptualize the topic and research its potential relationship with economic, community, and cultural development (Wortman Jr., 1990). Since then, many researchers have turned their attention to this subject and conducted several studies questioning different dimensions of rural entrepreneurship, such as the rural entrepreneur, the spatial context of the rural environment, the entrepreneurial process and ecosystem (Zivdar & Sanaeepour, 2022), and the outcomes from entrepreneurial activity in the rural setting, such as community benefits, regional development, and environmental impact, among others (Moreno, Rodríguez & Morris, 2021).

Just like with entrepreneurship, many authors have presented different definitions of rural entrepreneurship, which is the study of how entrepreneurial activities develop in a rural setting. Wortman Jr (1990) agrees with the definition of entrepreneurship by Gartner, (1985) as a process

of creation of new organizations and adds rurality as the location of these new ventures. Some authors have elaborated more on the definition, including agents and stakeholders, and claim that rural entrepreneurship refers to a business located in a rural area, selling a rural product, and serving a rural population (Bosworth, 2012).

Given the increasing severity of the climatic crisis and the growing interest in transitioning to a rural lifestyle (Shrivastava & Kumar Dwivedi, 2021), rural entrepreneurship remains as an interesting field of study expected to continue growing. However, there is no relevant literature that studies the impact that entrepreneurial activities have on the environment. There are evident knowledge gaps in the outcomes of the rural entrepreneurial process, such as the benefits for the community and the environmental impact (Moreno, Rodríguez & Morris, 2021). Moreover, an important gap exists in the location setting of the studies, since most research has been conducted in developed countries (Gashi Nulleshi & Tillmar, 2022; Moreno, Rodríguez & Morris, 2021). There is also a need to study this phenomenon in developing countries, particularly in rural Latin America and rural agricultural enterprises (Moreno, Rodríguez & Morris, 2021). Scholars suggest that, given the distinctive characteristics of each region and entrepreneurship, the best way to study this phenomenon is through qualitative methodologies (Gashi Nulleshi & Tillmar, 2022) and case studies (Barkley, 2006).

## **2.4 Sustainable Development**

In 1987, the United Nations defined sustainable development as the form of development that *“meets the needs of the present without compromising the ability of future generations to meet their own needs”* (Brundtland, 1987). To achieve this, every region and community should make responsible use of and distribute economic, social, and environmental resources (Brundtland, 1987; Mieszajkina, 2016). Some scholars claim that sustainable development is not achievable without commercial activity (Mieszajkina, 2016), which is why enabling business creation and growth is important, especially in rural areas that are isolated, difficult to access, and have many challenges. Therefore, policymakers and governmental institutions should understand the role of entrepreneurship in creating initiatives that promote development, especially in rural areas (Müller,

2016). By having sustainable development, communities can adapt to rapid external and internal changes that might happen and reach stability more easily (Mieszajkina, 2016).

Three key dimensions are necessary to achieve sustainable development, and if at least one of them is not met, it cannot be called sustainable development (Dillard, Dujon & King, 2008). In the literature, each dimension has mostly been studied independently as well as in a combined interconnected model.

### **2.4.1 Economic Dimension**

This has been the most studied dimension (Müller, 2016) and is key to enabling the others to occur or be fulfilled. This dimension refers to everything related to the creation of value, profit, welfare, and development by the responsible usage of resources (Benn, Edwards & Williams, 2021; Kuhlman & Farrington, 2010). Rural entrepreneurship contributes to the development of this dimension in rural areas through the creation of new businesses and the introduction of innovative products, services, or methods in many ways such as the creation of jobs and employment growth, GDP growth, development of regional competitiveness, increase and enablement of innovation, economic diversification, formation of capital, an increase of market size and offer, the attraction of investors, an increase of income and purchase capacity of the community among others aspects (Mieszajkina, 2016; Müller, 2016; Saxena, 2012; Steiner & Teasdale, 2019). “*Rural entrepreneurship helps to keep money in the rural setting*” (Steiner & Teasdale, 2019) which is important to obtain sustainable development. However, it is important to note that for rural entrepreneurship to achieve sustainable economic development, they have to be ethically oriented in the usage and generation of resources (Soleymani et al., 2021).

### **2.4.2 Social Dimension**

This dimension refers to initiatives and ways that generate social health and well-being, with a human-centered perspective (Dillard, Dujon & King, 2008). Sustainable development and innovation processes triggered by entrepreneurial activity can lead to societal progress (Mieszajkina, 2016). Rural entrepreneurship provides numerous benefits to the community, such as social transformation, community well-being, resilience, the creation of an entrepreneurial

capital or culture, and the development of new knowledge (Müller, 2016). It also leads to the reduction of poverty, migration, enhancement of living conditions (Saxena, 2012), community cohesion (Steiner & Teasdale, 2019), and empowerment of local recruitment (Müller, 2016). Entrepreneurship depends on the social aspect where it is embedded and is affected by economic, political, and cultural matters such as heritage, values, and community (Mieszajkina, 2016). To achieve sustainable social development, rural entrepreneurial activity should promote social trust, collective participation, a sense of community, social empathy, and respect for heritage, traditions, and beliefs (Soleymani et al., 2021), which can only be obtained when the rural entrepreneur has undertaken a conscious and honest process of embeddedness with the rural community and place.

### **2.4.3 Environmental Dimension**

The environmental dimension is about preserving the environment, which provides raw materials for human needs (Goodland, 1995). Caring for the environment should be a priority for all organizations, communities, and governments (Mieszajkina, 2016). This dimension is particularly important in rural entrepreneurship because the place and the natural environment become a stakeholder, one of the most important assets, and a competitive advantage. Rural entrepreneurship raises awareness of environmental issues and acts through innovative solutions to increase respect for nature, reduce contamination, take care of the environment, and reduce harmful impacts (Mieszajkina, 2016). Entrepreneurship can enhance the natural capital and the local environmental infrastructure by following legal regulations and protecting the natural capital as a key element of the business model (Mieszajkina, 2016; Müller, 2016). To achieve sustainable environmental development, the rural entrepreneur must take care of water usage, chemical consumption, and the preservation of natural ecosystems, especially the soil and landscape (Soleymani et al., 2021).

Entrepreneurs face challenges in achieving sustainable development in rural areas, such as struggling to find external funding options that may compromise their activities and the use of resources or beneficial outcomes from their endeavors (Saxena, 2012). The lack of policies and a supporting business or entrepreneurial ecosystem also poses a challenge (Steiner & Teasdale, 2019).

Rural entrepreneurship plays a key role in the sustainable development of rural areas and can accelerate the process (Saxena, 2012). It is an effective mechanism for promoting sustainable development by ensuring that the economic capital is maintained following the ecological support system of the rural area, distributing the resources and opportunities for future generations, and safeguarding the natural environment (Mieszajkina, 2016). Sustainable rural entrepreneurship can reduce the gap between urban-rural areas and create environmental, economic, and social development (Soleymani et al., 2021). However, achieving success in sustainable rural entrepreneurship requires a joint effort among all stakeholders, and its success depends on the engagement of the community, government, social entities, and local businesses (Mieszajkina, 2016).

## **2.5 Relationship between Rural Entrepreneurship and Sustainable Development**

It is widely recognized that the planet is facing an environmental crisis, posing significant challenges to humanity such as food scarcity, social and economic instability, and environmental devastation (Brown, 2003; Lagerstedt, 2022). As such, scholars are calling for the global economy to prioritize sustainable development and environmental protection (Brown, 2003). Entrepreneurship has been identified as playing a key role in accelerating the transition toward sustainable development (Cohen & Winn, 2007; Hall, Daneke & Lenox, 2010; Shepherd & Patzelt, 2011). Rather than viewing sustainability as a constraint, entrepreneurship can facilitate the identification and creation of new opportunities for innovative solutions and business models that benefit both the environment and society while ensuring economic growth (Cohen & Winn, 2007; Parrish, 2010; Patzelt & Shepherd, 2011).

Rural entrepreneurship is of interest as it strongly depends on the rural setting (Korsgaard, Müller & Tanvig, 2015). Rural entrepreneurs must protect the environment and natural resources by shifting their focus from profit to environmental impact and developing entrepreneurial solutions to environmental problems (Dean & McMullen, 2007).

The impact of rural entrepreneurship on the environment can be positive by actively engaging with it (York & Venkataraman, 2010). Rural entrepreneurs can achieve this by gaining a clear understanding of the environmental issues, uncertainties, problems, and market imperfections in their surrounding regions (Cohen & Winn, 2007; Dean & McMullen, 2007; Patzelt & Shepherd, 2011). Additionally, allocating resources toward more sustainable practices can further contribute to environmental protection (York & Venkataraman, 2010). Intentionally designing ventures with a commitment to environmental and social values is also a critical aspect of rural entrepreneurship that can have a positive impact on the environment (Parrish, 2010).

Some of the challenges that rural entrepreneurs face in positively impacting the sustainable environmental development include access to financial support and markets, inadequate infrastructure, cultural and social barriers, and the need to balance social, environmental, and economic goals (Cohen & Winn, 2007; Hall & Vredenburg, 2003; Pacheco, Dean & Payne, 2010; Shepherd & Patzelt, 2011). To address these challenges, scholars emphasize the importance of adopting a more holistic and integrated approach to sustainable development that involves the participation and co-creation of multiple stakeholders including public entities, private companies, the local community, NGOs, and academic institutions to achieve long-term goals that will benefit the three dimensions of sustainable development. (Brugmann & Prahalad, 2007; Hall & Vredenburg, 2003; Jabareen, 2008; Meek, Pacheco & York, 2010; Shepherd & Patzelt, 2011).

Despite the consensus that entrepreneurship can make a positive contribution to the environment and social dimensions while simultaneously creating economic value (Parrish, 2010), there remains a significant gap in the literature regarding the specific ways in which rural entrepreneurship contributes to sustainable development and the strategies employed to achieve this. This knowledge can inform policymakers on how to promote and encourage more effective strategies and initiatives for sustainable development in rural areas.

## **2.6 Key Takeaways from the Literature Review**

The literature analysis emphasizes the significance of rural entrepreneurship as a growing field that contributes to sustainable development. It is defined as entrepreneurial actions on a micro



level with a macro-level impact in the market, focusing on entrepreneurial activities in rural areas. It is crucial to explore how rural entrepreneurs overcome challenges, utilize innovative strategies to allocate resources, and engage with the spatial context and the community.

Rural entrepreneurship serves as an enabler and accelerator of sustainable development in rural areas due to its close connection with the spatial context and the local community. It plays a crucial role in driving the transition towards sustainable development by identifying and creating opportunities for innovative solutions and business models that benefit both the environment, society and ensure economic growth

However, there are still knowledge gaps, especially in studying this phenomenon in developing countries such as Colombia, where 30% of the land designated as rural areas. Further research is needed to understand the outcomes of the rural entrepreneurial process and its relationship with sustainable environmental development.

### **3 Methodology**

This study will be conducted using a qualitative approach, building upon existing literature and studies related to rural entrepreneurship and its relationship or influence on sustainable environmental development. A single case methodology will be employed, involving in-depth semi-structured interviews and supplementary analysis of secondary data.

#### **3.1 Research Paradigm**

It is important to clearly define the theoretical perspective underpinning the research conducted in this case. Theory has been employed to frame theoretical concepts and provide support for formulating the research question and the associated terms embedded within it (Bryman, Bell & Harley, 2022).

To gather the necessary data, an empirical investigation has been conducted, employing an abductive approach. This approach was selected considering the nature of the single study case. The personal experience of the individuals involved in the case serves as the foundation of knowledge, which will be utilized to either contribute to existing theory or validate/invalidate certain theoretical concepts that have shaped the research question for this case (Bryman, Bell & Harley, 2022). The abductive approach is highly regarded, as it allows researchers to delve deeply into the knowledge, perception, and personal experience of each individual without having theoretical constraints or guidelines that direct the data recollection. By analyzing the empirical data while keeping the research question at the forefront, the interpretation of the data will provide insights and answer the research question (Bryman, Bell & Harley, 2022).

To facilitate the analysis, the ontological aspect of this case was taken into consideration. Given that the primary focus of this study is entrepreneurship, with the additional consideration of rurality, the term “rural” assumes an integral and influential role. Therefore, a constructionist ontological position is adopted to understand and interpret the complex interplay between entrepreneurship and rurality within this case (Bryman, Bell & Harley, 2022).

Rural entrepreneurship is a concept that is socially constructed and subject to interpretation. The meaning and interpretation of entrepreneurship itself are subjective and can vary among individuals. Similarly, the concept of rurality is also open to multiple meanings and interpretations. This study seeks to explore how the key actors involved in the entrepreneurial case perceive and construct rural entrepreneurship within their specific context. These actors play a crucial role in shaping the reality that is being investigated. It is through their daily activities and individual experiences that this rural venture has been constructed.

To provide a more comprehensive understanding of how the social experiences, knowledge, and understanding of this case can be translated into theoretical and practical knowledge, the research design will be presented in the next section.

### **3.2 Research Design**

Rural entrepreneurship is a social phenomenon that is shaped by unique factors specific to each venture and its context. Qualitative research provides a means of better understanding this phenomenon by exploring the subjective experiences and perspectives of those involved in each rural entrepreneurial case (Gioia, Corley & Hamilton, 2013). The purpose of this study is to develop a comprehensive understanding of a specific and revelatory case of rural entrepreneurship in Colombia. The qualitative research approach is an appropriate methodology to gain insights into the motivations, challenges, and strategies of the rural entrepreneurs in this case, towards achieving sustainable environmental development (Gioia, Corley & Hamilton, 2013).

Given the uniqueness and particularities of each case of rural entrepreneurship, it is logical to study any phenomenon related to rural entrepreneurship using a single case study approach (Barkley, 2006). This methodology allows for an in-depth exploration of the creative and innovative practices of Agroparque Biosuroeste, as well as their perspective and empirical descriptions (Eisenhardt & Graebner, 2007) of their experiences as rural entrepreneurship.

To obtain the qualitative data related to the informants' experiences and perspectives, semi-structured interviews have been chosen as the main data collection method. This method is highly efficient, especially when studying unique and rare cases like Agroparque Biosuroeste (Eisenhardt

& Graebner, 2007). The semi-structured interview allows for the obtention of retrospective and “*real-time accounts by those people experiencing the phenomenon of theoretical interest*” (Gioia, Corley & Hamilton, 2013).

To avoid any limitations or bias that may come from the interview approach, a diverse group of informants related to the case were interviewed (Eisenhardt & Graebner, 2007). The study of this single case will include the review of complementary materials related to the case, such as press articles, annual reports, marketing information as well as secondary information about the geographic area, spatial context, and the community (Barkley, 2006).

### **3.3 Case Selection**

Colombia is a developing country with a unique and diverse rural setting that presents a rich context for studying rural entrepreneurship, as around 30% of the land is categorized as a rural area with distinct characteristics, challenges, and opportunities. Additionally, as the second most biodiverse country in the world, Colombia offers a noteworthy area for investigating how rural entrepreneurs use natural resources to develop innovative and sustainable business models that can contribute positively to the environment.

A special and unique case has been identified in the southeastern region of Antioquia to study the relationship between rural entrepreneurship and sustainable environmental development. Agroparque Biosuroeste is a private corporation that was established specifically to drive and accelerate the sustainable development of the region (Visión de la comunidad: Agroparque Biosuroeste, 2021), making it an ideal and relevant setting (Eisenhardt & Graebner, 2007) for understanding the mechanisms that enable rural entrepreneurship to achieve environmental sustainability. Moreover, Agroparque Biosuroeste is a platform that connects various capacities of multiple stakeholders and is keen on highlighting their strategies to leverage their efforts and have a more significant impact, thereby making them enthusiastic about collaborating in this study.

Agroparque Biosuroeste can be classified as rural entrepreneurship due to its location in a rural area between the municipalities of Tamesis and Valparaiso and its goal of generating a macro-

level impact by contributing to the sustainable development of the Cartama Province and the southeastern region of Antioquia through micro-level actions and strategies (Davidsson, 2016). The business model of Agroparque Biosuroeste involves the participation of multiple stakeholders, including academic institutions, private companies, public entities, and the local community. Furthermore, the organization considers all the natural resources as assets and employs innovative mechanisms to manage and reallocate them. According to Korsgaard, Müller & Tanvig (2015) factors such as fertile and available land, water sources, labor force availability, empirical knowledge, and weather conditions are nontransferable and unique to the rural nature of the spatial context, making them essential and necessary to develop the venture. Therefore, this case is surely, by definition, a case of rural entrepreneurship.

This venture was established through an unprecedented amount of effort by various stakeholders and represents the first case of collective land restitution in Colombia. The municipalities of Tamesis and Valparaiso offered the usufruct of six hundred hectares of land to the corporation for 30 years to be used for the development of the venture.

The stakeholders involved in Agroparque Biosuroeste all have interests in promoting rural sustainable development, supporting agribusinesses, and preserving the natural environment. Agroparque Biosuroeste has designed a business model that combines various activities such as tourism, agriculture, consultancy, education, and regenerative farming, thus becoming a platform that connects the capacities and efforts of diverse actors.

### **3.4 Data Collection**

To collect the empirical and qualitative data needed for the study semi-structured interviews were conducted as well as a review of secondary data materials such as videos, reports, and press articles.

Semi-structured interviews were chosen as the data collection method for this study due to their ability to provide in-depth and detailed information about the experiences and perspectives of the individuals related to this case (Eisenhardt & Graebner, 2007). The focus was on understanding

the unique challenges and opportunities faced by Agroparque Biosuroeste in the specific context of rural entrepreneurship, as well as the efforts and strategies employed to achieve sustainable environmental development in the Cartama Region. The interviews were conducted using a set of predefined topics and questions, while also exploring interesting ideas and perspectives that emerged during the interview (Bryman, Bell & Harley, 2022).

A semi-structured interview guide was developed to obtain comprehensive information about Agroparque Biosuroeste. Initially, it aimed to understand their history, mission, and vision. The guide then explored the entrepreneurial aspects to identify the opportunities and motives that led to the establishment of the venture. Subsequently, it focused on the spatial context of the case, which is critical to understand how space constraints or enables entrepreneurial practices in the rural setting, and how this affects the environmental impact of entrepreneurial practices. Additionally, the guide contained questions regarding the business model, and how it was designed to promote sustainable environmental development in the region. Finally, specific questions were included to identify how Agroparque Biosuroeste’s practices enabled sustainable environmental development, how it was achieved, and how it impacted the natural resources, the community, and the region. (*Refer to the appendix for the interview guide*).

To obtain diverse and comprehensive perspectives on the case, a selection of individuals from different organizations involved in the corporation were chosen, each with key roles and involvement in Agroparque Biosuroeste.

	Role
Informant 1	CEO of Agroparque Biosuroete
Informant 2	Manager of agricultural activities and strategic alliances for the agroecology unit.
Informant 3	Project Manager from Proantioquia (one of the entities involved in the corporation)
Informant 4	Doctoral student at Centre for Environmental and Climate Science (CEC) from Lund University, who has been studying the environmental impact of the regenerative farming activities of Agroparque Biosuroeste
Informant 5	Opportunity identifier and venture founder

*Table 3.1: Information about interview informants*

The interview questions were tailored to the experience and expertise of each informant to obtain a broad range of perspectives and gain a better understanding of the mechanisms and strategies for achieving environmental sustainable development (Gioia, Corley & Hamilton, 2013).

Five semi-interviews were conducted, each lasting approximately 1.5 hours. The interviews were conducted in Spanish, which is the native language of both the researchers and the informants. The informants were encouraged to elaborate on the questions and share their subjective experiences and perspectives. Due to the location of the informants in Colombia and the researchers in Sweden, the interviews were conducted through Zoom. All the interviews were recorded, transcribed into 104 pages using Transkriptor, and analyzed as described in the next section.

The interviews were complemented with additional data sources such as four videos found on YouTube that showcase Agroparque Biosuroeste as the main subject. Two of these videos briefly explain the purpose of the venture (Agroparque Biosuroeste, 2020) and some initiatives they have taken to co-create the park with the local community (Construcción Colectiva Del Agroparque Biosuroeste, 2021). Another video, which is 30 minutes long, highlights the manager talking about all the business units and their strategies (Biosuroeste En El Consejo Joven Comfama, 2022). The final video is a one-hour webinar that discusses how this venture contributes to the sustainable development of the region (Agroparque Biosuroeste, Una Apuesta Por Impulsar El Desarrollo Rural Sostenible, 2020). This material amounts to approximately 120 minutes and was transcribed into 43 pages and analyzed as described in the next section.

The secondary written material collected includes the master plan of Agroparque Biosuroeste, their latest management report (Agroparque Biosuroeste, 2023), six press articles (AGROSAVIA, 2019; Alcaldía Municipal de Caramanta, Antioquia, 2020; Centro RS, 2021; El Tiempo, 2021; MY ECOHOME S.A.S, 2022; Proantioquia, 2021), among others, and a master thesis that mentions the importance of Biosuroeste in the development of the Cartama Region (Jiménez Moncada, 2020). These materials provided valuable insights and information to complement the interviews and videos analyzed.

After analyzing the collected data, the researchers were able to reach a level of saturation indicating that the information obtained was enough to answer the research question. This was confirmed through the review of the data sources, including the semi-structured interviews, YouTube videos, and written material such as the master plan and press articles. The consistency and coherence of the data across these sources demonstrated that the research had gathered a comprehensive understanding of the case of Agroparque Biosuroeste and its sustainable development initiatives.

### **3.5 Data Analysis**

The collected data was analyzed using the thematic coding methodology, a flexible and systematic approach to analyze qualitative data (Attride-Stirling, 2001). This methodology enables the identification of themes derived from both the collected data and existing literature (Braun & Clarke, 2006). Given the nature of the data and the constructive nature of the topic of rural entrepreneurship, this methodology is well-suited for this case study. Thematic coding allows for an in-depth exploration of the social, economic, spatial, and cultural context of the case, capturing the unique aspects and nuances specific to the case under investigation (Braun & Clarke, 2006).

The interview transcripts, notes, and secondary materials were reviewed thoroughly to gain familiarity. Once a comprehensive understanding was achieved, potential themes corresponding to the three defined SRQs were identified: Enablers of rural entrepreneurship, mechanisms to achieve environmental sustainable development, and environmental impacts. These themes were utilized as a framework to categorize the empirical data according to SRQ answers. This initial coding process involved manual categorization using distinct colors for each theme. Subsequently, the themes were reviewed and analyzed to detect recurring patterns, nuances, insights, and relevant information across the data, leading to the identification of subthemes. The study by Muñoz & Kimmitt (2019) provided inspiration for constructing the thematic structure, which was tailored to align with the specific findings of this study.

After identifying the subthemes, the material underwent another round of review, considering these subthemes. This review aimed to ensure the inclusion of relevant information and the logical categorization of data to effectively address the research questions. This step also contributed to enhancing each subtheme. To aid in the naming and organization of the themes and subthemes



into a coherent structure, relevant literature was consulted. The definitions of each theme and subtheme are presented in Figure 3.1.

<b>Theme</b>	<b>Subtheme</b>	<b>Description</b>
Enablers of Rural Entrepreneurship	Biophysical Spatial Context	Recognition of the strategic value of the land, availability, and utilization of resources.
	Social and Cultural Embeddedness	Relationship with the local community. Capacity to generate empathy and cocreation processes.
	Access to the Entrepreneurial Ecosystem	Support and collaboration of strategic partners.
Mechanisms that enable Environmental Sustainable Development	Regenerative Practices	Innovative resource utilization to regenerate the natural resources.
	Holistic Management	Innovative and integrative business model recognizing ecosystem services as assets.
	Bridging	Connecting capacities from actors in the ecosystem.
	Diversification	Integration and interconnection of different business units and strategic alliances.
Impact on Environment Sustainable Development	Educating the Community	Raising awareness, leveraging the knowledge and capacity of the community.
	Direct Impacts	Environmental impact of entrepreneurial activities within the venture's land.
	Indirect Impacts	Satellite focal environmental impacts performed by others in or outside the region influenced by the venture.

*Figure 3.1: Description of themes and subthemes*

### **3.6 Ethical Considerations**

This study adhered to the ethical principles suggested by Diener and Crandall (1978, as cited by Bryman, Bell & Harley, 2022) to ensure the protection and well-being of the participants. Informed consent was obtained from all the participants, who willingly agreed to participate in the interviews. To maintain their anonymity and safeguard their identity and reputation, their personal information was kept confidential. Transparency and honesty were maintained throughout the research process, with clear communication regarding the research intentions and academic purposes. The data collected was treated with discretion and handled confidentially following the guidelines outlined by Bryman, Bell & Harley (2022, p.134 and Gioia, Corley & Hamilton (2013).

## 4 Findings

This section presents and describes the findings based on the analysis of the collected data from interviews and a review of secondary and supportive material. The findings are divided into three subsections aimed at explaining how rural entrepreneurship enables sustainable environmental development in a region.

The first subsection describes the enabling factors necessary to establish rural ventures in its context. The second subsection delves into the specific mechanisms implemented to achieve sustainable environmental development. Lastly, examples of direct and indirect impacts of these mechanisms on the environment are exposed.

### 4.1 Enablers of Rural Entrepreneurship

The enablers of rural entrepreneurship play a crucial role in facilitating sustainable environmental development in the region where this venture is located. These findings reveal three relevant factors that enable rural entrepreneurship activity in the study region: *bio-physical spatial context*, *social and cultural embeddedness*, and *access to the entrepreneurial ecosystem*. These concepts, which are well established within the theory of rural entrepreneurship, are also identified as essential factors or processes that significantly contribute to the success of Agroparque Biosuroeste in attaining sustainable environmental development. The subsequent sections explain the distinct aspects of these dimensions pertinent to the case.

#### 4.1.1 Biophysical Spatial Context

The empirical data revealed noteworthy findings emphasizing the significance of the place and the spatial context in which the venture is established. Throughout the interviews, the informants consistently emphasized the **strategic value of the land**: “*The whole model was designed based on the land that was given by the municipalities, we wanted to make the most of it and highlight its beauty and functionality*” (Informant 5). One of the key elements within the spatial context is the **availability and utilization of resources**: “*To start, we needed to identify the resources that*

*the land has and their current state, we need to know what is needed to enhance the natural capital” (Informant 2).*

The founders of the venture began to recognize the abundant physical resources present within the specific location and **acknowledge their potential utilization for the enterprise**: *“This is a beautiful region, shaped by the Cauca River, with hills, mountains, rivers, puddles, and ravines that have been honored and celebrated for more than 20 centuries by indigenous communities and by the inhabitants of this territory. This is also a region of archaeological interest that has road systems with petroglyphs with caves let's say. Elements and archaeological stations of interest” [...]* *“We are in the tropical Andes this is a very unique ecosystem we have with the tropics and different altitudes that generate various climatic floors, a biodiversity hotspot, a region rich in nature”* (Biosuroeste En El Consejo Joven Comfama, 2022). Consequently, the physical attributes of the place and the spatial context emerge as crucial enablers, as they unlock further potential enablers that will subsequently define the mechanisms employed for the venture’s growth and success.

Water sources and availability emerged as significant factors for the entrepreneurs, impacting multiple activities they are currently undertaking. As mentioned by Informant 2: *“We conducted an extensive hydrological study to assess rainfall patterns over the past three decades and to forecast rainwater harvesting possibilities and we also examined the volumes and qualities of the water in streams and creeks”*. They identified an opportunity to design a system of natural pools that will be accessible to the public visiting the park, having recreational and educational purposes but also providing water for livestock, agriculture, and facility usage. (Agroparque Biosuroeste, 2023).

The biophysical spatial context was recognized as the foundational element that influenced the entrepreneurial process for this venture: *“These attributes or characteristics are part of that element of the life system that we must integrate when designing our intervention model in the territory”* (Biosuroeste En El Consejo Joven Comfama, 2022). The availability of the land played a crucial role, prompting the venture builders to gain a **comprehensive understanding of the location** where the venture is established. Upon acquiring the land and establishing the mission of

the company, the founders prioritized promoting sustainable development within the region as their overarching goal. To achieve this objective, they recognized the significance of comprehending the region's historical vocation, which determined a mechanism of diversification by combining agricultural and livestock practices intertwined with tourism activities: *“So Biosuroeste as a corporation decides to work for the vocation of a territory that is tourist and agricultural, and also tourism and agriculture are connected in the southwest”* (Informant 1). By leveraging these existing regional economic activities and **capitalizing on the unique characteristics of the land**, they identified numerous opportunities for further development within the company's premises, as discussed in the Diversification mechanism.

The interviewees emphasized the significance of the social dimension within the local communities. They acknowledge that long-time residents possess valuable knowledge and wisdom regarding practices involving direct interaction with the natural surroundings, the biophysical context, and the local population. Consequently, the founders aimed to integrate the company into the regional context by considering the social and cultural aspects of the area and leveraging the knowledge and skills of the local population as part of their business strategy, as described in the subsequent section.

#### **4.1.2 Social and Cultural Embeddedness**

The empirical data indicates the crucial role of establishing and developing a successful venture through **strong connections with neighboring communities**. Agroparque Biosuroeste recognized the significance of social and cultural factors in shaping the impact of their company in the region: *“Since we had a goal with a very ambitious impact, we had clarity that it was very important to get closer to the local community, get to know each other and understand their lifestyles, their expectations, their needs, and concerns.”* (Informant 3).

Initially, as stated by Informant 2: *“We observed that the local communities were deeply attached to their traditional ways of life and displayed hesitation towards newcomers with innovative ideas.”* However, the entrepreneurs recognized an opportunity to **gain acceptance from the local society**: *“By having the support of the mayors, we were able to get to know people more easily and establish spaces for dialogue and collaboration.”* (Informant 1).

This land was considered a “*political war chest*” as mentioned by Informant 5, referring to the practice of politicians using available land to pay political favors. Due to this background, local communities were concerned about the future of the region and the potential impact on their socio-economic and cultural dynamics. Informant 5 stated, “*People from all over Colombia know this story very well, it is a romantic political speech that says the land is being redistributed. But they very well know that it has never worked well; foreigners come into an area with different ways of being, criminality rises, the new landowners start to sell their piece of land and the planning just goes to the trash bin.*” The visionary mindset of the mayors and their embeddedness into the community and territory was an enabling factor to conceive this venture: “*for a first time in a council of mayors we were thinking on a long-term basis, which is not common to see when you speak about politics in the country. We all look for short-term and immediate actions to be able to show results.*” (Agroparque Biosuroeste, Una Apuesta Por Impulsar El Desarrollo Rural Sostenible, 2020). This highlights the importance of social and cultural embeddedness.

Keeping a **direct communication channel with the community** was necessary to build trust and establish credibility: “*We had meetings with the mayors, councilors, community leaders and local people to tell them about our intentions and answer all their questions and concerns because the word of mouth was sometimes leading to a wrong idea of what was going to be introduced into the region.*” (Informant 3).

This venture considered the **experiences, knowledge, and wisdom from the community as an asset to design their business model**, they had a co-creation session with them: “*Building Agroparque Biosuroeste is a task in which all the neighboring inhabitants of the Cartama region provide their imagination, ideas, and necessities.*” (Construcción Colectiva Del Agroparque Biosuroeste, 2021).

Gradually, through their convincing actions and statements, the corporation successfully integrated itself into the local society. This is evidenced by their **collaborative partnership** with immediate neighbors to initiate early trials of regenerative livestock. Informant 2 highlighted one such collaboration “*A beautiful thing we did at the beginning was that we joined our immediate neighbor under a good neighbor’s agreement where they would provide some cattle to help us grassing some of the fields that we had to maintain mechanically. They would gain weight in their livestock, and we would monitor the daily weight gains to start creating our nutritional*

*performance baseline. Another good thing is that we would spare the money we would use to mow these fields with the motorized machines.”*

Consequently, it is crucial to highlight the corporation’s extensive reach and developed capacity, which has been achieved through its profound social embeddedness. The corporation has already launched a program offering educational content and training on organic vegetable gardening within its premises. *“A total of 84 families have applied for the program, and for the first batch, 25 families have already completed the course, while the remaining applicants are awaiting their turn”* (Biosuroeste En El Consejo Joven Comfama, 2022). It should be noted that out of the 84 families, 35 have been selected for the first batch of the program, and the remaining applicants will have the opportunity to participate as well.

### **4.1.3 Access to the Entrepreneurial Ecosystem**

Agroparque Biosuroeste is the first case of collective land restitution in Colombia, an idea that was conceived as a solution for a cultural problem that was going to happen in Tamesis: *“They are going to bring here some people, around 60 families [...] from other parts of the country [...] they carry a certain stigmatization when they come from violent areas, and they could damage the culture* (Informant 5). Informant 5 saw this as an opportunity to create this innovative model to achieve sustainable development in the region: *“The most important pillar is a concept of agricultural development.”* (Informant 5)

Without **access to an ecosystem or network that supported their entrepreneurial endeavors**, it would not have been possible to establish this corporation: *“The process was first getting support from the mayors, which was a long process. Then we approached the businesspeople to come on board, we have shown that here it is possible to establish what companies use association models with small producers.* (Informant 5). *“We also invited non-profit organizations, but since they also represent or come with resources from the private sector”* (Informant 1). *“There was a lot of interaction with the economic world, municipal governments, with the communities of the immediate environment”* (Informant 5).

The objective of promoting sustainable development was ambitious and attractive to other actors from the ecosystem. The **public sector** laid the foundation of the ecosystem by making the land

available and including corporate management from **non-profit organizations** like Proantioquia and the acceleration from Comfama: *“An interesting governance has been created: the property continues to belong to the two municipalities. There is still a session from the property to Proantioquia and an agreement with Comfama to accelerate it (Informant 5)”*. *“Proantioquia then secured a grant from the Interamerican Bank for Development, which enabled the generation of the master plan for the park (Informant 1). Academic institutions were welcomed to conduct different studies and designs for the master plan, and they continued as allies, potential customers, and partners for specific projects in the future.*

At that time, the entrepreneurial ecosystem was not mature enough, therefore they had to **“educate” and connect the actors** to achieve the desired sustainable development: *“I financed the trip of the mayors and some businessmen to technology parks in Italy, Spain, Germany, later Mexico, and some in Brazil where we witnessed that in these countries such examples existed thanks to an ecosystem that creates conditions for entrepreneurship, technology and opportunities for all the farmers in the province of Cartama. This was very important, and a culture and an ecosystem were then created that would allow innovation” (Informant 5)*. Also, Agroparque Biosuroeste **brought together the actors from the ecosystem** that seemed disconnected before: *“We had to enter a long process of conversations and alignment with each of the actors and among them as well to build a solid network that could support us and leverage our efforts so that it would have a greater impact in the region. Today, this network not only supports us but has also allowed other entrepreneurs to set up their businesses. we have become part of that support network” (Informant 1)*

In conclusion, this subsection has highlighted the importance of the spatial context, embeddedness, and engagement with the entrepreneurial ecosystem in shaping the entrepreneurial process for the Agroparque Biosuroeste project. The founders recognized the significance of the social and cultural factors of the region and leveraged the knowledge and skills of the local population as part of their business strategy. To establish a strong connection with neighboring communities, they invested considerable effort in communicating and explaining their vision for the space, and extensive research was conducted to understand the culture and history of the area.

## 4.2 Mechanisms that Enable Environmental Sustainable Development

After examining the enabling factors that facilitated the establishment of Agroparque Biosuroeste in the Cartama Province, this study will delve into the specific mechanisms employed to attain sustainable environmental development in the region. These are described by the subthemes: *regenerative practices, holistic management, bridging, diversification, and community education.*

### 4.2.1 Regenerative Practices

“*Agroparque Biosuroeste a new model of sustainable territorial development for Colombia*” (Agroparque Biosuroeste, 2020), is an initiative aimed at promoting sustainable development. As part of their efforts, they have implemented the mechanism of Regenerative Practices for land management. This approach represents a novel concept in the region, as explained by Informant 1: “*Our culture has been using an extractive model for many years that is threatening the sustainability of our lands. Regenerative development is a development that has life at the center of life in all its forms and here we are talking about life in the province of Cartama and the southwest.*”

Informant 2 explains the implementation process of the regenerative practices mechanism: “*We have established two Productive Demonstrative Spaces (PDS) as foundations for regenerative agricultural practices, these spaces include a regenerative cattle livestock operation and “food forests,” which utilize agroecology principles through agroforestry with mixed food producing species*”. The PDSs serve as “*open book operations*” (Informant 1), allowing for the demonstration of **innovative resource utilization**, practices, and outcomes. They aim to foster the development of new organizations and establish connections with local and non-local markets: “*We want to show the people that it is possible to have a profitable business while improving the environmental conditions*” (Informant 2).

The baseline studies made in the biophysical spatial context phase, served as tools to define that soil health was the most important factor and a goal to be achieved using the regenerative practices:



*“With the help of SUELOSAVIO we conducted many studies and designed a strategy consisting of defining an initial baseline of chemical, physical and microbiological attributes to improve and regenerate the soil conditions. One of these strategies is the regenerative cattle production”* (Informant 2). *“It has been demonstrated that regenerative cattle production is a way to improve the ecosystems, the animals serve as bio-tractors that used the right way help to soften and oxygenate, spread seeds of native trees and pastures all over the land and their wastes serves as fertilizer, without the animals the fields will not be productive”* (Informant 4).

The cattle management PDS operates under a holistic management program in **collaboration** with Acoganar and Agrosavia: *“This program focuses on working with endemic cattle species such as the “Blanco orejinegro,” measuring the capital gains from a comprehensive perspective. Factors such as forage availability, quality and multi-species diversity for livestock grazing in terms of nutrition. The presence of biodiversity in grassing fields, improvement of soil health through cattle impact, and daily weight gains of animals for protein production are all considered”* (Informant 2).

It is worth mentioning that regenerative practices prioritize minimal or **no use of chemical** fertilizers and pesticides. As Informant 2 pointed out, *“Micro-level actions when practicing regenerative agriculture can have a huge impact when you have a systematic consideration of the environment.”* The **reduction of these operational inputs** has an immediate positive impact like the following *“Some areas where the impact was observed include improved soil microbiology and structure, increased biodiversity in and around the fields”* (Informant 2) and enhanced profitability due to reduced resource inputs while maintaining output levels.

#### **4.2.2 Holistic Management**

Aligned with its primary objective of catalyzing the sustainable development of the region through the adoption of regenerative practices, Agroparque Biosuroeste is implementing a holistic approach to land and business management, as articulated by Informant 1: *“We are going to begin to integrate the most important assets, which are soil, forage, and water availability. We want to talk about a holistic P&L. This is a concept, well, that I raised a long time ago, but now life is*

*allowing me to apply it and show some financial statements where we include soil, water, and even pastures as assets that are valuable to the regenerative system, and we never see that. We only look at cash flow from a form of cash capital, but there are 8 forms of capital: There is financial capital, physical, spiritual, natural, intellectual capital, etc. It is very cool to start reflecting on the financial statements of the systems that are different and specific to agribusiness. Those contributions of another form of capital, at least certain that the model progresses, because the profit should not only be financial, but it should also be a profit in multiple dimensions of capital”.*

This **integrative and innovative approach** holds the potential to **reshape traditional business models by recognizing ecosystem services as assets** that can be nurtured and enhanced, as emphasized by Informant 2: *“The holistic P&L starts from the principle of living on interest and not on capital. Extractive models of agriculture do not consider the negative impact on the environment, which in economics is called negative externalities. Here they do consider this, taking the soil, water, biodiversity, air, etc. as non-renewable natural resources on a human scale. We depend intimately on the ecosystem services they provide. Without these services, the economy cannot function..”* This framework recognizes multiple factors as forms of capital that possess the potential for growth or decline.

The implementation of mechanisms such as Holistic Management **establishes interconnections across various stakeholders** of the venture, encompassing social, cultural, environmental, and political dimensions: *“Natural capital must be conserved as much as possible, promoted, strengthened, or reproduced. And live from the interest that these living systems can transform matter and energy that allows them to be resolved over time. The holistic P&L responds to this need to achieve sustainable production, through management systems but with a scientific argument. Being able to design economically viable systems, that are socially just, that are socially acceptable, that people or society are permeable to those ideas - this is technological receptivity.”* (Informant 2).

The adoption of this mechanism reflects its commitment to Agroparque Biosuroeste to catalyze sustainable development in the region. By integrating all the assets into the P&L framework, the

venture acknowledges the significance of diverse forms of capital **beyond mere financial resources**.

### 4.2.3 Bridging

During the interviews conducted, the mechanism that was emphasized the most and is claimed to be the main function or activity of Agroparque Biosuroeste is **being a platform that connects the capacities and necessities of multiple actors**, including the local community, potential investors, private companies, academic institutions, and public entities. According to Informant 1, *“What we do is connect capacities of existing organizations. For example, we connect the capacity of Bancolombia to finance regenerative livestock projects, we connect the capacity of Comfama to develop a park within Biosuroeste or we connect the capacity of the Eafit University to carry out research in soil microbiology and the idea is that these capacities are hired by organizations in the territory, for example, Avocados Cartama tell us that they want to develop a pollinator strategy, then we connect the resources and actors to do the research”*

This mechanism requires the **cohesion of the three enablers of rural entrepreneurship** since a deep familiarity with the spatial context, active embeddedness in the local community, and participation in the entrepreneurial ecosystem are required to merge and connect opportunities and gaps with capacities and efforts. *“Being a platform implies that the role of the company is to connect the capacities of these actors with the needs of the region”* (Biosuroeste En El Consejo Joven Comfama, 2022). By being a platform, this case has shown that the **combined efforts will benefit all the actors and stakeholders involved**: *“Agroparque Biosuroeste is a platform for sustainable rural development for the province Cartama - Southwest of Antioquia, constituting a space public-private articulation, focused on strengthening and revitalizing socioeconomic structures, from improvements together with diversification of productivity, competitiveness and environmental sustainability of the territory, for the welfare of its inhabitants”* (Alcaldía Municipal de Caramanta, Antioquia, 2020).

The platform role needs a **good networking** effort to **form strategic alliances** with the right actors that can accelerate the objective of sustainable development in the region, Agroparque Biosuroeste

is constantly exploring new opportunities of bridging with other companies that would like to experiment with new business ideas and innovative business models and become part of the technological showcase that the park is building: *“This must be about connecting existing capacities of organizations from the public sector and the private sector and the Academy with companies, organizations that mark development in the region, they do not have to be companies, they can also be community-based organizations, for example here peasant associations such as the multisectoral organization peasant and entrepreneurs”*. (Informant 1).

#### 4.2.4 Diversification

In general, rural entrepreneurship focuses on one business unit such as agriculture, farming, foresting, tourism, or food production. A significant finding of the case of Agroparque Biosuroeste is the mechanism of diversification and **integration of multiple business units that interconnect with each other** and create a constructive interaction that catalyzes sustainable development on its three dimensions, especially the environmental dimension: *“Biosuroeste seeks to be a beacon of beacons to the extent that shows that there are economically viable ways, that mobilize equitable and sustainable development in the territories through the integration of different activities like mobilization, regenerative development, regenerative practices around agriculture, livestock, tourism.”* (Informant 3).

The first business unit of Agroparque Biosuroeste is tourism and recreation, where it has become an amusement park with attractions around water, such as natural ponds, reflection and relaxation spots, and children's games. The park was designed to **highlight the natural resources of the land**: *“This is a new park model with another aesthetic, we are claiming the diversity of nature, the richness of the landscapes and integrating an agropark dimension”* (Biosuroeste En El Consejo Joven Comfama, 2022). This business line is also intended to attract visitors to the region and **promote the creation of new businesses** and rural entrepreneurship with a tourism purpose: *“The beacon of tourism, recreation and of Culture will be a meeting space ready from the metaphor of the travel, with experiences for addressing the territory beyond the physical space and that will also allow us to arouse the curiosity of visitors through adventure, the connection with ourselves, nature and from the journey”* (Biosuroeste En El Consejo Joven Comfama, 2022).

Here, they are working together with twenty-four entrepreneurs such as hotels, restaurants, and travel agents in the region (Agroparque Biosuroeste, 2023): *The tourism, recreation, and culture beacon will be a space for training, formalization, and networking with businesspeople and local entrepreneurs* (Biosuroeste En El Consejo Joven Comfama, 2022). This is part of the indirect impacts that promote local economies around the territory and therefore accelerates the sustainable development of the region.

The tourism activities described before aim to bring people to the park and educate them about the agroecological activities: *“the tourism and recreation content that allows us to take people to the place and crave it. Yes, seduce them, make them fall in love with the countryside, and begin to connect them with the agroecological processes that we will carry out here”* (Biosuroeste En El Consejo Joven Comfama, 2022).

The second business unit is agroecology, where agricultural activities are performed that are also part of the agritourism experiences that the park offers. This business unit is bringing other companies to rent the land for experimenting with new and more sustainable production processes (Agroparque Biosuroeste, 2023). The visitors of the park and the local community will be able to see and engage with these initiatives seen in the PDSs *“The agroecology beacon will also be an inspirational nucleus to accompany the territory and the agribusinesses of the territory, of the productive chains of these agribusinesses and of the marking organizations to transit to regenerative development”* (Agroparque Biosuroeste, 2023). One of these spaces or demonstrative projects is the regenerative livestock production, which is already having an impact on the environment and the community: *“What we want to do here is a space that inspires and when livestock agribusinesses or those with investments in livestock arrive, they are motivated to move towards a regenerative livestock model. Regenerative farming is farming that regenerates the soil, conserves water, protects the forests, attracts wildlife to the extent that it recovers those structures, recovers those dynamics of nature, and is also farming that works on animal welfare. They do not use agrochemicals.* (Biosuroeste En El Consejo Joven Comfama, 2022). The results of this mechanism in the environment will be further discussed in the next subsection.

The last business unit is called productive restoration, where they claim that it is possible to restore the environment with business models that generate economic income for the community (Agroparque Biosuroeste, 2023). In this business unit, they have made an **alliance** with EcoHome that uses a native tree the call “chumbimbo” that produces a raw material for their soap production (Agroparque Biosuroeste, 2023): *“A process was also carried out with them, for the reforestation of some basins with this specie and with others that are, let's say, typical of the basins of the creeks (Informant 2). Agroparque Biosuroeste has also **become part of an initiative that has an impact beyond the park** itself by involving one hundred families in the region to preserve and reproduce the tree (Agroparque Biosuroeste, 2023). The role of Agroparque Biosuroeste in other initiatives within this business unit is to support and function as a consultant and **orchestrator of other projects that intend to restore a territory in the same region:** “We want to show the world, the region, and young people that other business models and other ways of living in this territory can be developed so that we attract talent so that we attract inhabitants and believers to this territory who want to participate in regenerative development opportunities (Biosuroeste En El Consejo Joven Comfama, 2022).*

In summary, with the three business units, Agroparque Biosuroeste is executing different profit-generating activities such as tourism, agriculture, land rental, and consultancy services that complement each other in diverse ways and leverage their efforts and impact on the sustainable environmental development of the region.

#### **4.2.5 Educating the Community**

The final mechanism used by Agroparque Biosuroeste to enable sustainable environmental development in the region is **providing educational content to the local community** via workshops, courses, and training programs: *“We are integrating these training capabilities to develop short courses, diplomas, specializations, and connect all the capabilities of the Academy. The desired result is to train and educate the productive and passionate talent that the field is requiring, and that the Southwest region can transversely produce and use at the same time” (Biosuroeste En El Consejo Joven Comfama, 2022).* As part of their embeddedness process, they have actively engaged with the community, recognizing the need to **leverage their environmental**

**practices** with the promotion and application of the community: *“We have done some workshops and training with the community about the design and the distribution of spaces on the farm, the conceptualization of management so that it is truly regenerative”* (Informant 2). These educational sessions aim to **raise awareness** of the importance of conserving natural resources and **foster new productive talent**, which will **stimulate the emergence of new rural entrepreneurs**: *“We develop practical courses, and we will strengthen the capacity of these families to insert themselves, let's say, in the business world”* (Biosuroeste En El Consejo Joven Comfama, 2022).

Agroparque Biosuroeste has conducted a workshop with children, the elderly, teachers, representatives of the indigenous community, leaders, and different citizens from the local community about their expectations of the park and **co-creating** various aspects of it (Proantioquia, 2021). Many participants of this experience manifested positive feelings: *“Biosuroeste for me is a light, a hope, a life project for the entire province of Cartama. It is an opportunity for all of us who believe, want to live in and have the pleasure of enjoying this territory with so many opportunities for education, biodiversity conservation, fauna, and flora regeneration, so many things that today the world needs! We want to be a Green Lung for The World”* (Construcción Colectiva Del Agroparque Biosuroeste, 2021).

This mechanism is expected to have an indirect impact on the sustainable environmental development of the region: *“We train productive talent, develop their value chains with community-based organizations, farmer families and in this way, we will formalize them, and manage to accompany them on their path of progress”* (Biosuroeste En El Consejo Joven Comfama, 2022). As the **local community gains knowledge and capacity** to apply and replicate the regenerative and holistic management concepts that Agroparque Biosuroeste is sharing with them, it will leverage the efforts of Agroparque Biosuroeste and have a greater impact in the region: *“It will be a center of science, technology, innovation, and entrepreneurship. With a dimension of education and specialized training in everything that has to do with agroecology and agriculture”* (Agroparque Biosuroeste, Una Apuesta Por Impulsar El Desarrollo Rural Sostenible, 2020).

In summary, the mechanisms used by Agroparque Biosuroeste to achieve sustainable environmental development in the Cartama region are the employment of regenerative practices such as conducting soil analyses, developing cattle management programs, and designing a low-impact construction plan to blend with the natural environment. The holistic management approach aims to consider natural resources as capital that can be grown. Similarly, a platform role is highlighted for connecting the capacities and needs of various factors such as the local community, investors, academic institutions, private companies, and public entities. This case also uses diversification to interconnect different business units, including tourism and recreation, and agroecology, which promotes sustainable production processes. The impact of these mechanisms is leveraged and supported by engaging and educating the local community on the same concepts and practices that Biosuroeste applies, this will inspire the local communities to follow their example and contribute to better and wider impacts in the environment.

### **4.3 Impacts on Sustainable Environmental Development**

The case study of Agroparque Biosuroeste has identified that the impact of the mechanisms employed by this rural entrepreneurship on the environmental dimension of sustainable development can be directly observed in the natural environment or indirectly impact its sustainable development.

Direct impacts include measurable and controllable factors such as reforestation, improvement of soil conditions, increased biodiversity, protection of water sources, and an overall improvement of the natural capital within the venture's premises.

On the other hand, indirect impacts from Agroparque Biosuroeste's entrepreneurial ecosystem which supports education and engagement of both the local community and non-local actors. This ecosystem strengthens their capacity to adopt sustainable and regenerative practices, promoting local economies and entrepreneurship as sustainable ways of inhabiting the territory. The successful replication of these practices in other areas outside the park contributes to sustainable development in satellite focal points. The corporation's influence and guidance result in the emergence of local rural entrepreneurial activities, which directly impact the region but are not



directly measurable or managed by the venture. Additionally, this influence can extend to other rural regions in the country, serving as proxies for replicating the adapted practices learned at the park.

### 4.3.1 Direct Impacts

Agroparque Biosuroeste is “*reversing the process of ecosystem degradation by the rehabilitation of affected areas through production models with forest components*” (MY ECOHOME S.A.S, 2022) with practices such as and holistic management with a regenerative approach. The practice of **reforestation**, part of the regenerative principles, has “*promoted the formation of continuous strips of tall native and arboreal vegetation, around water basins to promote their conservation and biological connectivity.*” (MY ECOHOME S.A.S, 2022). The results of planting more than 300,000 trees between 2019 and 2020 (Centro RS, 2021; El Tiempo, 2021) are evident: “*It has been seen that native trees are beginning to appear scattered in the pastures - before these native species were only seed banks in the soil, now they grow because we allowed the land to rest and breathe*”. (Informant 2). Important effects like “*contributing to endangered ecosystems such as the tropical dry forest and tropical humid forest*” (El Tiempo, 2021) add value to the parks impact. Furthermore, natural processes of seed spreading by animals in the pastures have also contributed to the grossing of the grassing fields biodiversity “*It has been shown that cattle have contributed to the renewal of pastures. More than 15 species of grasses have been found that are randomized in the pastures, these are called democratic savannas.*” (Informant 2).

Reforestation has also led to the **regeneration of basins and the hydrologic resource** overall. The mechanisms deployed by Agroparque Biosuroeste have contributed to the enhancement and transformation of the Cartama basin and the Rio San Antonio (Biosuroeste En El Consejo Joven Comfama, 2022). Regenerative farming is another mechanism that has deployed direct impacts by “*regenerating the soil, conserving water, protecting forests, attracting wildlife to recover the structures, dynamics of nature and working on animal welfare*” (Biosuroeste En El Consejo Joven Comfama, 2022). The farm's design, according to the regenerative principles, has allowed the protection of basins and water sources.

The combined results of regenerative farming, holistic management, and reforestation have also created a natural corridor and **increased biodiversity**: *“enriching areas with plant succession processes through assisted natural regeneration (RNA) to consolidate them in forest areas or areas of importance for the conservation of biodiversity.”* (MY ECOHOME S.A.S, 2022). As Informant 2 said, *“Biodiversity dynamics are evident: interaction with pollinators, insects, birds, reptiles, amphibians... - this is a condition for the regeneration process to take place.”* Lastly, these mechanisms have also **improved soil conditions** and reduced erosion and compaction, which will enhance regenerative farming practices in a positive loop cycle: *“The first impacts to be evident are regarding the compaction and erosion of the soil, the botanical composition of the slopes”* (Informant 2).

Overall, Agroparque Biosuroeste has recovered more than 140 hectares from the restoration of strategic areas (Centro RS, 2021). The direct impacts on the enhancement of the environment take more time to be measured: *“I believe that Biosuroeste has the potential to show that, in 10 years, effectively, with its processes to gain quality certifications, with the added value that its meat and milk will have, and with ecotourism visits and other mechanisms, they will have a distinctive and measurable impact in the environment like more biodiversity, better soil conditions, and cleaner water”* (Informant 4)

### **4.3.2 Indirect Impacts**

The indirect impacts are challenging to quantify, but they are expected to have a major influence on the sustainable environmental development of the region and the community. *“What we seek is to generate a sustainable development for the Cartama province, taking into account all the elements that participate in the territory and for this reason, the concept of regeneration is also important, because here we seek that the entire system of life and the health of all this system.”* (Biosuroeste En El Consejo Joven Comfama, 2022). The success of the mechanisms and practices employed by Agroparque Biosuroeste **depends on the entrepreneurial ecosystem** in which they operate: *“some indirect impacts from that connectivity, the platform with all the stakeholders in the area is beginning spread that focus. The information transition, education and knowledge that*

*can be generated there is super valuable”* (Informant 5). This ecosystem has allowed Agroparque Biosuroeste to **support the ongoing and existing efforts of other organizations** or entities.

Agroparque Biosuroeste has made significant efforts, supported by its partners, to **educate and engage the local community**. They have focused on strengthening the region's people's capacities by training productive talent and **raising awareness** of regenerative and environmental practices: *“There are many more indirect impacts that are more visible in the short term; The fact that an environmental education bubble is being generated, in general that is more conscious in the medium term, I see it more as a very integrated way of doing agriculture with tourism and with investment, and in the long term, it is already a whole model of sustainable life based on regeneration. Which will make them completely self-sustaining”* (Informant 4). Their educational programs, workshops, courses, and lectures invite the local community to reflect, get inspired, and be motivated to apply sustainable and regenerative practices in their homes and businesses. Agroparque Biosuroeste has witnessed how people have started to understand some concepts of regenerative farming and apply some of them in their farms *“We identified in the Biosuroeste park an alternative to generate development, to generate training, to generate education in these communities, it is true that young people also find wonderful opportunities to stay in the territories, to generate better living conditions for their families and have decent living conditions”* (Construcción Colectiva Del Agroparque Biosuroeste, 2021). **People also value their land and natural resources and take care of them:** *“People feel that the land is going to be valued, they feel attracted by the offer of courses that the park promotes”* (Informant 2). This has been possible due to the close relationship and embeddedness that Agroparque Biosuroeste has with the local community: *“The impact of the project must be embedded in the community and be for the territory. So, it has both social and environmental components.”* (Informant 3)

One of Agroparque Biosuroeste's primary objectives is to become a development catalyst for the region. The mechanism of regenerative farming, holistic management, and its role as a connecting platform **show new ways of inhabiting the territory sustainably**, new and innovative business models, and **stimulate new industries and entrepreneurship to emerge:** *“We also want to show the world, the region and young people that other business models and other ways of living in this territory can be developed so that we attract talent so that we attract inhabitants and believers to*

*this territory who want to participate in regenerative development opportunities.”* (Biosuroeste En El Consejo Joven Comfama, 2022). These dynamics **accelerate business growth** and **promote the local economies by strengthening the productive chains**: *“the development potential of Biosuroeste [...] was key, in addition, for the impulse in the creation of the Cartama Province”* (Jiménez Moncada, 2020).

*“So, what makes Biosuroeste particularly innovative, I think, is that it integrates the 3 dimensions, it integrates social elements; knowing and communicating the historical land usage they are attracting people and making them understand that on certain terraces it is possible to raise livestock and that it's not going to be detrimental, it is economical because it goes beyond livestock farming, it goes further, there is ecotourism, there is the production of local knowledge, there is training in agricultural activities for the new generations. And there is the environment. The natural factor is the natural capital we have, we are already beginning to raise awareness.”* (Informant 4)

These findings emphasize the significance of a conscious and engaged process when establishing a venture within its biophysical spatial, social, and entrepreneurial context. Insights derived from initial diagnostics and grounded knowledge enable the identification of opportunities and the formulation of innovative strategies or mechanisms that leverage resources and efforts. This approach facilitates a positive impact on the region’s environment and the attainment of sustainable development goals. A discussion of these findings, based on existing theory, will be presented in the subsequent chapter.

## **5 Discussion**

This chapter provides a comprehensive discussion and analysis of the empirical findings, drawing connections to the previous literature review and the defined research questions. Furthermore, an integrated framework is presented, which incorporates the findings and elucidates the interrelationship among the enabling factors of rural entrepreneurship, the mechanisms for achieving sustainable environmental development, and the potential environmental impacts.

### **5.1 Key Findings**

#### **5.1.1 Enablers**

The spatial context in which rural entrepreneurship operates is a distinctive aspect that brings both constraints and competitive advantages (Anderson, 2000; Zivdar & Sanaeepour, 2022). This case highlights how entrepreneurs capitalized on geographical and biophysical resources, transforming them into a competitive advantage that generates economic income while preserving and enhancing natural capital. Relocating this case elsewhere would result in the loss of its unique value proposition, underscoring the dependence of rural entrepreneurship on the spatial context (Korsgaard, Müller & Tanvig, 2015). Furthermore, a more comprehensive understanding of biophysical resources is crucial as they provide the foundation for entrepreneurs to manipulate and utilize these resources in their entrepreneurial endeavors, and effective allocation and management of these resources contribute to the overall entrepreneurial process.

Additionally, embedding within society and its culture is recognized in literature as essential to the entrepreneurial process (Korsgaard, Ferguson & Gaddefors, 2015). This case further supports this theory, as it demonstrates how embedding with the community opens opportunities for co-creating ventures that benefit both sides and fulfill their expectations. The data reveals that when the community feels included and considered, they envision new opportunities influenced by the venture, fostering a strong relationship that can leverage both parties. Enhancing the social dimension is imperative for achieving sustainable development in other dimensions (Dillard, Dujon & King, 2008).

Access to an entrepreneurial ecosystem was identified as another crucial enabler for rural entrepreneurship to achieve environmental sustainable development. In this case, the venture was only possible with the support of private companies, public entities, academic institutions, and acceleration programs within the entrepreneurial ecosystem. Previous research suggests that this enabler helps overcome the challenges faced in rural areas (Brugmann & Prahalad, 2007; Hall & Vredenburg, 2003; Jabareen, 2008). The case also illustrates how active participation in the ecosystem transforms this relationship into a mechanism that amplifies the indirect impact on the sustainable environmental development of the region, as explained later.

### **5.1.2 Mechanisms**

The three enablers discussed contribute to identifying challenges and opportunities in the region, which rural entrepreneurs can leverage to create innovative solutions that generate value. This case demonstrates a creative recombination of natural and cultural resources (Gashi Nulleshi & Tillmar, 2022), adopting regenerative practices within an integrated farming business that proves to be profitable while enhancing the natural environment (York & Venkataraman, 2010).

Furthermore, the entrepreneurs have designed a business model centered around the available natural and cultural resources (Korsgaard, Ferguson & Gaddefors, 2015), aiming for a positive impact on the environment and the community (Parrish, 2010). They have embraced a Holistic Management approach that considers natural resources as assets and capital requiring sustainability and regeneration. This integral approach encompasses various forms of capital beyond financial considerations, leading to a more systematic and integrated perspective among stakeholders. The use of such a mechanism has not been explicitly mentioned in the existing literature or linked to the discussed issues, highlighting the novelty and significance of this case.

It has been claimed that access to a mature entrepreneurial ecosystem can facilitate the creation of rural ventures and enhance their influence on sustainable regional development (Hall & Vredenburg, 2003; Korsgaard, Ferguson & Gaddefors, 2015). However, this case demonstrates that rural entrepreneurs can actively participate in constructing such ecosystems and play a proactive role in bridging capacities between non-local and local actors, thereby promoting sustainable development. Unlike existing literature, which primarily focuses on the benefits that

rural entrepreneurs gain from the entrepreneurial ecosystem (Korsgaard, Ferguson & Gaddefors, 2015), this case adopts a more holistic and integrative approach that seeks community benefits rather than individual gains. The entrepreneurs in this case have overcome barriers by openly sharing their knowledge, disrupting the market with innovative practices (Davidsson, 2016), and inspiring others to replicate their success.

Agroparque Biosuroeste recognizes the importance of developing economic activities that provide income to sustain their activities and achieve environmental impact within the region (Mieszajkina, 2016). To that end, they creatively diversified their activities into multiple business units, leveraging the natural and cultural resources available. This integration of tourism, regenerative agriculture, land rental, consultancy, and support for existing initiatives expands their scope of influence and generates significant impacts on sustainable development, distinguishing this case from those focusing on a single business activity (Bosworth, 2012; Korsgaard, Ferguson & Gaddefors, 2015).

Finally, actively building, and nurturing relationships with the community, beyond the initial embeddedness process, proves crucial in leveraging efforts for environmental sustainability. This case establishes communication channels and spaces for dialogue and co-creation of strategies and initiatives with the community, recognizing the value of this relationship and its impact on all aspects of the region. The literature also acknowledges this as an essential mechanism for enabling sustainable environmental development (Brugmann & Prahalad, 2007; Dillard, Dujon & King, 2008; Meek, Pacheco & York, 2010)

### **5.1.3 Impacts**

Among the impacts generated by Agroparque Biosuroeste on the sustainable development of the Cartama region, similarities were found with those reported in other studies (Cohen & Winn, 2007; Hall, Daneke & Lenox, 2010; Shepherd & Patzelt, 2011). Through resource allocation towards more sustainable practices (York & Venkataraman, 2010), they were able to revert environmental degradation. Also, the active participation in the entrepreneurial ecosystem and the strong relationship they have with the community has opened a space where they can share their learnings

and raise awareness of the problematic but also of potential solutions that can be implemented by all the stakeholders.

The success of the mechanisms has been possible because of the integration and engagement of all the stakeholders (Jabareen, 2008) that have leveraged the efforts and other existing initiatives (York & Venkataraman, 2010). Their actions have also influenced the emergence of new sustainable ventures across the region, most of them in the tourism and hospitality sector, that are taking care of the natural resources and position them as an attractive offer for the market (Pacheco, Dean & Payne, 2010; Patzelt & Shepherd, 2011).

## 5.2 An Integrated Framework

Figure 5.1 illustrates the enabling factors and the mechanisms facilitating the achievement of sustainable environmental development in this case. It also represents the relationships found between the enabling factors and mechanisms and their relationship with the direct or indirect impacts.

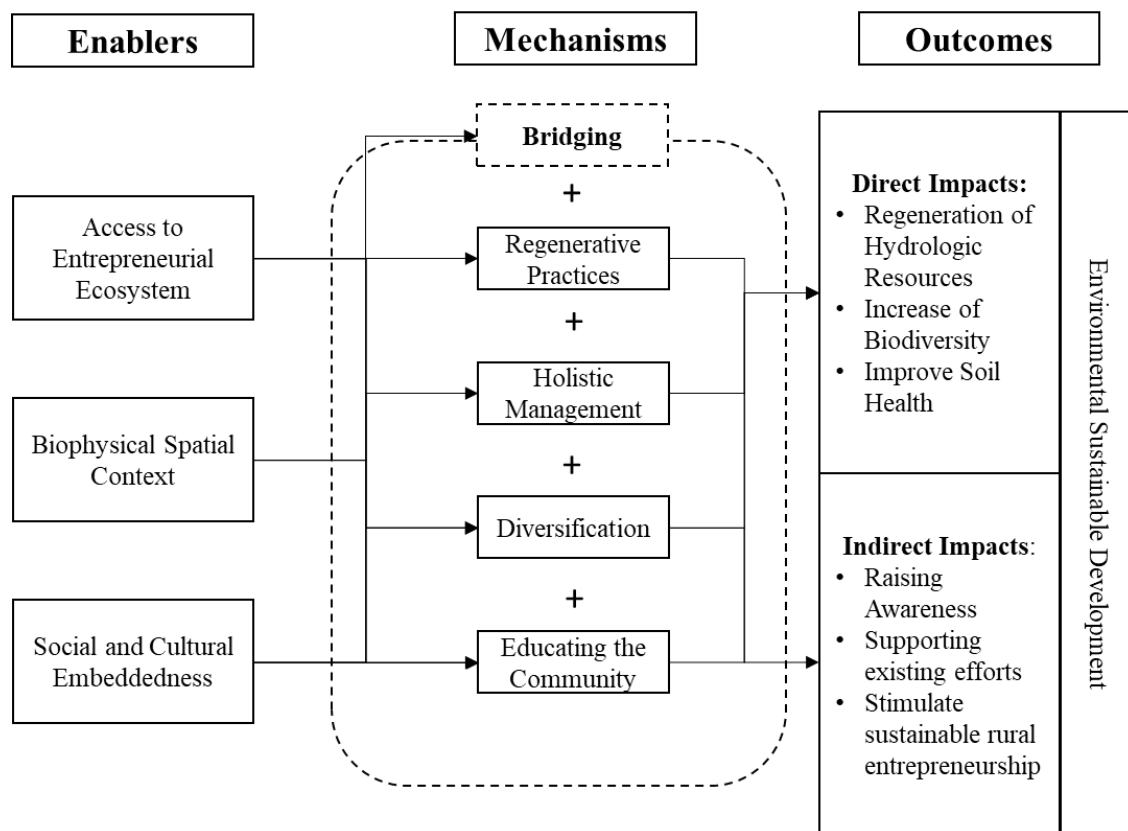


Figure 5.1: Integrated Framework



In this framework, the three enabling factors necessary for establishing rural entrepreneurship in each rural area are depicted. The coexistence of these factors is crucial for facilitating the entrepreneurial process. It should be noted that these enabling factors must persist and coexist throughout the entire duration, ensuring a symbiotic relationship between rural entrepreneurship, the spatial context, the local community, and the entrepreneurial ecosystem (Korsgaard, Müller & Tanvig, 2015).

The framework illustrates how these enabling factors are transformed into mechanisms by rural entrepreneurs. The deep knowledge and understanding of the biophysical spatial context serve as the foundation for mechanisms such as regenerative practices, holistic management, and diversification of the business activities based on available natural resources. These mechanisms directly contribute to the positive sustainable environmental development of the region.

The process of social and cultural embeddedness establishes a relationship with the local community, which, if nurtured, can benefit both parties (Dillard, Dujon & King, 2008). In this case, educational sessions are offered to the community, leveraging their efforts, and sharing knowledge to inspire more individuals, indirectly influencing the region's environmental sustainability.

Access to the entrepreneurial ecosystem is a crucial enabler for creating this venture. Once established, active participation in the ecosystem is achieved through the bridging mechanism. Agroparque Biosuroeste acts as a platform that connects capacities, linking their own resources with other actors in the entrepreneurial ecosystem, creating opportunities for all stakeholders. The bridging mechanism amplifies the impact and facilitates the achievement of sustainable environmental development in the region (Jabareen, 2008; Korsgaard, Ferguson & Gaddefors, 2015; Meek, Pacheco & York, 2010).

Based on their high embeddedness and high bridging with the spatial context, the local community, and the entrepreneurial ecosystem, Agroparque Biosuroeste can be classified as a type 2 entrepreneurship according to Mueller & Korsgaard (2014), this type facilitates the achievement of a regional environmental sustainable development.

In conclusion, rural entrepreneurship should be viewed as an integrative phenomenon, considering its dependence on various enabling factors and its impact on multiple aspects and stakeholders. The subsequent chapter provides a conclusive summary of the study, encompassing the theoretical and practical implications, suggestions for future research, and an acknowledgement of limitations.

## **6 Conclusion**

Rural entrepreneurship is strongly related and dependent on the place where it is developed, therefore any action taken forward along the entrepreneurial process will have direct and indirect impacts among both the venture and stakeholders. This thesis aims to examine the relationship between rural entrepreneurship and sustainable environmental development in a specific region, aiming to identify the enabling factors for rural entrepreneurship, mechanisms for promoting environmental sustainability, and their impact on the environment.

The findings indicate that the enabling factors for rural entrepreneurship include a profound understanding of the spatial context, a strong social and cultural embeddedness with the local community, and access to the entrepreneurial ecosystem. These factors help rural entrepreneurs overcome challenges inherent in rural areas and foster integrated development.

Moreover, this study identifies innovative mechanisms for promoting sustainable environmental development. These mechanisms encompass regenerative practices that creatively allocate resources, a holistic management approach to preserve natural capital, diversification of commercial activities based on natural and social resources, strengthening of relationship with the local community through education and co-creation, and capacity building across all stakeholders of the entrepreneurial ecosystem through bridging. Results found have both direct and indirect impact on the sustainable development of the environment.

### **6.1 Theoretical Contributions and Suggestions for Future Research**

This study contributes to theory by integrating elements into a framework that describes how rural entrepreneurs can influence the sustainable environmental development of a region, addressing a literature gap on rural entrepreneurship in developing countries (Moreno, Rodríguez & Morris, 2021). Consequently, further research on rural entrepreneurship in these contexts is recommended.

Furthermore, the empirical data and specificity of the case contributes to a better understanding of rural entrepreneurship as a phenomenon (Gashi Nulleshi & Tillmar, 2022). However, establishing a standardized and recognized definition of rural entrepreneurship within the field of

entrepreneurship is still needed, as it would enable researchers to better comprehend the relationships between this concept and other phenomena, such as sustainable development. Such a framing of the field could guide future impactful research. Given its inherent connection to rurality, this scholarly field holds significant importance in bridging social entrepreneurship with scientific investigations on urgent global themes, such as environmental sustainability and regeneration.

Moreover, this study enhances the understanding how entrepreneurs can contribute to building and consolidating functional and mature entrepreneurial ecosystems that benefit all stakeholders, rather than solely receiving the benefits from being part of the ecosystem (Korsgaard, Ferguson & Gaddefors, 2015). Considering the successful impact of this perspective on the sustainable environmental development of the region in the present case, further investigation into this topic is recommended as an interesting avenue for future research.

## **6.2 Practical Implications**

Among the practical implications, this study serves as an example and inspiration, showcasing the importance and opportunities inherent in rural areas. It provides valuable insights not only for entrepreneurs and their activities but for policy makers and financial institutions. The findings can inspire the design of legislations and products that are better suited for the rural sector, including support for the creation of functional, mature, and active entrepreneurial ecosystems in rural areas.

Furthermore, this study underscores the importance of natural resources and their value in the context of rural entrepreneurship. It emphasizes the need for rural entrepreneurs to adopt an open, collaborative, and inclusive approach, engaging with all the stakeholders. Moreover, this case study challenges accepted paradigms regarding cattle livestock and farming practices. It demonstrates that through alternative management and practices, these traditional activities can be transformed, presenting an opportunity for global-scale environmental sustainability and sustainable development. This insight challenges existing stigmatization and movements against such practices, offering a powerful tool to address the planetary crisis. By harnessing existing

capacities in cattle and farming, both environmental sustainability and rural development can be supported.

### **6.3 Limitations**

This study, like any other research project, has potential limitations associated with its design, data type, methods, and research context. These limitations outlined below may have influenced the study and its findings.

As a qualitative study, there are limitations in terms of objectivity due to the subjective nature of the data analyzed, which stems from the personal perspectives and experiences of the informants. Additionally, the use of semi-structured interviews instead of surveys may have influenced the responses of the informants, as there was no anonymity during the interview (Anderson, 2010). Furthermore, conducting the interviews in Spanish introduced challenges in accurately translating the exact meaning of certain quotes and the overall context and flow of the open conversation.

Moreover, biases from the researchers may have been present during the thematic analysis process, as they are inherent in the data coding and analysis (Braun & Clarke, 2006). Despite incorporating concepts from relevant literature on rural entrepreneurship and sustainable development, structuring of the data reflects a combination of the researcher's literature review and information obtained from the interviews and secondary data sources, making it difficult to visually characterize the data (Anderson, 2010). Consequently, if another person were to conduct the research, the data conceptualization and structuring would differ, making replication or validation of the findings challenging for future researchers.

Furthermore, since this study employed a single case study design (Barkley, 2006; Eisenhardt & Graebner, 2007) using a thematic analysis methodology, the findings cannot be generalized to other cases of rural entrepreneurship, as the characteristics and context of each case may vary. Therefore, the findings cannot provide a comprehensive overview of the phenomenon; however, the results presented in this study can serve as a source of inspiration for best practices and can be adapted to specific spatial contexts, constraints, and opportunities.

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# Appendix

## Interview Guideline

Topic	Guiding Questions
Case of Study Context and Story	<ul style="list-style-type: none"><li>• Why was Agroparque Biosuroeste born and established in this place and how?</li><li>• What was the main motivation behind creating Agroparque Biosuroeste?</li><li>• What are the goals or objectives that want to be accomplished with Agroparque Biosuroeste?</li><li>• What is the mission and vision of Agroparque Biosuroeste?</li><li>• Who are the shareholders of Agroparque Biosuroeste?</li><li>• What activities are done here?</li></ul>
Rural Entrepreneurship	<ul style="list-style-type: none"><li>• What are the opportunities that rurality generates for entrepreneurs or new venture creation?</li><li>• What are the opportunities that the Cartama Region generates for entrepreneurs or new venture creation?</li><li>• What are the specific characteristics of this place that enables the activities that you are doing?</li><li>• What are the main challenges present in the spatial context where Agroparque Biosuroeste is located? Are these social, environmental, political, infrastructural, and economic?</li><li>• What has been done or what is the plan to overcome these challenges?</li><li>• Are there any of these challenges that were viewed as an obstacle in the beginning and are now seen as an opportunity or competitive advantage for business?</li><li>• What were the characteristics or conditions of the environmental state of the land and the region when the project started? What did you measure? What was considered critical?</li></ul>

	<p>What are the key aspects of the natural environment for business model activities?</p>
<p>Business Model</p>	<ul style="list-style-type: none"> <li>• What is the purpose of Agroparque Biosuroeste?</li> <li>• What do you want to produce in Agroparque Biosuroeste?</li> <li>• How is the business model designed to support sustainable development?</li> <li>• What are the key resources?</li> <li>• What are the key activities?</li> <li>• What are the key partnerships?</li> <li>• How do these partnerships enable the activities that you do?</li> <li>• What activities do you plan to develop in the future?</li> </ul>
<p>Sustainable Environmental Development</p>	<ul style="list-style-type: none"> <li>• How do your entrepreneurial practices impact the natural environment in Agroparque Biosuroeste?</li> <li>• What has been the impact on the natural environment beyond the Biosuroeste estate? How did this happen?</li> <li>• What are the benefits for stakeholders of the region from this environmental impact that is generated because of Agroparque Biosuroeste?</li> <li>• How are you taking care of natural resources to ensure the sustainable development of the region?</li> <li>• What are you sustaining or developing about the environment? How are you measuring this?</li> <li>• How important to you is to preserve the natural environment?</li> <li>• How do you do it?</li> <li>• How do your activities and efforts to preserve the natural environment go beyond Agroparque Biosuroeste?</li> <li>• What changes in the natural environment has Agroparque Biosuroeste caused? Is it better, worth or the same?</li> <li>• Tell us more about those changes, how did you achieve them, and how long did it take?</li> </ul>

	<ul style="list-style-type: none"><li>• What are your goals regarding the sustainable development of the environment in Agroparque Biosuroeste? How do you plan to achieve them?</li><li>• What would you consider the main benefits outside Agroparque Biosuroeste by choosing regenerative practices to create environmental impact?</li><li>• How do you measure that natural resources are not going to be reduced/impacted by your proposal to ensure sustainable development in the region?</li><li>• What are the main "instruments" (e.g., financial, political, cultural, etc.) needed to accelerate the transformation?</li></ul>
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