

Article

Strengthening Production Systems in Social Organizations: Application of IRA Principles and the WWP Model in the Tejemujeres Cooperative

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Abstract

The overall objective of the study was to propose the application of the IRA principles and the WWP model in the Tejemujeres Cooperative, with the aim of strengthening its production and management system without compromising its social identity. To this end, a mixed descriptive and explanatory methodology was used. Surveys were conducted among the organization's 110 members, and focus groups were conducted with internal and external stakeholders, in addition to a review of documents and bibliographic sources. This revealed structural limitations in the production system, such as a shortage of raw materials, low innovation, marketing difficulties, and limited technical training. However, the perception of economic sustainability remained positive, thanks to the social and cultural cohesion of the cooperative. Likewise, most of the members expressed openness to incorporating IRA principles and the WWP model, highlighting training, active participation in decision-making, strengthening internal governance, and creating commercial networks as priorities. In conclusion, it was determined that Tejemujeres' main strength lies in its community identity and human capital, rather than in traditional economic indicators. The proposed theoretical frameworks were found to be relevant and adaptable to the context of the organization. Finally, a hybrid strategy is proposed that combines the participatory flexibility of the WWP model with the methodological rigor of the IRA principles, which will enable the cooperative to consolidate an innovative, sustainable, and culturally legitimate production system.



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1. Introduction

Strengthening production systems in social organizations represents a crucial, yet structural, challenge in rural development efforts, due to a consistent dilemma between productive efficiency and the community values that guide their collective work, which limits their capacity to promote viable economic processes without abandoning their principles of solidarity and participation [1]. Given these tensions, add that consolidating productive strategies in these areas requires understanding that economic activity is intertwined with local identities and social relations that influence daily management; otherwise, a direct

impact on sustainability and the capacity to generate economic and social value persists [2]. Similarly, Hennchen and Schäfer [3] agree that the absence of productive adaptability measures, such as internal cohesion and inclusiveness, limits development and success based on more sustainable systems.

In this regard, studies such as that by Jiménez et al. [4] highlight that organizational strengthening or productive sustainability requires the integration of key instruments that promote a balance between efficiency, equity, and participation. However, as another limitation, Jiménez et al. [5] demonstrated that a lack of management capacities, clear governance mechanisms, or articulated planning processes negatively impacts the production system, limiting its integration into broader value chains and hindering more resilient rural development. Thus, the Principles for Responsible Investment in Agriculture (RIA) have emerged as a benchmark for investing in more inclusive and environmentally sustainable actions, prioritizing respect for the rights of rural communities. It is evident that, in rural areas of Peru, their integration has led to stronger organizational resilience and concrete collaboration among local, public, and private actors [4].

While the Working With People (WWP) model has become established as a perspective focused on integrating local and technical knowledge for the design of collaborative processes [6], its focus on ethical, methodological, and technical dimensions has proven useful in boosting management capacities, energizing participation, and generating contextualized solutions to production challenges in rural communities [7].

Thus, the integration of both models, IRA and WWP, contributes to a more robust analysis and management of social organizations, guiding them to generate added value and consolidate more efficient productive structures [6]. Furthermore, Regalado et al. [7] highlighted that cooperative systems with a high level of application of both models exhibit greater levels of stability and sustainable development compared to those that still maintain traditional models. Likewise, Jiménez [8] affirms that this integration promoted an improvement in the sustainability and resilience of rural cooperatives in Andean contexts, strengthening their internal governance and increasing their productive capacity without compromising their community values, thereby fostering sustainable rural development.

Given the above, this paper examines how both models can contribute to understanding and strengthening production systems in social organizations, as well as their challenges and opportunities. Therefore, the Tejemujeres Cooperative, an organization made up of women artisans dedicated to weaving and solidarity microcredit mechanisms, is considered as a case study, operating within a logical community context. This constitutes a key space for analyzing, from a real-world environment, how the IRA and WWP approaches can be jointly operationalized in production processes linked to dynamics of mutual aid, time availability, and community participation, where they clearly seek to achieve a balance between efficiency and community. Based on the above, this article has the general objective of analyzing the integration of the IRA principles and the WWP model as an operational framework to strengthen production systems and the internal management of social organizations. To achieve this, three specific objectives are proposed: (a) to describe the structural and organizational limitations of the production system in the Tejemujeres Cooperative in relation to sustainable production systems; (b) to identify the elements of the IRA principles and the WWP model that are relevant for their application in the reality of the cooperative; (c) to propose an integrated IRA-WWP model for the productive strengthening of the Tejemujeres Cooperative without compromising its social identity. Consequently, the study is oriented towards answering the following question: how can the integrated application of the IRA principles and the WWP model contribute to strengthening the production system and the management of a social organization without compromising its community identity?

Development

This model is based on the premise that collective action generates a flow of formal and informal knowledge, which, when exchanged, allows for the creation of more sustainable and prosperous rural areas. Therefore, models are needed that integrate the knowledge generated in social learning processes [1], emphasizing practical action, experience, the quality of social interaction and communication, from decision-making structures and the relationships between stakeholders, considering the input of external knowledge as a fundamental element for improving decision-making [9].

According to Mur et al. [10], it is a collaborative methodology oriented towards participatory management in sustainable development projects. It is based on co-responsibility, active participation, and the inclusion of diverse actors in decision-making, promoting the strengthening of local capacities and effective governance in social organizations such as the Tejemujeres Cooperative. Its application allows for the articulation of interdisciplinary knowledge, fosters equity, and guarantees long-term impacts in productive communities.

The WWP model emerged from studies on rural development and participatory project management with the aim of improving the relationship between communities, institutions, and productive sectors through active cooperation processes. Its application has been key in social impact, education, and governance projects, demonstrating its flexibility and effectiveness in different contexts [11]. Thus, Figure 1 describes the model as a constant interaction between organizations and individuals for the co-creation of solutions adapted to each context, always prioritizing four fundamental axes:

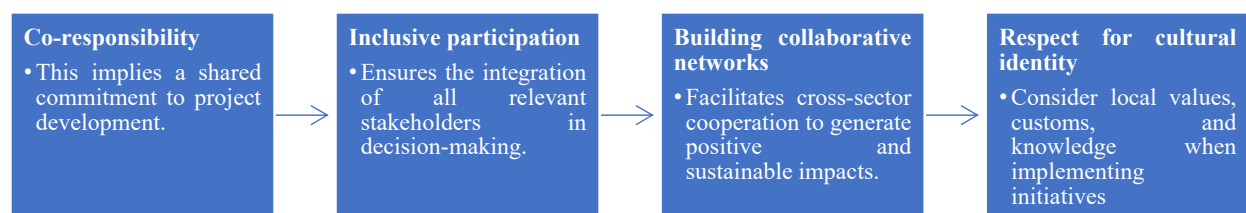


Figure 1. Key aspects of the WWP model. Note Jiménez et al. [5].

Furthermore, Vásquez [12] describes the principles of this model as fundamental to ensuring its effectiveness in any social and productive environment, where commitment implies shared responsibility among all project participants, promoting co-responsibility in decision-making and action execution. Transparency guarantees accessible communication throughout all implementation phases, allowing information to flow clearly and promptly.

Inclusion fosters equity in participation and decision-making, ensuring that all stakeholders have a voice in the process. Empowerment, for its part, focuses on developing capacities that allow those involved to achieve greater autonomy and leadership in project management. Finally, social innovation drives the creation of solutions tailored to local needs, promoting sustainable development and resilience in communities [12]. The implementation of the WWP model promotes the optimization of the production system through an efficient organizational structure, fostering equity in decision-making and strengthening community networks. Furthermore, it facilitates the adoption of innovative strategies for sustainable growth aligned with the principles of social responsibility, inclusive development, and, above all, based on its four components [13].

These principles were developed to ensure that investments in the agricultural sector contribute to sustainable development, respecting the rights of rural communities, promoting food security, and protecting natural resources [4]. These principles were established by the United Nations Conference on Trade and Development (UNCTAD), the Organization for Economic Co-operation and Development (OECD), the Food and Agriculture Organiza-

tion of the United Nations (FAO), and the World Bank, to guide governments, investors, and agricultural stakeholders in making decisions that promote equitable and sustainable growth, as shown in Figure 2.

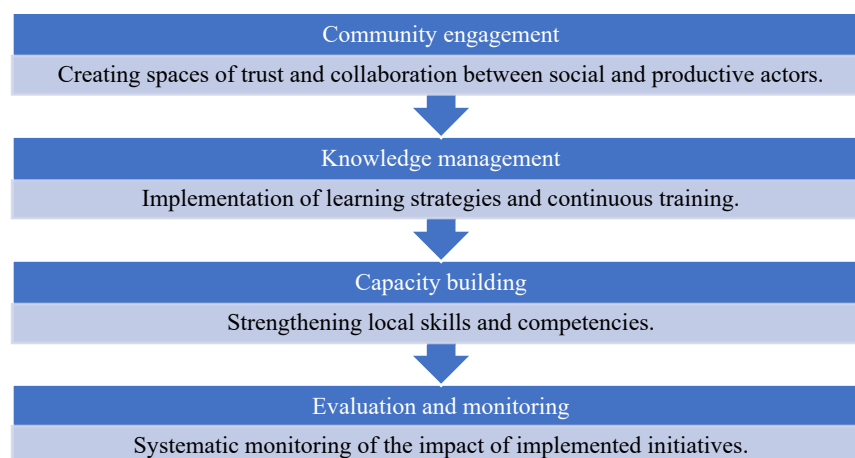


Figure 2. Components of the WWP model. Note. Adapted from Inquilla et al. [13].

The IRA principles are based on ten fundamental pillars, including respect for land tenure rights, strengthening food security, promoting sustainable agricultural practices, and generating economic and social benefits for the communities involved [14]. Furthermore, they seek to ensure that investments in agriculture are inclusive, transparent, and respectful of labor rights, fostering the participation of small-scale producers, women, and Indigenous communities in agricultural development. This allows for an equitable distribution of benefits and prevents forced displacement or the exploitation of natural resources without regard for the well-being of local populations.

2. Materials and Methods

The study was developed using a non-experimental, cross-sectional, and descriptive-explanatory design, based on a mixed-methods approach. This approach was deemed appropriate due to the need to understand the relevance of integrating the principles of Responsible Investment in Agriculture (RIA) and the Working with People (WWP) model as tools for strengthening the production system of the Tejemujeres Cooperative.

This social entity was selected for three reasons that make it a representative case of the general problem: (1) more than 14 years of consolidated organizational history under a horizontal structure and a solidarity economy approach, typical characteristics of rural social organizations in Latin America; (2) its intensive production activity based on artisanal labor, which reflects tensions between productivity, cultural identity, and sustainability, widely discussed in the literature on rural development, as described by Hennchen and Schäfer [3]; Finally, (3) availability of systematized institutional information to triangulate evidence according to IRA and WWP approaches [4,5]. Therefore, the case is not only an empirical unit, but also a suitable laboratory to operationalize the IRA principles and the dimensions of the WWP model in a real community context.

The study population consisted of the 110 active female members of the cooperative, all artisans dedicated to hand weaving and complementary activities. They varied in age, production experience, level of education, and degree of participation in the different internal committees, but were united by a common practice: artisanal production as a means of livelihood, a source of cultural identity, and a mechanism for a solidarity economy.

For this purpose, a non-probabilistic census sampling method was used, given the importance of the participation of all members for the quantitative component,

while for the qualitative component, a small group of participants were selected using purposive sampling.

2.1. Techniques and Instruments

It was operationalized through three complementary components: a quantitative approach based on a survey, a qualitative approach developed through a focus group, and a documentary approach focused on the analysis of relevant information about the management of the cooperative.

2.2. Survey

The study involved administering a structured questionnaire to the 110 members, providing census data on key dimensions such as productive sustainability, internal governance, valuation of artisanal work, perception of the limitations of the current system, and preliminary knowledge of the IRA principles and the WWP model. The questionnaire included closed-ended questions, five-point Likert scales, and prioritization items, developed from the categories proposed by the IRA principles: participation, livelihoods, inclusion, and sustainability; and the dimensions of the WWP model: social interaction, capabilities, shared vision, and knowledge management. Before its final implementation, the instrument underwent expert validation and a subsequent pilot test with 12 members, allowing for adjustments to wording, cultural relevance, and conceptual clarity. The reliability of the scales was assessed using Cronbach's alpha, yielding values between 0.78 and 0.84 for the composite dimensions, which are adequate to ensure internal consistency.

Its processing and analysis were carried out using SPSS V.13 software, applying descriptive statistics, Chi-square tests, association analysis, and a K-Means cluster model to identify differentiated profiles around the implementation of the IRA–WWP model

2.3. Focus Group

The study was conducted through a focus group with 10 participants selected for their strategic roles within and outside the cooperative: artisan members, production and finance leaders, members of the Supervisory Board, designers involved in product development, and allied institutional stakeholders. This allowed for a deeper understanding of perceptions regarding the actual functioning of the production system, daily challenges, organizational sustainability, and the possibilities of integrating IRA principles and the WWP approach without compromising the organization's cultural identity.

The study was conducted in person, with audio recording and a written report, over two hours. The participants were asked guiding questions about a description of the current production system, operational and organizational challenges, economic sustainability, material and governance limitations, prior knowledge of IRA/PIRA, principles already present in daily practice, areas susceptible to improvement through IRA–WWP, external support needed for implementation, and cultural strategies for harmonizing changes without affecting community identity. Therefore, to ensure the analytical consistency of the qualitative process, the focus group transcripts were reviewed iteratively, identifying recurring units of meaning that were subsequently grouped into analytical categories. Open coding enabled the identification of expressions linked to production limitations, organizational dynamics, and perceptions of sustainability. Subsequently, through axial coding, these categories were articulated into thematic axes related to governance, innovation, social cohesion, and productive projection. Finally, selective coding allowed for the integration of these axes into interpretive patterns consistent with the IRA principles and the WWP model, ensuring that the findings did not reflect isolated observations, but rather systematic recurrences in the participants' discourse.

2.4. Documental Analysis

The third component consisted of a comprehensive documentary analysis of the cooperative's main management and planning instruments: the Tejemujeres Final Report, the IEPS-Cuenca Production Process, the 2022–2030 Strategic Plan, and the 2024 Business Plan. These documents allowed for the reconstruction of the actual production flow, the identification of assigned roles, delivery times, quality control criteria, the marketing structure, support networks, and internal governance and sustainability challenges. The documentary analysis served as the basis for comparing quantitative and qualitative findings and for establishing alignment with the strategic dimensions of the IRA principles and the WWP model.

3. Results

3.1. Analysis of the Tejemujeres Cooperative's Production System

The Tejemujeres Women Artisans Cooperative is a leading example of a social and productive organization in Gualaceo. Its production system is based on artisanal weaving as both an economic activity and a cultural practice. Previous studies demonstrate that the cooperative's productive structure relies more on social and organizational dynamics than on strictly profitable indicators, highlighting strengths such as teamwork, communication, and ethical values, along with persistent weaknesses in leadership, planning, and digital skills. The results of a survey of 110 members show that membership growth (29.4%) coexists with a complete absence of young people under 25, confirming a generational shift issue. Participation remains concentrated in production (92%), while only 18% hold leadership roles. Time commitment is also limited by domestic responsibilities, as two-thirds of the members dedicate between 1 and 20 h per week to the cooperative.

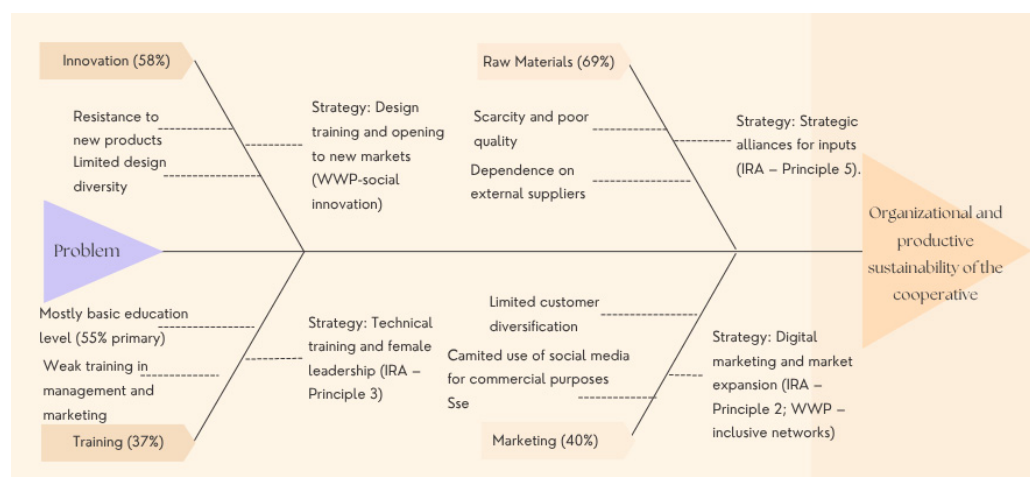
This quantitative overview is complemented by focus groups, which identified perceptions that explain the structural limitations. Members indicated that low incomes discourage the incorporation of young people, and internal leaders mentioned resistance to innovation. External stakeholders added that limited infrastructure and a lack of productive diversification reduce growth capacity. Taken together, these elements show that the production system faces tensions that combine gender, age, organizational capacities, and market conditions.

Table 1 summarizes information from the survey, focus groups, and interviews with external stakeholders, integrating these three sources into an intersectional matrix focused on age, productive roles, management, time commitment, and main perceived strengths and weaknesses. This integration allows us to understand how social and organizational variables influence internal participation. Different profiles emerge between older women, middle-aged women, and a complete absence of young people. The former has the greatest tenure and experience but exhibit lower digital literacy and greater resistance to innovation. The second group simultaneously combines artisanal work with external activities, showing a greater willingness to seek training, although with family responsibilities. The absent group, comprised of those under 25, represents an untapped potential due to unattractive income and a lack of visibility of artisanal work as an economic opportunity. This implies that the future sustainability of the cooperative requires a generational succession strategy, as well as a redistribution of workloads and an expansion of leadership opportunities—elements consistent with IRA principles such as inclusion, recognition, and autonomy, and with WWP's focus on capacity building and governance.

Table 1. Intersectional matrix on age, generation, role, time, strengths and weaknesses.

Group	Productive Rol	Management/Leadership	Time Spent	Strengths	Weaknesses/Challenges
60% = Older women (40–55 years old)	Artisanal production (high concentration)	Low participation in leadership ($\leq 10\%$)	1–15 h per week	Experience and cultural cohesion, permanence (48% with more than 6 years in the cooperative)	Resistance to innovation, low digital literacy, physical fatigue; perception that the textile industry is more heritage than business.
40% = Middle-aged women (26–39 years old)	Handicraft production + external activities	Average management (30%)	10–20 h per week	Greater flexibility, use of social media (WhatsApp, Facebook), and willingness to train	Overburdened by dual roles (home + cooperative), limited income; they express distrust in opening new markets.
0% = Young people (<25 years)	Unrepresented	N/A	N/A	Potential for renewal and digitization if they were to enter	Current non-existence: low attraction due to lack of income and appreciation of artisanal work, as noted by members of the supervisory board.

Figure 3 summarizes the main factors limiting the productive sustainability of the Tejemujeres Cooperative and the proposed strengthening strategies. The survey identified that 69% of members report a shortage of raw materials, 58% a lack of innovation, 40% marketing problems, and 37% insufficient training. Despite these limitations, 88% positively evaluate the cooperative’s economic sustainability, reflecting organizational resilience based on internal cohesion, member retention, and the cultural value placed on artisanal work. The qualitative analysis of the focus groups provides further insight. One member noted that “the poor quality of raw materials makes work slow and even demotivating,” while a finance leader acknowledged that “there is a lack of confidence in developing new products.”

**Figure 3.** Key aspects of the WWP model.

External stakeholders, in turn, highlighted the need to “be open to innovation and secure strategic alliances” and to “strengthen training in management and digital marketing.” These perceptions align with the survey results, which show interest in improving innovation and diversification (88%), collaborative work (79%), and digital marketing (76%).

Thus, the diagram not only organizes the production constraints but also connects their impacts with the improvement strategies suggested within the framework of the IRA principles and the WWP model, aimed at ensuring access to inputs, strengthening capacity building, diversifying markets, and fostering inclusive governance.

3.2. Relationship Between the Limitations of the Production System and Sustainability

Table 2 shows that the chi-square tests for each limitation did not reveal a statistically significant association with the perception of sustainability, as the significance values (p -values) were greater than 0.05. Since several tables had cells with expected frequencies of five or fewer, these results should be interpreted with caution and only as a descriptive trend. The lack of significant associations suggests that perceived sustainability does not depend on a single factor, but rather on the interaction of multiple social and organizational dynamics within the cooperative.

Table 2. Chi-square test between limitations and sustainability.

Limitation	Chi-Square	Gl	p -Value	Exact Test
Lack of access to raw materials	4.568	4	0.335	ns
Low training	2.242	4	0.691	ns
Marketing difficulties	3.622	4	0.460	ns
Lack of innovation	5.178	4	0.270	ns
Financial management problems	0.670	4	0.955	ns
Communication/internal rules	0.993	4	0.911	ns

Note: All tests showed p -values > 0.05 ; furthermore, several tables showed more than 50% of cells with expected frequencies < 5 , so these results should be interpreted with caution. “ns” = not significant. Data were generated from the analysis using SPSS V.13 statistical software. Prepared by the author.

The qualitative analysis of the focus groups provides greater depth, reflected in expressions such as: “Here we all support each other, even though things are lacking, we always find a way to move forward,” or “we know we need to improve, but without losing who we are as artisans,” which demonstrates a favorable disposition toward improvement processes as long as they respect the collective identity and traditional forms of organization.

In this context, it is essential to note that the limitations associated with marketing and access to raw materials do not operate in isolation, nor do they have homogeneous effects on the cooperative’s sustainability. On the contrary, the qualitative findings show that these difficulties are partially mitigated by internal dynamics of mutual aid, cooperation, and collective organization. The members resort to informal support mechanisms, such as the exchange of supplies, the redistribution of workloads, or solidarity-based coordination during periods of lower production, which lessens the negative impact of structural constraints. This collaborative logic explains why, despite acknowledging persistent problems in innovation and marketing, the overall perception of sustainability remains relatively high. In this sense, social cohesion not only fulfills a cultural function but also acts as an operational factor that sustains the productive system in the face of adverse conditions, although it can also become a limitation if it replaces necessary modernization processes.

This finding is complemented by the results of the focus group, where members differentiated between everyday difficulties and overall sustainability. Low-quality inputs or a lack of trust in innovation affects processes, but do not necessarily alter the general perception of collective stability. This reinforces the importance of integrating both sources to interpret the production system.

The convergence between quantitative results and qualitative narratives allows us to affirm that the identified patterns do not respond to isolated perceptions, but to a collective construction of the meaning of sustainability, in which cooperation, cultural identity, and shared experience act as structuring axes of the productive system.

3.3. Non-Hierarchical Cluster Analysis (K-Means) on Perceptions of the Implementation of the IRA-WWP Model

Cluster analysis was conducted to identify distinct patterns in how members understand and value the implementation of the IRA principles and the WWP model. A K-Means procedure was applied, with the number of clusters set at three. This decision was based on the criteria of substantive interpretability and a preliminary review of the model with $k = 2$ and $k = 4$, where the resulting structure showed less conceptual stability. The choice of $k = 3$ allowed coherent and comparable profiles, and the initial centroids showed sufficient distance to avoid overlapping. The variables used came from Likert-type scales with the same response range, so no additional standardization was applied. Even so, the exploratory nature of the exercise is acknowledged, especially considering the sample size ($N = 110$) and the type of variables used.

The consolidated results show the formation of three distinct profiles. The first cluster comprises 41 members who reported low familiarity with the IRA-WWP principles, but have a strong focus on internal participation, community work, and daily cooperation. The second cluster, made up of 25 participants, is characterized by a moderately greater understanding of both models and a stronger emphasis on training, professionalizing artisanal work, and organizational improvement. The third cluster includes 44 members who, despite reporting limited initial familiarity, express a high value for technical training and opportunities to connect with external markets.

Although the procedure did not incorporate sociodemographic variables into the clustering algorithm, comparing these profiles with the patterns recorded in the previously presented intersectional matrix allows for a more nuanced interpretation. The groups with greater openness to innovation, diversification, and commercial engagement tend to coincide with middle-aged artisans and those with more dynamic ties to management. Meanwhile, more conservative perceptions are more frequently observed among members with longer tenures within the organization.

Overall, the results suggest that the implementation of IRA-WWP does not depend on a single line of action, but rather is shaped by internal differences in knowledge, expectations, and levels of participation. Training emerges as the unifying element among the three profiles, while governance and productive sustainability require differentiated strategies that acknowledge the cooperative's internal heterogeneity and avoid homogeneous solutions that could reinforce existing gaps.

The differentiation of profiles obtained through cluster analysis reveals that resistance to or openness toward IRA-WWP principles is not solely determined by levels of knowledge, but also by organizational trajectories and accumulated experiences within the cooperative. While some groups value the stability and continuity of traditional practices, others see training and market access as opportunities for strengthening. This coexistence of perspectives explains why change processes require gradual strategies that acknowledge internal differences and avoid homogeneous approaches that could exacerbate existing tensions, as shown in Table 3.

Table 3. Final cluster centers and number of cases in each cluster.

	Cluster		
	1	2	3
Are you familiar with the IRA principles and the WWP model?	1.24	2.20	1.00
Promoting active participation of all members	0.90	0.48	0.57
Implementing best practices in sustainable production	0.54	0.20	0.05

Table 3. *Cont.*

	Cluster		
	1	2	3
Strengthening connections with the market and consumers	0.34	0.36	0.45
Training and developing new skills	0.07	0.88	0.93
Strengthening internal governance	0.15	0.20	0.16
Number of cases	41	25	44

Note: Data was generated from analysis using SPSS V.13 statistical software. Prepared by the author.

3.4. Triangulation of Findings with IRA Principles, WWP Model, and GRI-OCB (IPMA)

The findings from the focus group and the intersectional matrix were clearly linked to the IRA principles, the WWP model's axes, and the GRI-OCB/IPMA governance guidelines. Beyond simply demonstrating mandatory alignment, this approach allowed the partners' perceptions regarding resource scarcity, commercial dependence, low youth participation, weaknesses in training and innovation, and limitations in internal management to be situated within widely recognized frameworks for sustainability and community governance. Table 3 illustrates that the challenges identified by the participants are not isolated but rather align with critical dimensions such as diversification, participation, transparency, innovation, and cultural resilience—central elements in both IRA and WWP, as well as in GRI-OCB/IPMA. Taken together, this triangulation serves as a conceptual framework that strengthens the proposed improvements, ensuring they simultaneously address Tejemujeres' organizational reality and international principles of sustainable management.

In this sense, as shown in Table 4, triangulation not only validates the empirical findings but also allows us to understand that the identified weaknesses—far from being isolated failures—are part of common structural tensions in community-based organizations. The alignment between the IRA principles, the WWP model, and the GRI-OCB standards underscores the importance of addressing sustainability from a holistic perspective, where governance, inclusion, and innovation are integrated with cultural identity and the dynamics of the territory.

Table 4. Triangulation of findings with IRA, WWP and GRI-OCB/IPMA.

Results	IRA Principles	Axes of the WWP Model	GRI-OCB Standard (ESG)
Shortage of raw materials and dependence on a buyer	P1 (food security), P2 (diversification), P5 (strategic alliances)	Social innovation	Risk management, sustainability (E)
Low representation of young people and limited leadership	P3 (participation), P4 (inclusion)	Inclusion	Leadership, teamwork, equity (S, G)
Deficiencies in training and product innovation	P6 (sustainable practices), P8 (responsible production)	Commitment, Social Innovation	Planning, innovation, customer focus (E, S)
Financial management problems and lack of transparency	P9 (participatory processes), P10 (accountability)	Transparency	Transparency, governance, accountability (G)
Social cohesion and cultural resilience	P7 (cultural preservation)	Commitment, Inclusion	Values management, cultural legitimacy (S)

3.5. Governance Model Based on the IRA Principles and the WWP Model

Based on the analysis developed using applied research techniques, it was possible to see that the analysis revealed that the perceptions of members, directors, and external stakeholders

coincide with the need to strengthen internal cohesion, diversify productive activities, and consolidate more transparent governance processes. To guide these findings toward a structured proposal, a comparative perspective was adopted between the IRA principles and the relational approach of the WWP, two frameworks widely used in participatory rural development experiences. This comparison is not a circular exercise; rather, it allows for the interpretation of the results obtained considering international benchmarks that have demonstrated effectiveness in similar contexts. Upon reviewing the characteristics of each model, it was identified that the WWP stands out for its adaptability and applicability in community organizations, while IRA offers greater methodological rigor, especially in practices related to sustainability, diversification, and inclusion. The comparative assessment of both approaches is summarized in the following Table 5.

Table 5. Evaluation criteria for governance models with an ESG focus.

Criterion	WWP	IRA
ESG Coverage	4	5
Adaptability	5	4
Practical Feasibility	4	3
Methodological Rigor	4	5
Replicability	4	5
Average	4.2	4.4

The results showed that the WWP (Wholesale Value Project) scored highly in adaptability and practical feasibility, an aspect supported by experiences such as those of Ríos et al. [15], Castañeda et al. [16], and López et al. [17], who document its effectiveness in local participation processes and capacity building. However, these studies also indicate that the model has made more progress in the social sphere than in formal environmental monitoring mechanisms. For its part, IRA (Integrated Environmental Management) demonstrates greater methodological consistency and robustness in articulating ecological and economic sustainability, although it requires more technical resources and administrative capacity. This complementarity supports the decision to integrate both approaches into a hybrid model adaptable to the Tejemujeres context.

Based on this integration, in Table 6, a governance model is proposed that articulates three dimensions: ethical-social, technical-business, and political-contextual, consistent with the study's findings and the principles that guide sustainable associative practices. Each dimension incorporates organizational competencies, participation criteria, and expected outcomes.

The hybrid WWP-IRA model allows for a comprehensive measurement of effectiveness across all ESG dimensions, evaluating environmental, social, and governance aspects at the Tejemujeres Cooperative. Furthermore, it ensures strategic alignment with the Sustainable Development Goals (SDGs) of the 2030 Agenda, strengthening the social and environmental impact of its artisanal activities. In Tables 7–9, the incorporation of IPMA competencies contributes to professionalizing management, promoting leadership, planning, and collaborative work, while direct alignment with IRA principles guarantees social, environmental, and governance sustainability, consolidating a comprehensive and replicable governance framework for the organization.

Table 6. Key elements of the governance model of the Tejemujeres Cooperative.

Ethical-Social Dimension			
Description	IPMA Competencies (ICB4.0)	IRA Principles	Expected Result
Focused on community cohesion, equity, and cultural transmission; it strengthens Tejemujeres' identity as an organization.	Teamwork Effective communication Management of values and ethical principles Social sustainability	P3: Consolidate the central role of members in decision-making. P4: Design strategies for generational succession. P7: Preserve the network as a cultural heritage and foster innovation. P9: Clear rules, participatory processes, and accessible accountability mechanisms.	An organizational structure based on cohesion, equity, and cultural legitimacy, where internal governance is strengthened through the inclusion of women and youth in leadership roles.
Technical-Business			
It addresses productive capacities, innovation and competitiveness in the face of a demanding market.	Planning Leadership Risk Management Customer Focus Innovation Digitalization	P1: Adapted to artisanal products as a contribution to community well-being. P2: Diversification of markets and reduced dependence on a single buyer. P6: Incorporation of sustainable raw materials and eco-efficient practices. P8: Guaranteeing safe and responsible processes in artisanal production.	An innovative, sustainable, and competitive production system that optimizes resources, diversifies supply, and ensures stable income without losing cultural identity.
Political-Contextual			
Focused on integration into territorial networks, fair markets, and local and global governance structures.	Negotiation, stakeholder management, strategic vision, long-term sustainability	P5: Strengthen alliances to guarantee sustainable raw materials. P9: Transparency in agreements with buyers and strategic partners. P10: Establish clear indicators of social, economic, and environmental sustainability.	Governance model connected with external actors legitimizing the cooperative as a benchmark for sustainable artisanal production in the region.

Table 7. Indicators of the ethical-social dimension.

General Objective: To Strengthen Social Cohesion, Inclusion, Equity and Participation of Members.					
Key Indicator	Description	IRA Principle	IPMA	ESG	SDG
Percentage of female members participating in strategic decisions	Measuring the effective participation of members in meetings and committees	P3, P4, P9	Leadership, communication, teamwork	Social, Governance	ODS5, ODS16
Percentage of members trained in ethical values and artisanal culture	Training in ethics, cultural identity and knowledge transmission	P7, P3	Values and ethical principles, teamwork	Social	ODS4, ODS5
Level of perceived inclusion and equity	Surveys on gender equality and youth participation	P3, P4	Communication, leadership	Social	ODS5, ODS10

Table 8. Indicators of the technical-business dimension.

General Objective: To Strengthen Social Cohesion, Inclusion, Equity and Participation of Members.					
Key Indicator	Description	IRA Principle	IPMA	ESG	SDG
% of products with design innovation	Number of new or redesigned products annually	P8, P2	Innovation, planning	Social, Ambiental	ODS2, ODS9
% of sustainable production processes	Implementation of good practices, resource efficiency and eco-efficiency	P6, P1	Risk management, sustainability	Ambiental	ODS12, ODS13
Percentage of members trained in management and digital marketing	Business management training and online promotion	P2, P1	Leadership, planning	Social, Governance	ODS8, ODS9
Diversification of customers and markets	Number of buyers or marketing channels	P2	Strategic planning, leadership	Social, Governance	ODS8, ODS12

Table 9. Indicators of the political-contextual dimension.

General Objective: To Strengthen Social Cohesion, Inclusion, Equity and Participation of Members.					
Key Indicator	Description	IRA Principle	IPMA	ESG	SDG
Percentage of agreements with documented strategic allies	Formalization of alliances and commitments with foundations, municipalities and fair-trade networks	P5, P9, P10	Negotiation, stakeholder management	Governance	ODS16
% of processes with financial transparency	Clear and auditable accounting reports	P9, P10	Planning, Leadership	Governance	ODS16
Annual social and environmental impact assessment	Measuring impacts on community and ecosystem	P1, P6, P10	Risk management, sustainability	Ambiental, Social	ODS2, ODS12, ODS13

4. Discussion

The findings of the study at the Tejemujeres Cooperative align with previous studies argue that grassroots social organizations tend to rely more on their human capital and cultural identity than on profitability indicators, which explains Tejemujeres' resilience despite its business weaknesses.

The adaptability demonstrated by the members, who combine artisanal production with other economic activities, reinforces the findings, and it considers flexibility a key factor in strengthening sustainable production systems [18,19]. Along the same lines, it emphasizes that rural development projects should be built upon local perspectives, which is reflected in the members' willingness to integrate the IRA principles and the WWP model without losing their community identity [13].

However, a significant contrast is observed regarding innovation. While Caicedo and Grass [1] point out that agro-industrial sustainability depends largely on diversification and innovation, in the case of Tejemujeres, the lack of innovation was not perceived as a factor that compromises its economic sustainability. This divergence can be explained by the fact that the cooperative maintains a certain stability thanks to its social cohesion and the sustained demand from a majority buyer. However, as Vásquez [12] warns, dependence

on a single development model without the capacity for real appropriation can limit future growth and increase vulnerability to external changes.

Regarding conceptual frameworks, the results confirm the relevance of the WWP model, which emphasizes active participation, inclusion, and co-responsibility in decision-making [10,11]. The high acceptance of this model by the members coincides with the findings of Jiménez et al. [5], who consider it a space for co-creating solutions adapted to the territory. In Tejemujeres, technical training, internal governance, and market access were identified as priority elements, in line with the findings of [20] regarding the role of association in organizational strengthening.

For their part, the IRA principles appear to be an essential complement, especially in the areas of environmental sustainability and governance. As evidenced by Jiménez et al. [4] in cooperative experiences in Peru, its implementation can improve resilience and sustainability, although it requires greater technical and financial capacities, an aspect already noted by Obando [18]. This contrast indicates that, while Tejemujeres recognizes the value of these principles, their full application could demand external support and strategic alliances for the development of training focused on its reality.

In turn, as methodological support for the proposal, the evaluation criteria for governance models with an ESG approach described in the study were used [20]. These criteria consider ESG coverage, adaptability, practical feasibility, methodological rigor, and replicability, thus validating the relevance of using the models within the context of Tejemujeres. Furthermore, the model is flexible and easily applicable to community projects, such as those in Romania analyzed by Ríos et al. [15], where the WWP approach facilitated the consolidation of competencies in regional project management, reinforcing inter-institutional cooperation and social participation as pillars of sustainability.

Castañeda et al. [16] demonstrated its application in Colombia and Guatemala, where the model was key to implementing the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests, promoted by the FAO. In these cases, the WWP approach strengthened dialogue between rural and governmental actors, fostering more inclusive processes that were sensitive to the local context. However, the same authors caution that the model still has limitations in incorporating environmental and monitoring indicators aligned with international standards, which restricts its ability to systematically measure ecological impacts.

From an educational perspective, [21] the WWP model was adapted to improve evaluation systems in higher education, highlighting its potential to promote more collaborative learning processes oriented towards the holistic development of individuals. This shift of the approach from the rural sphere to university management demonstrates its flexibility and adaptability to diverse institutional contexts. Similarly, applied the model to rural entrepreneurship strategies in the northern plateau of Spain, finding that its application fosters autonomy and local leadership by linking human values with productive innovation [18]. Finally, the analysis by Cazorla and De los Ríos [21] confirms that the WWP model has evolved from Robert Chambers' participatory approaches in the 1970s toward a more relational vision, where trust, cooperation, and ethical management are pillars of sustainable development [2]. Therefore, the interpretation of the results obtained is supported, in which the social dimension and community linkage stand out over the environmental and regulatory aspects, showing that the model, although consolidated in its human dimension, requires further progress towards a more robust integration of ecological and global governance components.

Taken together, the results reinforce the arguments and maintain that sustainability in rural projects depends on a balanced integration of social, economic, and institutional factors [6,22]. In the case of Tejemujeres, the most viable strategy appears to be the con-

struction of a hybrid model: leveraging the social proximity and flexibility of the WWP while gradually incorporating the methodological requirements of the IRA principles.

5. Conclusions

The integrated application of the IRA principles and the WWP model demonstrates that it is possible to strengthen the Tejemujeres Cooperative's production and management system without altering its social and community identity. Although limitations related to access to raw materials, innovation, and training persist, internal cohesion and the cultural value of weaving remain key pillars supporting its perception of sustainability. In this context, IRA provides structure, sustainability criteria, and transparency mechanisms, while WWP reinforces participation and community engagement. The complementarity between these two approaches allows for improved production practices, market diversification, and professionalized management, all while respecting the cooperative's core values. In this sense, the hybrid model offers a viable path to balancing efficiency, identity, and sustainability in Tejemujeres' future development.

Regarding the first objective, it was identified that the main limitations of the Tejemujeres Cooperative's production system are associated with a scarcity of raw materials, a lack of innovation in designs, low levels of technical training, and marketing difficulties. However, these restrictions have not directly impacted the members' perception of economic sustainability, as they value the organization's social and cultural cohesion as a fundamental asset for maintaining its stability. This finding reaffirms that the cooperative's strength lies more in its community identity and the shared responsibility of its members than in purely business indicators.

Regarding the second objective, the analysis revealed that both the IRA principles and the WWP model offer key elements that can be adapted to Tejemujeres' context. These include internal governance, active participation, technical training, social innovation, and links to fair markets, all aligned with the priorities identified by the members. Furthermore, the gradual incorporation of sustainable practices and financial transparency allows the organization to align its artisanal activities with international sustainability frameworks without losing its cultural essence.

Finally, in accordance with the third objective, it is proposed that the most appropriate strengthening strategy for the cooperative should combine the participatory flexibility of the WWP model with the methodological rigor and international reach of the IRA principles. This hybrid approach ensures a balance between respecting Tejemujeres' social identity and the need to improve its competitiveness in diversified markets. In this way, the organization will be able to consolidate an innovative, sustainable, and culturally legitimate production system, guaranteeing its long-term economic viability and strengthening its role as a benchmark for social development in rural areas.

From future lines of research, it is recommended that this analysis be replicated in other cooperatives and artisan organizations to test the validity of the IRA-WWP hybrid model in diverse contexts. It would also be pertinent to develop longitudinal studies to assess how governance, participation, and sustainability evolve, incorporating environmental variables and more precise cultural metrics. Furthermore, it is suggested that participatory methodologies that actively integrate young women be explored to strengthen generational renewal and better understand their motivations and expectations regarding artisan work. These approaches will contribute to refining the proposed model and expanding its potential application in sustainable rural development processes.

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