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RESEARCH ARTICLE

Commercial Innovation and Women

BUSINESS INNOVATION PROPOSAL TO ENSURE THE SUSTAINABILITY OF A RURAL WOMEN'S ASSOCIATION: THE CASE OF ASOMMUC

PROPUESTA DE INNOVACIÓN COMERCIAL PARA GARANTIZAR LA SOSTENIBILIDAD DE UNA ASOCIACIÓN DE MUJERES RURALES: EL CASO DE **ASOMMUC**

PROPOSTA DE INOVAÇÃO EMPRESARIAL PARA GARANTIR A SUSTENTABILIDADE DE UMA ASSOCIAÇÃO DE MULHERES RURAIS: O CASO DA ASOMMUC

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Abstract

This article aims to describe a commercial innovation proposal to guarantee the sustainability of a rural women's association - ASOMMUC - located in a rural area far from the main urban centers of southwestern Colombia. The methodology used is the Social Innovation Route of the PCIS (Parque Científico de Innovación Social) of the Corporación Universitaria Minuto de Dios, where a commercial innovation proposal was built together with the association to increase the sales of their products. This proposal was validated in the market with an MVP (Minimum Viable Product) installed in a commercial corridor belonging to a new gastronomic route in the region, to make direct sales, avoid intermediation, and support greater profitability in the association's sales. The MVP resulted in 67% higher income for similar sales experiences in the association. Finally, with the systematization of this experience, a conceptual model is proposed to dynamize the commercialization of products from rural associations, which can be scalable to other Latin American organizations, with the respective adjustments to their territorial contexts.

Keywords: trade; sustainable development; business innovation; rural women; community participation.

JEL: D71; F19; J16; O31; Q01.

Resumen

El objetivo de este artículo, es describir una propuesta de innovación comercial para garantizar la sostenibilidad de una asociación de mujeres rurales - ASOMMUC - localizada en una zona rural alejada de los principales centros urbanos del suroccidente de Colombia. La metodología empleada es la ruta de innovación social del PCIS (Parque Científico de Innovación Social de la Corporación Universitaria Minuto de Dios), donde se construyó junto a la asociación, una propuesta de innovación comercial para aumentar las ventas de sus productos. Esta propuesta fue validada en el mercado con un PMV (Producto Mínimo Viable) instalado en un corredor comercial perteneciente a una nueva ruta gastronómica de la región, con el fin de realizar ventas directas, evitar la intermediación y respaldar una mayor rentabilidad en las ventas de la asociación. El PMV resultó con ingresos superiores en un 67% respecto a experiencias de ventas similares en la asociación. Finalmente, con la sistematización de esta experiencia, se propone un

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modelo conceptual para dinamizar la comercialización de los productos de asociaciones rurales, el cual

puede ser escalable a otras organizaciones latinoamericanas, con los respectivos ajustes a sus propios

contextos territoriales.

Palabras clave: comercio; desarrollo sostenible; innovación comercial; mujer rural; participación

comunitaria.

JEL: D71; F19; J16; O31; Q01.

Resumo

O objetivo deste artigo é descrever uma proposta de inovação comercial para garantir a

sustentabilidade de uma associação de mulheres rurais - ASOMMUC - localizada em uma área

rural distante dos principais centros urbanos do sudoeste da Colômbia. A metodologia utilizada é

a rota de inovação social do PCIS (Parque Científico de Inovação Social da Corporação

Universitária Minuto de Dios), onde uma proposta de inovação comercial foi construída em

conjunto com a associação para aumentar as vendas de seus produtos. Essa proposta foi validada

no mercado com um PMV (Produto Mínimo Viável) instalada em um corredor comercial

pertencente a uma nova rota gastronômica da região, com o objetivo de realizar vendas diretas,

evitando a intermediação e apoiando uma maior rentabilidade nas vendas da associação. O PMV

resultou em um aumento de 67% na receita em comparação com experiências de vendas

semelhantes na associação. Por fim, com a sistematização dessa experiência, propõe-se um modelo

conceitual para dinamizar a comercialização dos produtos das associações rurais, que pode ser

escalável para outras organizações latino-americanas, com os respectivos ajustes aos seus próprios

contextos territoriais.

Palavras-chave: comércio; desenvolvimento sustentável; inovação empresarial; mulheres

rurais; participação comunitária.

JEL: D71; F19; J16; O31; Q01.

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Introduction

The countryside is key to Colombia's sustainable development, as according to MinAmbiente

(Ministry of Environment and Sustainable Development) and its Greenhouse Gas inventory, the main

generators of these substances are extensive livestock farming and the rampant deforestation facing the

nation (MinAmbiente, 2023). For this reason, collaborative research conducted with rural women's

associations engaged in sustainable production practices is vital to achieving results that maintain

agricultural productivity while protecting the environment.

Rural production with good organizational and environmental practices will only be meaningful

if small-scale farmers find viable ways to market their products and thus secure the economic results

that will allow them to operate in the long term.

The countryside requires innovation with a sustainable character, meaning that it should not only drive

economic progress but also have positive effects on communities, the environment, and future generations.

Furthermore, for this innovation to make sense to people, their territories, and their cultural contexts, it must be

co-created with the community Solutions imposed by researchers will not take root or have lasting significance

for rural associations. Similarly, the solutions expected by rural communities must be tested and quickly

deliver economic benefits, demonstrating a greater likelihood of success in the future.

Sustainability and Sustainable Development

Sustainability is the action of creating conditions under which life can continue on planet Earth.

Therefore, sustainable actions can only be evidenced when their consequences are beneficial to the

environment and result in long-term goals or products (Chen et al., 2024). Likewise, sustainable

development for a rural organization is the ability to meet its long-term economic objectives without

neglecting its social and environmental goals. Ultimately, achieving this triple bottom line is focused

on a greater goal: providing the conditions that allow life to continue for present and future generations

(Thiruchelve et al., 2024).

Empowerment of Rural Women

The feminization of agriculture is a reality. Public policies and social initiatives are being introduced to empower rural women, but many fail by disregarding the women's context and their territories. However, it is through associations that sustainable solutions can be built using collaborative methodologies for creating social innovation, which materializes in small, sustainable agro-industrial organizations over the long term. Success stories, such as that of the more than 80 women weavers of the TEXSAL community association in the Salinas region of Ecuador (Anchundía et al., 2017), demonstrate that solidarity economy organizations are successful in Latin America, especially when driven by profound changes in land distribution and access to formal, low-cost financial credits.

Las Rural women continue to face the challenge of inequality, and as a result, many have little or no participation in decision-making in rural development programs. This is where the support of academia, driven by empathy and an understanding of the rural context, positively impacts the following dimensions of rural women: personal, family, socio-cultural, and economic (Robinson et al., 2019).

Associative models with a gender focus that align with the socioeconomic context of the territories are key to empowering rural women (Díaz and Silva, 2019), helping to reduce acute problems such as child malnutrition and low incomes. Empowerment provides rural women with greater negotiating capacity, as well as more participation in household decision-making. The socioeconomic empowerment model with a gender focus has four phases: community diagnosis, community planning, support, and identification of best practices. Persistence is a key factor for success, as in the case of rural women's associations in the department of Santander in Colombia (Díaz and Silva, 2019), which have maintained more than sixteen years of uninterrupted community work.

Rural women are key actors in the stability of farming families (Cediel et al., 2017) and, therefore, are critical to achieving the Sustainable Development Goals (SDGs). Authors such as Alkire et al. (2013) consider that the five domains of empowerment for rural women are: production, resources, income, leadership, and time. Time is the most affected dimension due to the numerous responsibilities and the unequal distribution of household tasks.

In Lopes' (2016) doctoral thesis, the hypothesis tested is that the commitment of women's farming organizations to sustainable development initiatives, such as agroecological crops, goes beyond technological and environmental issues, truly forging social transformations and gender equity in the territories where they have worked. The main emphasis is on the importance of incorporating the gender category as a determining factor for democratization in the transition to more sustainable agricultural systems.

Trespalacios (2020) studied the logic of agricultural work in the Montes de María region of Colombia and found that productivity and environmental care are achieved by farmers, in general, using ancestral methods and from a solidarity economy perspective. However, the main obstacles to achieving this are poor rural roads and the lack of storage centers for products. Often, rural associations are unable to generate sufficient income, not because of limitations in their capabilities, but due to the precarious conditions of the roads, which hinder the transportation of their products to the final customer.

At times, rural women's empowerment is measured by land ownership and access to credit. However, the excessive unpaid household work also prevents them from engaging in productive work in the countryside, and they face high vulnerabilities due to a lack of social security (Ayala and Achinelli, 2021). These problems are sometimes exacerbated by public policies that are not discussed with rural women and do not align with their new roles and needs.

Rural and Community Innovation

The classical definition of innovation (Schumpeter, 1934) refers to an organization's ability to introduce new products or services to the market. This can be achieved through the development of original ideas, as well as the improvement of existing products, services, or processes. Innovation is not an end in itself but rather a means to increase productivity, and it is key to ensuring an organization's competitiveness. A global reference for innovation is the Oslo Manual, primarily authored by the OECD (Organization for Economic Cooperation and Development), which provides a broader definition of innovation, encompassing both technological and social innovations (OECD,

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2005). As Echevarría (2008) notes, innovations are also measured by their contribution to social,

ecological, cultural, and even legal values. Finally, the Oslo Manual proposes various dimensions of

innovation, such as product, process, marketing, and organizational innovation.

Social innovations in emerging markets, using available resources, should strive to create

shared benefits. It is essential to seize changes as opportunities to do something new, with the

indispensable support of a team that possesses a true cooperative mindset (Mishra, 2021). This type of

innovation follows these steps: 1. Empathize: identify the community's problems or pain points; 2.

Define: clearly articulate the problem; 3. Ideate: collaboratively generate different ideas to solve the

problem and define the best alternatives; 4. Review existing resources: and assess their alignment with

the community context; 5. Prototype: conduct a low-cost pilot project that allows for the commercial

validation of the solution.

The methodological approach to this process is one called PCIS (Participación Comunitaria

para la Innovación Social [Community Participation for Social Innovation]) (Lora and Rocha, 2016),

beginning with community recognition, a description of the territory and context, and the collective

formulation of solutions to transform the community's reality.

The PCIS program is recognized across Latin America (Calvo et al., 2018) as a catalyst for

social innovation in Colombia. This social innovation ecosystem is supported by applied research

aimed at transformation, along with the development of networks of local allies and international

partners, which lead to tangible results with long-term positive effects on the communities involved.

Innovation, from the perspective of a group of women entrepreneurs in a developing country

(Rhouse, 2019), can be seen in their ability and capacity to use machinery as well as in the

improvement of processes. The development of new products and the creation of a support network

that helps sustain the business's operation. In the context of innovation in rural products, for example,

the use of high-yield seed varieties (Akter et al., 2021) is leveraged by rural women to address hunger

issues and generate surplus sales, thus reducing poverty in rural families. The adoption of product

innovation opens new markets or at least expands the market share for small rural producers.

The traditional view of commercialization focuses on the processes and strategies to bring products to market and gain consumer acceptance. Authors such as Kotler et al. (2017) have developed these concepts, which cover aspects such as market segmentation, positioning, pricing strategy, and promotion.

The commercialization efforts of rural women's associations can lead to higher profit margins compared to individual sales, as both benefits and risks are equitably shared among the members. In the particular case of a rural women's association in India (Gnanamkonda et al., 2019), the main advantage for the members is that their products, soy, and corn, receive payments based on the quality of the product delivered, not on speculation by intermediaries. Additionally, supply chain times are reduced through the use of technological tools that identify optimal delivery locations. It is also important to mention that a key factor for the success of this type of commercialization is transparency for all parties involved.

The reality of the rural context is that a considerable part of its production is for subsistence, and in this regard, the ability of rural women to overcome these adverse circumstances through their entrepreneurial orientation is highlighted. In an African rural region (Mandongwe & Jaravaza, 2020), a positive statistical association was found between family context, education level, and age with an entrepreneurial profile based on a willingness to innovate and take risks. For example, in the rural context of Southeast Asia, women over the age of 35, are the ones who own greater entrepreneurial capabilities. This characterization promotes access to resources for women with a higher entrepreneurial attitude, thus enhancing the commercial capacities of the rural associations they are involved with.

Rural women possess leadership abilities that can foster autonomous work networks (Barrios et al., 2020), despite the lack of infrastructure, healthcare systems, and deep gender inequality in rural areas. Rural women's leadership must be supported by informal education that aligns with their context and needs. The leadership and resilience of rural women lead to extraordinary outcomes, such as the sustainable use of natural resources and adaptation to the local effects of climate change.

In Sweden, a country with high gender equity indices, the influence and leadership of women in

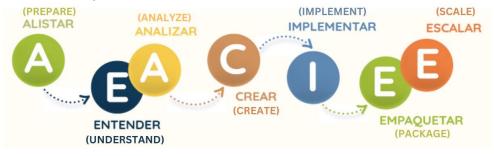
rural businesses are significant (Gashi, 2022). This influence is seen in businesses with various degrees of organizational maturity, ranging from informality to public management on governing boards. It is important to highlight that in the Swedish case and its equivalents around the world, family support and the prospect of a better quality of life compared to urban lifestyles are fundamental.

Methodology

This section presents the methodology used in the research aimed at developing a commercial innovation proposal to ensure the sustainability of the ASOMMUC Rural Women's Association, located in a rural area of Guadalajara de Buga. The methodology was designed to comprehensively address specific challenges and opportunities of this community, using a mixed approach that combines qualitative and quantitative techniques.

The research was structured following the Social Innovation Route of PCIS (Parque Científico de Innovación Social [Social Innovation Science Park]) of the Corporación Universitaria Minuto de Dios (Uniminuto), which encompasses everything from the initial team preparation to the implementation and scaling of the developed solutions. Through a deductive approach, the aim was to generate practical and applicable knowledge that contributes to improving sustainability and generating a positive economic impact on ASOMMUC. This chapter details each step of the methodology, including the techniques and instruments used, as well as the data collection and analysis process. Figure 1 shows Uniminuto's Social Innovation Route (Pacheco et al., 2022), which focuses on achieving co-created solutions with the community.

Figure 1
Social Innovation Route of the PCIS



Source: Pacheco et al. (2022).

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Phase 1 – Prepare: In this initial stage, the design team was prepared, and the necessary tasks

to navigate the stages of the Social Innovation Route were defined. This step included training the team

in social innovation methodologies, assigning roles and responsibilities, and detailed project planning.

Initial meetings were held with the women of ASOMMUC to establish clear expectations and

objectives (Londoño et al., 2019).

Phase 2 – Understand and Analyze: This phase focused on gaining a deep understanding of

the problem alongside the affected community. Interviews and focus groups were conducted to identify

the real needs, the stakeholders involved, and the specific contexts affecting ASOMMUC. Actor

mapping and problem analysis techniques were used to visualize and prioritize the challenges to be

addressed.

Phase 3 – Create: During this stage, a creative and innovative solution was developed to solve

the identified problem. Co-creation workshops were organized, where the women of ASOMMUC

actively participated in generating ideas and designing solutions. Using techniques such as

brainstorming and rapid prototyping, viable and sustainable proposals were defined, aligning with the

community's needs and capabilities.

Phase 4 – Implement: Once the solution was defined, the Minimal Viable Product (MVP) was

implemented. The value proposition of the MVP was selected, and its performance

was evaluated in a real environment. During this phase, the MVP was monitored and adjusted

according to the reactions and feedback from the participants, ensuring it met the previously identified

expectations and needs.

Phase 5 – Package and Scale: In this final stage, all the knowledge generated in the social

innovation process was structured and consolidated. Best practices and lessons learned were

documented, and a scalability plan was created to transfer the solution to a broader system. Additional

opportunities and resources were sought to ensure the sustainability of the innovation, and strategies

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were designed to replicate the model in other similar communities.

Type of Research: The research is exploratory and descriptive, focused on identifying

commercial innovation aspects that guarantee the sustainability of the ASOMMUC rural women's

association in Guadalajara de Buga.

Approach: A mixed qualitative and quantitative approach was used to obtain a comprehensive

understanding of the situation and assess the effectiveness of the commercial innovation process.

Method: The deductive method was used, starting from general theories and principles on

social innovation and sustainability to reach specific conclusions applied to ASOMMUC.

Techniques: The following techniques were applied:

Document Review: An exhaustive review of relevant documents on commercial innovation

and previous experiences in similar associations was conducted.

• Interviews: Semi-structured interviews were carried out with the 19 women of ASOMMUC.

to delve deeper into their experiences, perceptions, and suggestions regarding the commercial

innovation process.

• Instruments Used: Structured forms were utilized to collect quantitative data on the

sociodemographic characteristics of the participants and their perception of the innovation process.

• Semi-Structured Interview Guides: allowed for a detailed exploration of the women's

experiences and opinions on each phase of the innovation process.

Primary Sources: Data collected directly from interviews and forms applied to the 19 women

of ASOMMUC.

Secondary Sources: Information obtained from literature review, documents, and previous

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studies related to social innovation and sustainability in rural associations.

La The target population of the research was the 19 women associated with ASOMMUC. Given the small size of the population, a non-probabilistic convenience sampling technique was chosen, involving all members of the association.

To confirm the validity and reliability of the data collection instrument, a validation process through expert judgment was conducted. This process involved consultation with professionals and academics specialized in social innovation and rural development. The experts evaluated the relevance, clarity, and pertinence of the questions included in the forms and interview guides. Their recommendations allowed for adjustments and improvements to the instrument, ensuring that the questions were comprehensible and suitable for capturing the necessary information from the women of ASOMMUC. This methodological rigor contributed to strengthening the credibility of the results obtained and ensuring that the instrument was appropriate for the context and objectives of the research.

Results

Phase 1 – Prepare

En las In the initial meetings with the community, the project's scope was established: to build a

commercial innovation model that would allow them to increase their income and reduce intermediaries. The final product had to be co-created with the community, and Table 1 lists the aspects or components of the innovation that were identified together with the community and will be linked to the entire social innovation process.

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Table 1Expected Aspects of the MVP Commercialization Pilot

Aspect	Indicators
Identification of Target	Identified market segments (gastronomic routes, farmers'
Market	markets, digital platforms)
	Characteristics and preferences of each segment
	Specific quality and packaging requirements
Differentiated Value Proposition	Special attributes of the products (handcrafted production, quality ingredients, authentic flavors)
	Story and tradition behind the products
Attractive and Functional Packaging	Packaging design that reflects the quality and artisanal character
	Use of eco-friendly materials
	The balance between visual aesthetics and functionality
Distribution Strategy	Established partnerships with restaurants and farmers' markets
	Commercial agreements for consistent presence in
	distribution channels
	Use of digital platforms to reach a broader audience
Promotion and Marketing	Implemented promotion strategies (social media, blogs, gastronomic events)
	Storytelling behind the products

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> Participation in events and tastings to raise product awareness

Source: Prepared by the authors.

Phase 2 - Understanding and Analysis

Description of La Florida Village and ASOMMUC

According to the life plan of La Florida village developed by IMCA (Instituto Mayor Campesino), the village is

located about 45 kilometers from the urban center of Guadalajara de Buga. Although this is a short distance, due to the

unpaved road conditions, the journey can take up to three hours. The school is situated at an altitude of 2176 meters above

sea level and serves as the community meeting point. The climate is cold with an average temperature of 18°C, and it is

nestled in the Central Mountain Range. The village has a population of 128 people distributed across 38 families. The

primary source of income for the village is milk production and its derivatives, as well as the sale of fruits and vegetables

(Instituto Mayor Campesino [IMCA], 2019).

In the results from the book on family farming and productive backyards (Serna & Angarita, 2022), it

was highlighted that the association already had a product involving the transformation of fruits into jams,

pickles, sauces, and subidos (fruit preserves), using traditional ancestral recipes. The main innovation is the use

of local and traditional fruits, offering products that, in their packaging and differentiation, retain the ancestral

forms of market presentation. This also includes the existing food transformation facilities within the

association. The focus of this model is based on two fundamental aspects: the preservation of ancestral culinary

culture and the incorporation of modern techniques and flavors. The aim is to revalue and revitalize traditional

culinary practices by adapting them to current demands and trends.

This product innovation model, centered on transforming fruits into jams, pickles, sauces, and preserves,

contributes to the preservation of ancestral culinary culture by generating high-quality products with added

value.

Phase 3 - Create

Chronology of Support

On March 29, 2022, the first meeting with the rural women of ASOMMUC took place, where it

was discovered that the association was very close to closing down. This was because, for an extended

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period, they had not held assemblies and most of the activities were carried out by only two of the

founders. A support proposal was made, along with a diagnostic of the association's productive

capacities, including knowledge and equipment for the transformation of fruits and dairy products. A

meeting was proposed to formalize the work agreements.

On May 13, 2022, the assembly was held, where new women from the area were incorporated

as members, work committees were established, and participatory methodologies were initiated to

identify the main problems faced by the community and collaboratively develop a solution.

On November 9, 2022, a social innovation workshop was held, where it was determined that

the association's main need was to conduct direct sales. Up to that point, sales had been limited to the

Sunday farmer's market, which had transportation subsidized by the local government.

On December 4, 2022, the MVP was conducted, and on December 8, the official delivery of the

invoiced money from the pilot project was made, along with feedback from the association on the

experience.

On April 24, 2023, a new assembly was held, renewing the board of directors and work

committees, as well as involving a team of agro-industrial engineers with the aim of improving food

processing practices.

Phase 4 - Implement

MVP Pilot Commercialization: Countryside and Life

Sales of these products should be concrete and not conducted in a location that is open every

day. For example, sales could be developed during a Sunday morning or through a fixed weekly

delivery to a client who values field-sourced food. For this reason, the co-creation work needs to be

tested, and in this case, the methodology for execution is the Uniminuto Social Innovation Route

through a Minimal Viable Product (MVP), a commercialization pilot project, which was located in a

gastronomic route. This is an alternative to the traditional sales methods of the association in public

market plazas and farmer's markets offered by the municipal government.

The rural women's association ASOMMUC was supported by researchers throughout the ideation process, in the planning of the MVP, its prior promotion, as well as in the testing and implementation. Ultimately, this work aims to provide a model for the commercialization of products from rural women's associations located in remote areas, which, with adjustments tailored to their realities, can be replicated in various rural contexts in Latin America.

On November 9, 2022, the commercialization pilot project was carried out as a direct sales stand in a new urban gastronomic route, which did not have a fixed location for selling desserts or pickles. Prior visits were made to local restaurants, and the sales stand was promoted through social media. Sales reached 200 USD, which is higher than the average sales of 120 USD at the farmer's market. Thus, the MVP achieved 67% more revenue compared to traditional sales. On December 8, 2022, the official delivery of the 200 USD in pilot project sales to the association members was made, and feedback was received from the community regarding the MVP experience.

Phase 5 - Package and Scale

Conceptual Model of Commercial Innovation for the Sustainability of Rural Associations

As a result of the support experience with ASOMMUC through the Social Innovation Route, a conceptual model for the sustainability of organizations of this nature is proposed. Figure 2 shows the inputs of the model, which are first and foremost rural associativity, which is key to co-creating social innovation solutions. The formalization of these associations facilitates access to resources and negotiations with various stakeholders. Additionally, these local efforts for sustainable development must be harmonized with the Sustainable Development Goals (SDGs) to maintain coherence with public policies and regional goals. In this case, contributions to sustainable development correspond to gender equality (SDG 5), decent work and economic growth (SDG 8), as well as the reduction of inequalities (SDG 10). Finally, another input to the model is rural capacities: land, crops, and knowledge.

The main constraints faced by ASOMMUC are poor road conditions, a shortage of labor, and inadequate production scheduling. These issues can be considered generic for Latin America, and there is little that rural areas can do about the first two, as they depend heavily on state policies and concrete actions for competitiveness

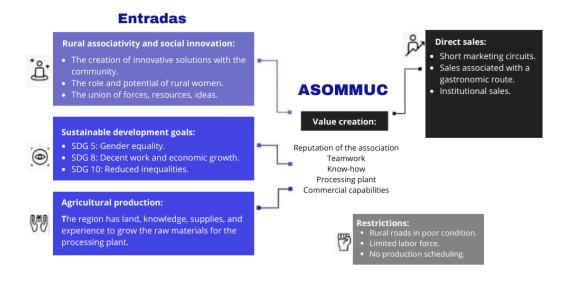
and revitalization of the countryside. Regarding production scheduling, associativity is key to agreeing on crop planning and utilization.

Figure 2 shows that at the center of the model is the creation of value for the association and its clients. With the sales made and the commercial connections strengthened by the reputation gained through teamwork, know-how, and order fulfillment, the value created by the association can also be generated by leveraging its own food processing plant, using ancestral recipes and practices, and clean rural production ingredients.

The only output of the model that generated the most anticipation in the participatory innovation methodologies was direct sales. The association's products should go directly to the end customer through short marketing circuits, which in turn have a smaller carbon footprint. The sales proven through new gastronomic routes in the urban area and institutional sales—i.e., sales to schools, universities, and companies interested in natural and ancestral products—are key.

Figure 2

Commercial Innovation Model for Value Creation in Rural Associations



Source: prepared by the authors.

Discussion

The results of the evaluation of the commercial innovation process at ASOMMUC show a widespread perception of success and satisfaction among the participants. The preparation phase was positively rated, with 85% of the women describing it as clear and organized, and 15% as very clear and organized. The understanding and analysis stage was considered very effective by 87% and effective by 13%. The co-creation workshops also received high ratings, with 82% of participants finding them very useful and 18% finding them useful, suggesting that the initial phases of the process were well-received and considered effective in generating innovative ideas.

Regarding the implementation and evaluation of the Minimal Viable Product (MVP), the results are equally positive. Seventy-five percent of the women found the experience with the MVP very satisfactory, and 25% found it satisfactory. The value proposition of the MVP was seen as very appropriate by 92% and appropriate by 8%, while the MVP's performance in a real-world setting was rated as very effective by 90% and effective by 10%. Most also considered that the structuring and consolidation of the generated knowledge were very adequate (87%) and

adequate (13%). Additionally, 70% feel very prepared, and 30% feel prepared to transfer the solution to a broader system. In terms of impact, 88% reported a very positive effect on their economic activity, and 85% believe that the innovation has significantly improved ASOMMUC's sustainability. These results indicate strong acceptance and confidence in the commercial innovation process, highlighting specific areas for improvement for future efforts.

This work demonstrates the results of a social innovation project using the PCIS social innovation methodology: prepare, understand-analyze, create, implement, package, and scale. It encompasses concepts of co-creation, the utilization of rural production, the particular context of poor access roads, and a new gastronomic route that allows the association to make direct sales of its products. The support and mobilization of ASOMMUC in this project illustrate the value of the members with over fifteen years of work experience, with consolidated products but lacking direct sales channels. The foundation of these results lies in revitalizing the assembly and involving new members.

The pilot project demonstrated that the rural association's pricing perception was mistaken, as

the urban market can afford higher selling prices than initially considered by ASOMMUC.

A sustainable development model for Latin America must be applied to its specific contexts

and built with the community (Ruiz & Iglesias, 2023). The role of technology is also crucial for

accelerating commercial results. For instance, women with access to mobile phones in rural contexts

use these devices to enhance their product marketing, a benefit further amplified by networking with

business contacts and established reputations (Franciskovic, 2023). Therefore, a new line of research

opens up regarding applying technology to future MVPs to boost their results and scaling processes. In

this case, the rural association has a gender focus; however, the gender perspective exacerbates

women's disadvantages (Voola & Voola, 2021) in scenarios where women are not empowered and lack

associations that enable them to negotiate from a stronger position in their territories.

Rural innovations in a patriarchal context are typically associated with small scale and the

adoption of new technologies, which aligns with the Colombian rural context of isolated communities

due to poor tertiary roads and a low young population. The innovative capacity of rural women should

be stimulated, as they show greater willingness for peer learning and production diversification

(Kawarazuka & Prain, 2019). Focusing public innovation policies in the countryside on rural women's

associations makes more sense for poverty reduction, given the role of rural women as economic

catalysts for families and their direct influence on future generations. Financial education,

contextualized with rural realities and female empowerment, has a positive effect on effective poverty

reduction (Shalini & Sudha, 2019).

The traditional solution of community fairs for rural women (Campo, 2021) is a planned

process to address problems related to the low incomes of rural producers, facilitate the exchange

between producers and consumers, and improve profit margins, as there are no distributors involved.

However, many of these initiatives are located in areas where it is difficult to achieve recurring sales,

which is why the MVP was placed in a gastronomic route that easily allows for periodic sales of

products.

An alternative solution for marketing agricultural products from a region with processed foods is sustainable agricultural intensification (Haggar & Rodenburg, 2021), which seeks economic benefits for the region by directly addressing inequity causes and enhancing environmental conservation practices through access to knowledge and open dialogue with various stakeholders. However, without addressing road issues and increasing the young population in rural areas, the proposal becomes economically unviable due to potential order delays in winter, high transportation costs, and a lack of personnel during crucial harvest periods.

Finally, rural cooperative projects should not only offer economic benefits. For example, in a project for manufacturing and selling solar stoves in Mexico, processes of participation, change, power accumulation, increased productive time, solidarity, and relationships with other women have been strengthened, along with new gender relationships, job creation, access to low-cost formal credit, and overall collective empowerment (Botica, 2015).

Conclusions

El The development of this work achieved a commercialization pilot that will validate the hypotheses proposed with the community to find income alternatives, aligning with their life plan and awareness of sustainable development in their territory. In the final stage of the packaging and scaling methodology, a commercial innovation model for rural communities in conditions similar to ASOMMUC is proposed. This model must, of course, be adjusted to the context of each territory, culture, and social reality.

Las Rural women's associations are crucial for projects seeking concrete results in sustainable rural development due to their greater execution and negotiation power. This project contributed to a commercial innovation that will enable ASOMMUC to ensure its sustainability through direct sales, thus achieving higher profitability in its business.

Participatory methodologies allowed the association to discover the innovation factor in their products, the revaluation of traditional culinary practices, and their adaptation to current demands and trends.

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Business innovation proposal to ensure the sustainability of a rural women's association: the case of ASOMMUC María Eugenia Londoño Escobar; José Daniel Ballén Briceño; Sigifredo Serna Ospina

Finally, it is necessary to continue research work with a rural focus and carry out the

prototyping of new solutions for the sustainability of community organizations. Resources should be

concentrated on those solutions that achieve commercial validation. Likewise, associations must be

strengthened through engineering and technological proposals that are applicable in the countryside

and accelerate the expected benefits for rural women.

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who, with their resilience and courage, demonstrate that sustainable development of the Colombian

countryside is indeed possible.

Ethical Considerations

This study did not require approval from an Ethics or Bioethics Committee, as no living

resources, agents, biological samples, or personal data that could pose a risk to life, the environment, or

human rights were used.

Conflict of Interest

All authors made significant contributions to the document and declare that there is no conflict

of interest related to this article.

Author Contributions

María Eugenia Londoño Escobar: Conceptualization, Research, and Supervision.

José Daniel Ballén Briceño: Research, Methodology, Writing and Editing.

Sigifredo Serna Ospina: Project Administration, Resources, Validation, and Writing.

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