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Content

PLANNING FOR DEVELOPMENT IN A FARMER-BASED ORGANIZATION, A LOOK FROM THE AGROECOLOGICAL COFFEE GROUNDS

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Abstract

Centralized planning in a bureaucratic context led to pragmatism in the preparation of development plans. These plans generally related to the productive sector implied changes in the organizational forms for their implementation, leaving aside the participation of the peasant base. Through organization and mobilization, the peasants achieved attention to their demands. Currently, organizations have been evaluated with administrative and managerial tools, finding managerial deficiencies in the integration of organizational plans. This article addresses a case study of a peasant-based organization with the objective of identifying the processes present in the integration of plans and the dimensions of development in a group that, reactively in the face of a moment of crisis, evolved to integrate plans of organizational development. A systematization of the information generated from the organization and in-depth interviews with six key informants was carried out in the period from January to June 2022. As a result, a closer understanding of the processes present in the integration of endogenous self-management plans was achieved. from the peasant base, in a local context with global influence. Organizational development increased its complexity by integrating the dimensions of development into the implementation of planning. The plan contributed to the management of the resilience of an organization, based on networks of participation and collaboration. The integration of plans can be noted as an evolutionary process in a dynamic, changing and permanent context.

Keywords: management, design, stages, phases, system.

Introduction

From the economic perspective, the concept of development focused its efforts on the efficient allocation of economic resources (Irausquín *et al*., 2016) to boost developing countries or countries affected by the Second World War, as was the case of the Alliance for Progress led by the United States of America that provided economic resources to promote growth and planning (Alor, 2016). Project initiatives such as family planning and innovation in the field were launched, applying new educational technologies (Tauber, 2011). Under this perspective, there is the emergence of multilateral organizations such as: the United Nations Organization (UN), the World Bank, the International Monetary Fund (IMF) and the Inter-American Development Bank [IDB] (Lopera, 2014)

The implementation of development plans with financing from the Alliance for Progress was initially carried out with planning processes under the coordination of the Economic Commission for Latin America and the Caribbean (ECLAC), created in 1948, later the Institute was created Latin American and Caribbean Economic and Social Planning (ILPES) with the purpose of assisting, in a technical manner, governments in planning for development. In this stage, regulatory planning was carried out including economic and social variables reflected in sectoral programs and projects. In this regard, Leiva (2012) identifies two types of planning: development plans with structural reforms focused on addressing development and equity problems, which directed market regulation actions without excluding private initiative, and without focusing on programs and projects; and government planning with State intervention for commercial opening aimed at matching economic growth and the well-being of the population.

Before the massive implementation of planning for the development of underdeveloped countries, this concept was related more to the degree of linkage of the cultural and social aspect of nations, than to the predominantly economic aspect granted with this implementation (Tauber, 2011). However, the link between development and planning increased due to the need to direct the results of external investment in poor countries. Therefore, from a technical form, planning is understood as a set of systematic processes for decision-making in areas of sectoral or organizational development, with the application of formal logic in its preparation (Blanco, 2013). In Latin America, development planning was carried out in a subsistence economy environment with low-tech production processes, public debt and rapid growth in international trade (Lopera, 2014). These planning processes implemented by the State faced implementation problems due to the disagreements of the agents involved as a result of the structural changes.

The initial planning processes were carried out from the institutional hierarchy of the State, although different forms for development planning began to emerge.

In the 1980s, aspects of participation in decision-making, political autonomy, fair distribution of wealth and tolerance for diversity of thought were included (Tauber, 2011). Currently, for planning processes, human resources, natural and material resources, and power relations are considered priorities for the mobilization of the elements of the system to achieve objectives that are generally economic, environmental and social in nature Therefore, its dynamism, multidimensionality and complexity are recognized as a tool for improving people's quality of life (Irausquín *et al.*, 2016). In this sense of more comprehensive planning, research and its applications were expanded to organizational development.

Lopera (2014) exposes two epistemological moments of planning. The first called normative planning, which included a series of economic projections carried out by a specialist through a formal logical model. The second that arises from the business field referred to as strategic planning, which does not respond to any single method, considered a continuous process of analysis of a diversity of social problems of which the planner is a part. In the latter, over time, a variety of products and concepts have been included that have allowed progress in issues of democratization of decisions with participatory methods. At the same time, territoriality has been included that allows it to integrate endogenous dynamism and interests, strategies and actors, among them those of the planner (Saavedra *et al.*, 2001).

Participation in the planning processes aims to integrate the greatest number of those involved in decision-making, thus reducing the risk of problems in the implementation of the development plan to achieve goals, achievements and projects aimed at a defined objective. However, there is still a gap between participation and the preparation of adequate development plans. Mental and material obstacles and some regulatory ignorance continue to prevent the effective use of participatory processes for the creation of development (Barrera & Pacheco, 2013).

In the peasant sector, the producer organization was limited to the application of programs determined by the government, with the objective of accessing financing for productive projects through the intermediation of institutions subcontracted for this purpose. This created a trend of project management based on a portfolio of services that, in general, did not respond to locally planned development actions because they responded to the trend of generating centralized plans (De Grammont, 2007). The permanence of these projects is affected by elements such as the lack of managerial capabilities in directing financed economic actions that contribute to the achievement of development objectives (González & Ley, 2019). In this regard, Yovera (2020) points out the need to generate changes in production units based on a general vision that addresses change due to economic, political, social, cultural and environmental factors. Therefore, it recommends the implementation of the manager's strategic thinking to lead and direct the partners of an organization in achieving objectives from the local level with the formation of identity.

The objective of this article is to identify the processes present in the integration of plans and the dimensions of development in the peasant-based organization Linking and Agroecological Development in Café A.C. (VIDA) that evolved to integrate organizational development plans.

Theoretical framework

The instrumentation of planning as a tool for development is a construction with attributions from different theoretical approaches, which speaks of the complexity of development (Irausquín *et al.*, 2016). Although there is no consensus on the origin of planning, there is agreement on the classification by the method as normative planning and its evolution towards strategic planning. Initially it was implemented with the coordination of organizations specialized in planning with the objective of the economic development of nations (Blanco, 2013). In this sense, Lopera (2014) distinguishes at least three classifications for planning. The first is due to the form of implementation in which it points out: the bureaucracy developed based on hierarchies, decisions and democratic procedures based on the knowledge of these procedures; the technocratic related to the work of external advisors, focusing planning on economic indicators, where the expertise of the planner is the determining factor in the quality of the plan; and the democratic one in which citizen participation is sought. The second is based on the times for achieving specific objectives: they are plans in the short, medium and long terms. The third depends on the styles in which planning is developed: intervention, improvisation or reaction, and prevention or management of desired situations. This last classification, at the organizational level, is related to the different interactions from a local environment with the global phenomenon.

Irausquín *et al.* (2016) argue that planning is a complex exercise due to the dynamism of the dimensions that comprise it, such as the economic, political, social, cultural, territorial and environmental or ecological dimensions. They include the interaction of: production systems, goods or services, income generation and employment, macro and micro economic policy, public and private investments and commercial exchanges; public policies, power and decision relationships, participation, decentralization of resources and power, links, alliances and cooperation at the three levels of government (municipal, state and federal); history, customs, values, evolutionary context and education; the geographical location to design the strategies that can be implemented in the territory, ordering, access routes and planning; and knowledge of natural resources and their dynamic balance, biodiversity, ecosystems, conservation and recovery of systems and environmental policy; respectively.

From the managerial vision, organizations invest in the development of development plans designed from the execution, interpretation and analysis of specialized studies of productive and situational diagnoses with the purpose of

drawing up strategies that generate better benefits for the managers or owners of the company. In the case of peasant organizations, where the objective is the collective good, the need for accurate information is not ignored. Therefore, the need to develop collaborative links with similar organizations and organizations at the three levels for local development. Therefore, training for the creation of participatory processes and work agendas from the local level is considered basic, through the integration of territory, citizenship and government (Jiménez, 2018). This is related to a democratic training process: participatory planning and local participation from organizations.

The importance of the democratization of planning, from the technical side, lies in the integration and analysis of the greatest number of interactions present, to aspire to intervene with more efficient actions in the management of desired results. At this level, the ability to lobby for consensus on actions and the direction of strategies play a fundamental role in creating new results management strategies. This implies implementing planning processes from strategic thinking, with a leader who articulates and directs the organization according to the analysis of changing dimensions and factors, without reaching protagonism and unidirectionality in decisions (Yovera, 2020). Consequently, the participation of the members of a collective, the leadership that is exercised and the actions that are defined in the construction of collective action, are part of the strategic thinking necessary in an organization.

Regarding the planning phases, there is no consensus for the integration of a plan, in any of its variants. Cano & Olivera (2008) analyzed the general process of seven planning models. This analysis corroborates the absence of consensus but highlights a coincidence in the inclusion of an exhaustive analytical process, which consists of the preparation of diagnoses with reliable information; design a strategy or plan; a process of implementing this; and an evaluation or validation phase of the design product for feedback purposes. The latter, highlighting that it is a continuous or cyclical planning process. Consequently, these processes are established as planning phases for this analysis.

On the other hand, Padilla & Del Águila (2003) analyzed organizational forms from the business management approach and highlight what is exposed by the theory of structural contingency, indicating that there is no way of organizing that is the best. At the same time, they highlight that the best design depends on the context of the situation that is intended to be addressed. Furthermore, they point out a stage of post-industrial organization developed with the purpose of achieving greater flexibility to changing environments, and identify four moments in organizational adaptation: a) the information-based organization: focused on knowledge in which, in For the most part, necessary specialists participate and provide feedback in an organized manner, with a certain similarity to the origin of the technocratic planning mentioned above, b) lateral organization: with localized design schemes for the coordination of activities carried out in different units with decentralization in decision making, c) the hypertext

organization: related to the generation of knowledge within the organization, and d) the horizontal organization: generated around various processes or work flows to achieve improvements in the results of the interested parties. . In this way, an evolutionary behavior of the organizational forms can be inferred by integrating elements that add complexity to each form, presented chronologically for analysis.

This article addresses a case study of a peasant-based organization where the dimensions of development are identified in an organizational process that, reactively in the face of a moment of crisis, evolved to integrate planning processes reflected in development plans. This represents an approach in understanding the processes present in the integration of endogenous self-management plans in the transformation of a local reality with global influence. This exercise is proposed as an analysis of theoretical application of emerging strategy as an interaction and evolution of the agendas and plans implemented in the organization, understood as a process of strategy formation (Montoya & Montoya, 2013).

Methodological section

An exploratory investigation of the raised topic was carried out, including a case study of a peasant-based organization. The information available from the organization was systematized, consisting of six collaboration reports, six scientific articles, six postgraduate theses and one book. This systematization was developed in the period January-June 2022. From this, a graphic representation of the evolutionary process (timeline) was generated, which indicates milestones of the processes and relevant actions in two periods. The first considers the context and origin of the organization, and the second integrates the planning processes in which they manage their plans and actions through collaboration networks.

In addition, the systematization of information was complemented with in-depth interviews with six key informants from the peasant-based organization. With the purpose of identifying the stages of development in the organizational trajectory. Three founding partners, two current directors and an active partner of the organization were interviewed, with the aim of covering the transition of organizational evolution found in the available information.

The interviews took place in the Municipality of Ixhuatlán del Café in Veracruz, Mexico, in the period from May to June 2022, with a civil association considered a peasant-based organization; "Linkage and Agroecological Development in Café A.C." (VIDA), which allowed identifying in its trajectory the dimensions of development proposed by Irausquín *et al.* (2016) and its relationship with planning processes. This activity validated and reinforced the graphic interpretation, derived from the analysis of the information to identify the planning processes in the organization's trajectory.

Results

From the review of the forms of organization and the systematic analysis of the information, the dimensions of development were identified, presented by Irausquín *et al.* (2016), a relationship was observed between the organizational forms exposed by Padilla & Del Águila (2003) and the planning integration process. At the same time, the stages of development are related to the proposed planning phases, finding that some works and actions carried out in these stages integrate previous actions or processes for the implementation of planning. In this way, these organizational forms are indicated in parentheses referring to the role of VIDA leaders and partners in the three stages of development indicated, and which are linked in the analysis to the coffee production system, as shown in Figure 1.

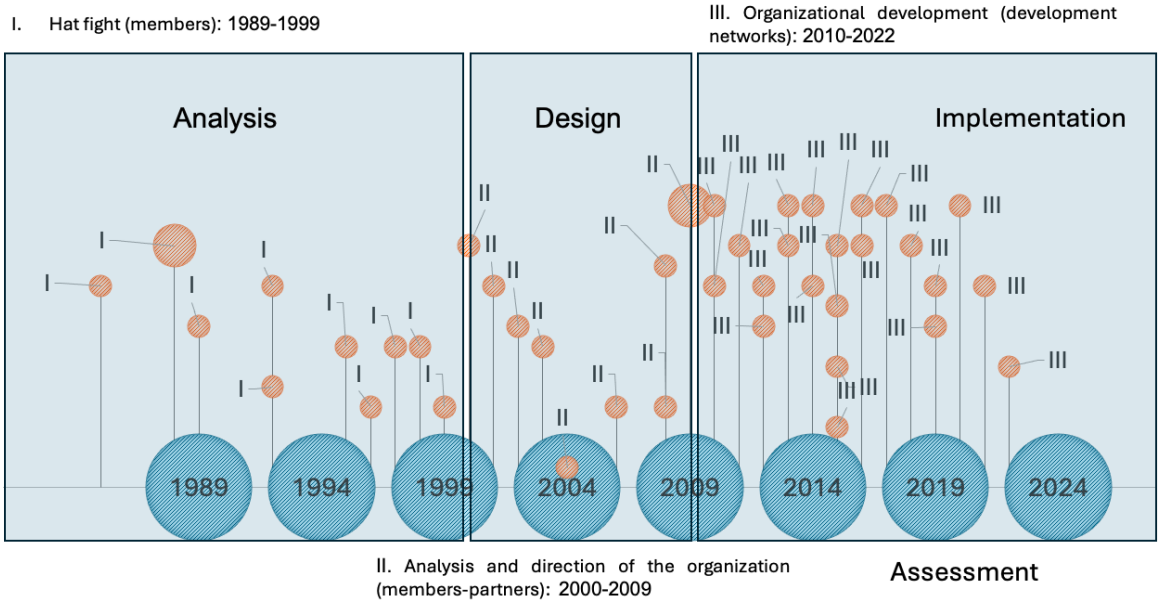

Figure 1. Stages of development and planning stages identified in the VIDA organization.
Source: Own elaboration with data from the systematization of information and interviews.

The sombrerazo fight and the origin of the organization VIDA A.C.

As a result of the economic crisis of 1982, in the 1980s the public policy of the Mexican State changed course, beginning a process of structural adjustment that consisted of the privatization of public companies with the purpose of promoting private investment and increase the efficiency of economic activities. This meant the elimination of subsidies for agricultural inputs and the disappearance of institutions supporting the primary sector, such as the case of the Mexican Coffee Institute

(INMECAFE) in 1989, which had been planned to be completed within a period of three years and its liquidation was carried out in three months (Vásquez, 2014). With the disappearance of INMECAFE and other institutions supporting the primary sector, a wave of protests began to emerge from rural producers expressing their disagreement with the public policy that disadvantaged small producers (Sánchez, 2004). The rural demonstrations were led by peasant organizations that expressed discontent with massive marches requesting the recovery of care programs for the primary sector, including that of the coffee sector. Added to the crisis in this sector since 1982 with the fall in the price of aromatic products at an international level was the fact that the quota system of the International Coffee Organization (ICO), which had been canceled that same year and which allowed the regulation of the international coffee price.

The disappearance of INMECAFE implied the cancellation of technical advisory services and income advances that small coffee producers received prior to their harvests as support for marketing. At that time, small-scale coffee producers represented 93.7% of the planted area nationwide (Villaseñor, 1987). In 1989, small coffee producers from the municipality of Ixhuatlán del Café joined the state representation of the State of Veracruz of the Unión General Obrera Campesina y Popular A.C. (UGOCP)[5]; because, at that time, their demands were compatible with those of that organization. The UGOCEP's request list included the recovery of coffee delivery sheets from the 1988-1989 harvest cycle. The achievements of the UGOCP's struggle benefited the small producers of the municipality of Ixhuatlán del Café with the recovery and collection of the outstanding amounts due for the liquidation of INMECAFE, and they also obtained the concession of some coffee processing equipment.

In 1991, government agencies offered resources to support productive projects operated by organized women with the objective of strengthening their economic autonomy. At that time, in the municipality of Ixhuatlán del Café, five groups were formed, with 50 members each, to request financing through the Industrial Agricultural Units for Women (UAIM). UGOCP leaders invited these women's groups to join the marches to put greater pressure on the State. The participation of women in the marches marked an event of female activism in the UGOCEP members of the Ixhuatlán del Café region. The participation of women in the marches was essential for the preparation of food for the protesters and in carrying out collections (boteo) to gather resources and support the sit-ins. With the participation of women who led the first rows in the sit-ins and in the takeover of state and federal government palaces, they allowed the authorities and legislators to hear the voices of small producers.

[5] This social organization was created in 1986 to vindicate the functions of the State and defend the rights of the Mexican peasant sector, originating in the agrarian struggle.

The participation of women in the movements, marches and rallies with the UGOCP demonstrated their courage and allowed the role of women to be valued and made more visible, which led them to reflect on their strengths that they themselves were unaware of (Illescas *et al*., 2022).

The social struggle allowed the organization of small coffee producers in the municipality of Ixhuatlán del Café to nominate in 1992 a candidate from the Revolutionary Workers' Party (PRT) with the support of the UGOCP. Although the candidate from the left did not win, due to the number of votes obtained, they had to appoint a councilor from one of the marginalized coffee-producing communities in the municipality. Political participation consolidated the formation of political cadres and the integration of leaders from different communities in the municipality of Ixhuatlán del Café. At the same time, it allowed the integration of women and young people for the training of political leaders and youth cadres. In this way, an alliance was achieved between PRT-UGOCP-Party of the Democratic Revolution (PRD) to nominate a candidate for the presidency of Ixhuatlán del Café and they won to govern in the period 1995-1997, with a leader of the UGOCP being elected. as president of the municipality of Ixhuatlán del Café

In the municipal administration of the 1995-1997 triennium, the interest arose to effectively address peasant demands and, to this end, they created the Ixhuateco Citizen Front (FCI) made up of UGOCP-PRT, two agents from the National Action Party (PAN) and one from the PRD. Through the FCI, a Citizen Advisory Council (CCC) was created made up of natural leaders who were people of good reputation, credibility and representation of their communities. The FCI functioned as a Council of Elders to supervise the municipality's resources allocated to public works. The main function of the CCC was to prioritize and evaluate the public works necessary for the application of the municipal resource. The members of the CCC had a voice and vote in the council meetings to make decisions about the allocation of municipal resources for public works. The participation of the CCC in the town council made it possible to benefit the most distant and most socially disadvantaged communities with public works.

At the same time, the president of the Municipal Comprehensive Family Development (DIF) of Ixhuatlán del Café promoted the training of technical staff at the Municipal Studies Center (CESEM) "Heriberto Jara", located in Xalapa, Veracruz. The training they received allowed them to identify the need to attend to the educational part, especially for the women of the Ixhuatlán del Café municipality. They also carried out diagnoses of the state of public services, which prioritized the opening of communication routes, electricity and drainage in terms of municipal investment.

In this period of management, the president of the DIF began work aimed at working with women and children in the localities. He created a health commission that alternated with educational work. This educational work focused on municipalism

and community development in which it taught about the origin of public resources, the forms of allocation, the authorized amounts, the forms of administration and the budget items that made them up. A collaboration was also achieved with the National Institute of Anthropology and History (INAH) with the project called "The rescue of the social actors of medicinal flora in Mexico." This project sought to rescue the knowledge and wisdom of the groups originating from the states of Guerrero, Puebla and Veracruz. The project detected and identified traditional doctors who, locally, were called hueseros, herbalists, healers, cleaners, sobadores and curanucas, to create synergies with the health agents of the municipality. As part of the project, medicinal plants were identified for conservation, sterilization and use through traditional herbalism.

In 1998, a group of producers from Ixhuatlán del Café established a collaborative relationship with the Eastern Regional University Center (CRUO) of the Autonomous University of Chapingo. The group's work focused on the analysis of women's decision-making and their power role in the family structure. In the analysis, they addressed issues of land ownership and its influence on the extended family, which then gave way to the implementation of workshops for the empowerment of women, composting, obtaining organic foliage, and an entire training program. of productive and agroecological management of the coffee plantation. After the training actions, an internal planning meeting was held with the participation of the leaders of the Ixhuatlán del Café organization, who were trained at the "Heriberto Jara" Municipal Studies Center (CESEM), and young children of the leaders and partners

This effort of reflective analysis made it possible to rescue the collective and individual experiences around the coffee production system. The work carried out concluded in the revaluation and rescue of local knowledge and knowledge of coffee management as a productive system and not as a coffee plantation, they rescued the importance of maintaining food sovereignty and, with it, maintaining the diversity of food products available in the coffee system.

Monitoring of previously managed projects that were still underway. In addition to identifying the causes that led to the gradual abandonment of some productive projects. This process of analysis of the socioeconomic and environmental reality led to strategies towards reducing external dependence and initiating work focused on strengthening and organizational development, through its own association with clear objectives.

Derived from the above, they began with participatory planning, beginning with a productive diagnosis of coffee growing in the region to obtain accurate and updated information for decision-making. The productive diagnosis of the coffee system was developed with the support of CRUO personnel. For the productive diagnosis, they carried out transects throughout the territory that allowed them to evaluate the in-situ plots of the state of the coffee system on slopes and plains and its relationship with the quality of the coffee. They identified the coffee system with high, medium and

low shade, as well as the type of vegetation that provided it (Ramos *et al*., 2020) and its different uses: ornamental, food, medicinal and cultural. According to the results of the productive and participatory diagnosis of the coffee system, they launched actions aimed at agroecological practices and a monitoring mechanism of the differentiated production system in which they sought to support the quality of coffee with quality cupping at a rate with previously trained staff.

Parallel to these planning and development activities, social activism continued as part of its union participation with UGOCP. In the period 2001-2002, social mobilizations were regrouped into anti-corporate demonstrations that included peasant movements (Sánchez, 2004). This period of intense mobilizations and in the absence of a solution to the demands, the peasant organizations of Mexico made themselves heard with the slogan The countryside can't take it anymore! The pressure they exerted concluded, finally, in the signing of the National Agreement for the Countryside in 2003, which gave a solution to the peasant demands. The National Agreement for the Countryside was published in the Official Gazette of the Federation on April 28, 2003, and it established support schemes for the rural sector through productive projects, where the leaders of the organizations participated in the selection. of the projects to be financed. Because the resources were insufficient to finance the complete portfolio of productive projects proposed by the peasant organizations, discontent began to arise among small producers within the organizations, and some groups separated from the UGOCP to seek new paths of development such as It was done by small coffee producers in the municipality of Ixhuatlán del Café, state of Veracruz.

From that year on, the fighting movements were greatly reduced, with the implementation of windows for the reception of productive projects. This mechanism for implementing field care policies began a management process for access to resources to support coffee producers, through productive projects. These projects were received for organizations or producers that met the requirements established in calls and were subject to an evaluation and technical ruling process. The financing was not enough to support productive projects. The authorized projects did not satisfy the needs of the partners due to lack of resources, and this generated disagreements within the UGOCP. These disputes began a process of gradual resignation of the partners.

The partners of the UGOCP of the municipality of Ixhuatlán del Café, by carrying out productive diagnoses of the coffee system, previously integrated planning actions with the participation of their leaders and partners. They strengthened their collaborative relationship with public educational institutions such as the Chapingo Autonomous University, and other social organizations linked to the peasant sector such as: National Network of Sustainable Coffee Organizations A.C. (REDCAFES). These collaborations allow the partners to identify the favorable edaphic, climatic and diversified shade conditions that would allow them to produce quality coffee. The collective reflection effort derived from the studies, diagnoses and exchange

of experiences led the producers to set a new objective and vision of the social organization for the UGOCEP members in this municipality.

The collaboration carried out with REDCAFES allowed them to visualize the benefits of marketing certified coffee, in this case organic certification. In 2008, they organized a meeting to invite their fellow producers with whom they had worked to present the idea of becoming certified with the support of REDCAFES, through the organization Cafetos de Neria, located in San José Neria, municipality of Chocamán, Veracruz. In this interaction, the vision of agroecological work that they began in Ixhuatlán de Café with colleagues and partners of the UGOCEP was explained and they agreed to begin the certification process with the Mexican Certification Company of Ecological Products and Processes (CERTIMEX), under the shelter of Cafetos de Neria.

The interested parties met in Ixhuatlán del Café to carry out an analysis of the activities they carried out for the transition to agroecological production since 2002. They achieved organic certification in 2008, since they had everything properly documented of the activities they carried out within the system. Coffee that was free of agrochemicals. This allowed the first sale with a price agreed in advance of the profit. The processing was carried out in the municipality of Chocamán to be stored in the REDCAFES warehouses. In the 2007-2008 harvest cycle, the price of coffee increased to be above the price agreed with the buyer. This situation generated discontent among REDCAFES members. The producers of Ixhuatlán del Café explained the situation in a meeting and got the buyers to promise to pay at a price higher than the agreed upon price, but they did not match the market price that prevailed at that time. The result was that some producers sold their coffee under these sales conditions and others chose not to do so and preferred to sell the coffee on their own.

Given this critical experience of having made a sales agreement with the protection of a third party, at a time when the price of coffee had a recovery of 33.3% above the agreed price, it meant a revaluation of the efforts made, and they observed the drawbacks. of marketing with an organization without solidity in the commitments made in marketing. As a result of a collective situational analysis, it was decided to integrate the civil association VIDA, protocolized in 2009, with the intention of establishing organizational processes in the regions, based on principles of revaluation of knowledge, the dignity of peasant life and the creation of identity with coffee production.

Analysis and direction of the organization

In the previous section, the origin of the organization was narrated in a general way as a local organizational process. Three milestones are identified throughout the trajectory of the coffee producing partners in the municipality of Ixhuatlán del Café

to form VIDA. These events are located at the highest points of the timeline in Figure 2. The first occurred in 1988 with the beginning of the reductions in the functions of the State. Event that promotes the beginning of the organizational process and the social activism of the partners. The second originates in a time of strong migration of members to support the family, and with difficulties to cover debts incurred due to low coffee prices. The third is considered the return of the migrant members, two years later, when they actively join the organizational activities with a different and renewed vision.

In the second level in descending order of Figure 2, the collaborations achieved are observed, in the third are the training processes of the partners and leaders. At the fourth level, actions related to the organizational order are indicated and, at this same level, in the years 2000 and 2002, diagnostic processes considered activities or inputs prior to organizational planning occur. The specific actions of the fifth level organization are related to the coffee system. This ascending trend allows us to observe the dynamics of the planning process. For the specific case of VIDA, the moments of analysis were complemented with situational and productive diagnoses of the coffee system. These analyzes were conceived as organizational processes with different visions. The first from a radical vision, another integrative from educational and critical training and the last, from a vision of municipal participation. The latter related to the participatory planning process, in which greater emphasis is placed on local democracy through participatory processes for the generation of agendas (Jiménez, 2018).

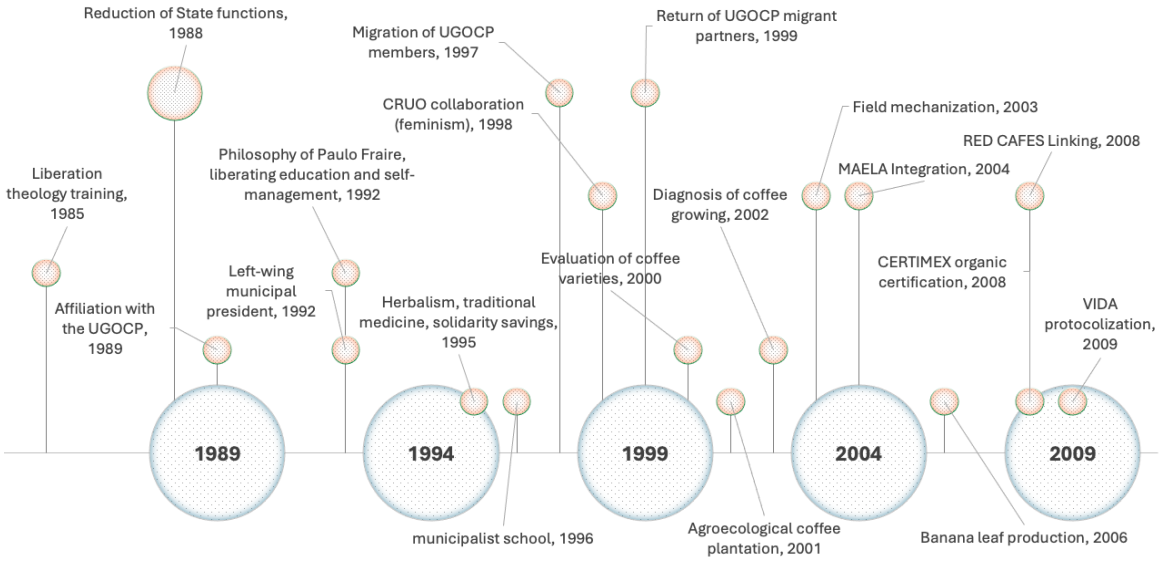

Figure 2. Timeline of the analysis and planning processes that gave rise to the VIDA organization.
Source: Own elaboration with data from Illescas *et al.* (2022) and interviews.

The national and foreign migration processes of members and leaders caused a change in the organization that marks a true milestone in organizational development that is the inclusion of women in the movement. The leaders and wives of the members were trained in empowerment issues in the absence of the head of the family. With this, the participation of women in planning issues was opened, also because of previous work that provided spaces for participation in social activism. After the reintegration of migrant partners and leaders into their communities, other collaborations are observed that contributed to the integration of VIDA's vision as an important actor in the agroecological movement and coffee production.

The information from the technical diagnoses[6] and participatory reflection analysis consolidated a new vision of the nature of the organizational movement, and new management directions. In which participation in peasant spaces and agroecological production played an important role for the promotion of a differentiated product and direct sales, with the aim of continuing and consolidating the fight for the partners' own objectives. The change in organizational paradigm allowed the direction of actions with medium and long-term objectives, involving the family without distinction by sex. In general, planning can be seen as a dynamic, constant process in changing scenarios to establish medium and long-term goals.

Organizational development

From the protocolization of VIDA in 2009, a stage of self-management organizational development begins (2009-2022) from its own organizational vision and principles, as seen in Figure 3. This period begins with collaborative work and the consolidation of projects planned in previous stages. It is extended to national and foreign organizations and institutions. This process resumes the momentum of the work carried out with agroecological coffee plantations, and in the management of projects for productive diversification, which allowed us to meet and collaborate with organizations such as Community Agroecology Network (CAN) and Coffee Kids, in 2010. The collaboration with CAN sparked the development of organizational processes through food sovereignty projects in which young people were integrated. This project required a presentation of results in Santa Cruz, California in the USA. The VIDA assistant took samples of the agroecological coffee to Bronson's cafeteria to sell the organization's coffee.

At the same time as these collaborations, in 2011 it was decided to participate with the Coffee Product System and the Veracruz Association of the Coffee Productive Chain (AVERCAFE), a parallel organization to the Coffee Product System

[6] Work carried out by VIDA with the collaboration carried out with educational institutions, civil organizations and public organizations.

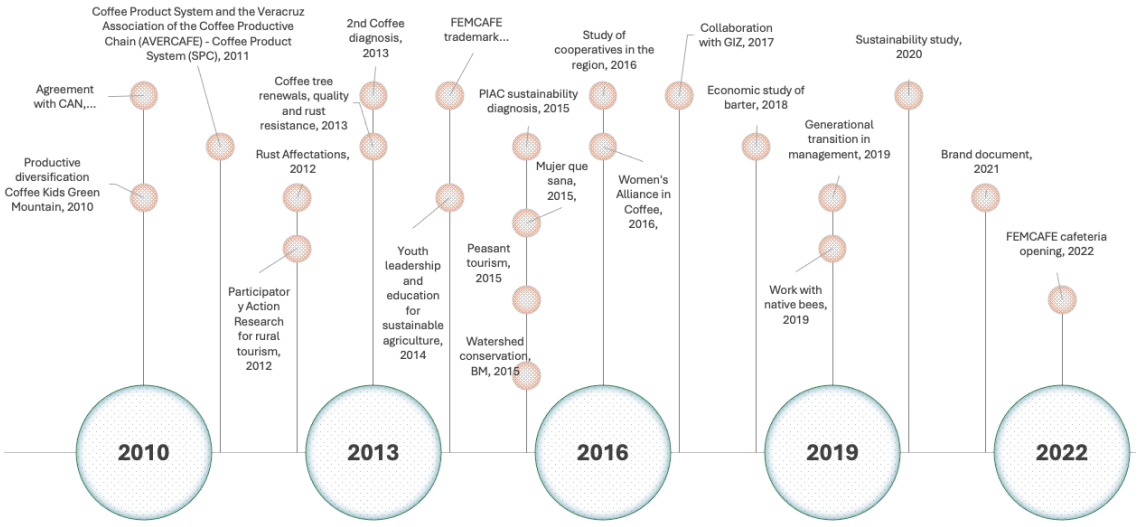

Figure 3. Processes developed in the self-management stage of the VIDA organization.
Source: Own elaboration with data from Illescas *et al.* (2022) and field information.

(SPC) created by the Ministry of Agriculture, Rural Development. Fishing and Food (SAGARPA). These organizations managed to have an impact on coffee public policy at the national level until 2018. In collaboration with them, they strived to allocate public resources not only for production, but also for the other stages of the value chain such as the beneficiary, transformation and certification with the purpose of integrating coffee growers into the other links of the value chain. The collaboration with CAN strengthened the coffee trade, however, for the 2011-2012 production cycle, rust damage caused the loss of plants in the coffee plantations and reduced production. Renewals began reactively with varieties such as Colombia and Costa Rica.

Starting in 2012, collaborations have been generated in which diagnoses and different studies are carried out around the organization and agroecological production of coffee. These studies are carried out with national and international education and research institutions. In the 2012-2013 production cycle, a new diagnosis of coffee was carried out, which showed that the impact of rust was more severe in low areas with less vegetation cover. It was also identified that coffee plantations with native plants suffered less damage. In this cycle in which it was already being marketed, applying chemical controls would mean losing this certified coffee niche in the international market. Given the different options offered, it was decided to do a thorough analysis of the coffee varieties to make recommendations to the partners. The selected varieties were Geisha, Marseillaise and Aztec Gold. The implementation of renewal plans was promoted with these varieties that have better quality attributes in rate and resistance to rust.

Until this point, coffee was sold without further processing. And in these last participations, it began with the idea of marketing with its own brand. In the agreement follow-up meetings, the ideas of selling roasted and ground coffee were presented. Opinions were also heard in which the difficulty of achieving this was explained. In the end, it was concluded to market coffee with the objective of highlighting the attributes of agroecological production, of a certified product and with the components of roots in the territory identified by the women of the association. This process involved a strong debate with the male members of the organization, because they saw a risk of losing the marketing achieved by exporting to the United States of America.

The work of convincing the women was based on the use of coffee that did not meet the export criteria, for its transformation and commercialization in Mexico. This proposal was reinforced with the inclusion of women in coffee growing and making their work visible. In this way, marketing began with the certainty of offering a different product, of quality due to its agroecological nature and with a historical burden on the livelihoods of families. In 2014, the FEMCAFE brand was registered and contacts had already been made with potential clients and sales improved with the organization's networks.

The participation in different spaces of the producers allowed the quality of the coffee to be improved until achieving coffees of excellence, based on cupping scores. By having achieved a differentiated coffee, it allowed us to have clients from a sector of society with high purchasing power. In this way, in 2015 the organization decided that they produced quality coffee, but few members knew how to differentiate quality coffee. Therefore, the VIDA organization began a training process to identify quality attributes and product diversification, with the intention of offering other sectors of the population quality organic coffee. The fact of having managed to transition from the uncertainty of cherry coffee prices to the processed coffee market made it possible to achieve stability through the direct sale of coffee. The processing of quality coffee achieved the diversification of presentations to the consumer's taste, offering the same qualities of coffee, under the principle of taking advantage of everything that is not exported; In addition, it allowed them to identify market trends. Managing production in microlots allowed them to meet occasional orders for specific varieties (Geisha, Bourbon and Marseillaise) with better sales prices.

In 2016, the first development plan of the VIDA organization was created with the participation of leaders and founding partners of the organization. This planning process was integrated based on a participatory diagnosis with the objective of measuring the resilience of the agroecological coffee production system in four dimensions: the environmental ecological, the economic, the sociocultural and the coffee system. The analysis allowed us to know the diversity of flora and fauna of the coffee plantations, the diversity and number of trees they had to provide shade, the products they obtain from it, who participates in the production process, the

activities carried out by the members of the family, the means for production and the integration of all these factors.

Derived from this participatory planning meeting, the results of the collaborative and training experiences were integrated, with support from the productive and situational diagnoses carried out previously. The main findings of this participatory diagnosis process allowed them to identify the strength of the organization in the social aspect, and the creation of links through community organization. In the economic aspect, the organization recognizes productive diversification as an aspect to improve, but they also point out a relationship between this and the environmental resilience of the coffee plantation (VIDA *et al.*, 2016). This analysis led to the need to strengthen links with sales to the final consumer and, with it, the transformation of coffee sales into short chains. The experience of having processed coffee certified with REDCAFES allowed them to know the risks and costs that this implies. Therefore, they focus attention on the integration of links and networks of trust to improve the prices and quality of coffee. From the resilience analysis aspect of the system, the low diversity among shade trees was observed, and the relationship with the low presence of native bees.

This diagnostic workshop is considered a formal exercise attached to the participatory methodology, which managed to define actions with specific objectives to contribute to the balance aspects of the system from the environmental part, the direct sale of coffee in the economic part, work on the formation of peasant identity and sustainable ways of life in the socio-cultural part, and reinforce organizational work, savings banks and food sovereignty in the resilience part of the coffee system.

The preparation of this diagnosis allowed us to carry out the development plan that, starting in 2016, is organically integrated into VIDA's organizational processes. The planning and evaluation process is carried out annually, with the purpose of focusing and directing specific actions to achieve its objectives. Quarterly monitoring meetings are held, and every time the managers consider it necessary, extraordinary meetings are called to resolve an immediate need or to address an emergency arising from the actions of the development plan. This plan contemplates its operation through a general directorate, a technical secretariat and a general finance coordinator, with the support of the commissions: agroecological production of coffee and associated crops; food sovereignty and solidarity economy; community health; education and training for community action; promotion of eco-techniques and clean energy; dignified life and good living; technological development; humid tropics; reforestation, conservation and restoration of forests; social, human and economic development; and biocultural tourism.

In 2017, VIDA collaborated with the German Society for International Cooperation (GÍZ) in a diagnosis to identify agroecological practices and the main impacts. This and all works of this nature are considered an information production

system that has served as input for planning and analysis prior to annual development plans. In the following years they continued with the development of research work, in 2018 the barter was analyzed from the economic aspect, in 2019 they carried out research on the topic of native bees identified in the 2016 development plan. In the renovation of the table VIDA board of directors of the year 2019, a momentous event occurred in the organization, it was integrated with young people from the training cadres of the generational change.

In 2021, a corporate identity and image manual is generated (Currás, 2010), defined as a brand document, in which the attributes of the coffee of the collective brand, presentations and a market analysis are presented to highlight coffee attributes, identification of market opportunities and trends. In 2022, the vertical integration of the chain is consolidated, with the opening of the FEMCAFE brand cafeteria. This event redirects the organization's activities with new goals, to understand the needs of customers by producers, which represents a connection opportunity for direct consumer-producer collaboration in brand positioning.

Discussion

In the graphic representation of Figure 4, the planning phases identified with which similarities were observed in the actions and processes throughout the history of the organization are integrated with the trajectory of the organizational movement. In it you can also see the relationship with the integration of the dimensions of development proposed by Irausquín *et al.* (2016) and its relationship with the phases of development, which in this case is adapted to an incremental inclusion in the integration of development plans, as described below.

In the first stage of development, a process of union integration into an existing organization with objectives and goals was observed. This affiliation is due to the compatibility of interest between coffee producers and the UGOCEP, at a time of crisis to request attention to their demands. In relation to the planning phases, in this period, the analysis phase for organizational development planning is highlighted, in which elements of the economic, political and social dimensions are integrated. Understood as a generalized process of interaction due to the crisis caused by the reduction of the functions of the State, intervened, from the social dimension, with the integration of coffee producers in mobilizations with the aim of demanding the functions of the State. These interactions focused the actions of the social mobilization agenda; sit-ins, marches and the seizure of facilities to meet the demands of the affected sectors, in this case of the peasant sector. By integrating the cultural dimension, it becomes possible to link the analysis with the beginning of the design. The organization stage is union and is considered the beginning of the analysis

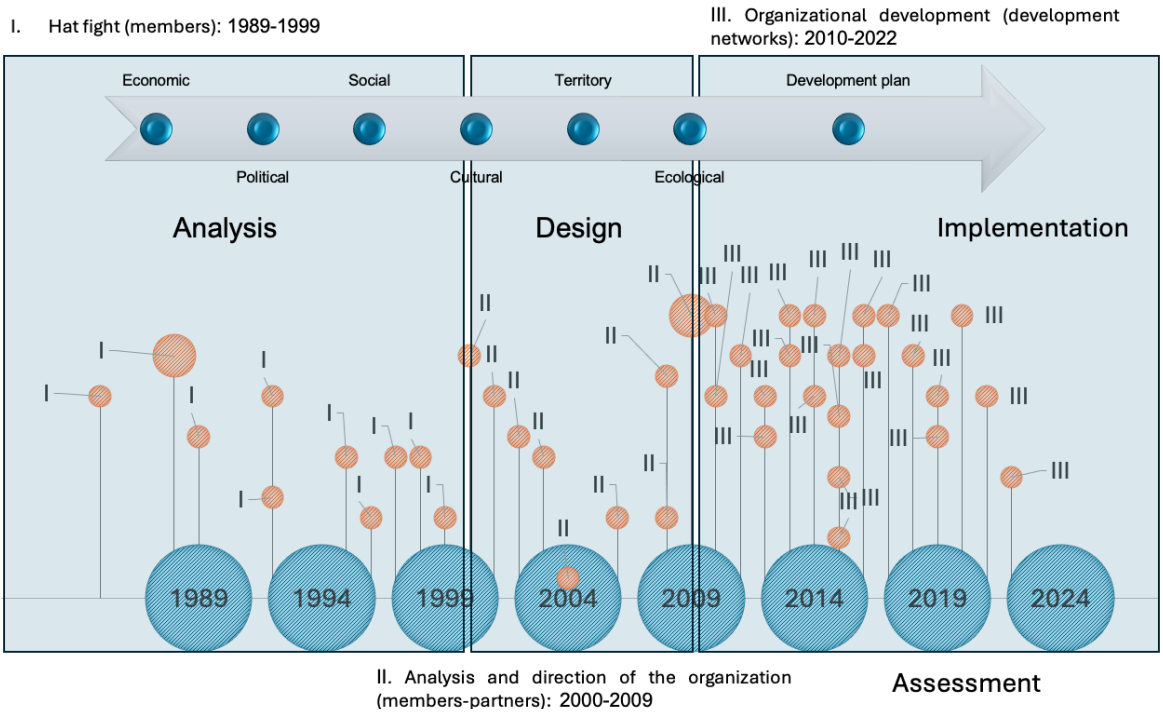

Figure 4. Identification of the dimensions of development in the integration of planning of the VIDA organization.
Source: Own elaboration with data from the systematization of information and interviews.

of the organization where the leaders of Ixhuatlán del Café identified the positions, functions and attributions that exist in the organization.

The next stage of development is called analysis and direction of the organization, considered as the beginning of the transition from members to partners (2000-2009). In this period, processes of awareness and analysis of the situation were identified to search for solutions to the problem from the local level, with management and collaboration initiatives aimed at common purposes. Stage that concludes in the consolidation of the vision and mission of a protocolized organization. This period involved the integration of the cultural dimension, which refers to the formal and informal training of the leaders and partners of a fraction of UGOCP.

This fraction gave rise to collective analysis, and they began to design an alternative with critical thinking through organizational and participation processes. The training process was key in understanding the situations of Mexican agriculture based on structural changes, related to the economic dimension, which triggered the social reaction to a crisis in the peasant sector. However, it was not the only moment of training, throughout the organizational history there are complementary training processes through efforts and collaborations with other organizations and teaching institutions, which favored research for the development of diagnoses, analysis and

creation of work agendas. A Participatory Action Research (PAR) process was also integrated, which consolidated actions and projects around the coffee production system, in a scenario of price crisis caused by trade liberalization.

The investigations and diagnoses carried out by the IAP in this period are considered the beginning of the planning phase. The ecological dimension was integrated into it, which adds the territorial vision of the agroecological coffee plantation as a system. And at the same time, it allowed the integration of a strategic development plan, derived from collaboration and participation as a network to achieve objectives. At the same time as this process, productive project management was developed to strengthen the development of the partners. However, since there were no diagnoses for the preparation of development plans, the management was carried out based on the project offer. , without a comprehensive planned objective other than the improvement of individual income. This initially caused a dispersed management dynamic. During the period between 2002 and 2008, work was carried out on a targeted action: the productive diversification of coffee plantations. In response to a problem analyzed with greater precision by the planning inputs developed.

The third stage of the 2010-2022 period called organizational development (networks for development), a moment in which it begins with the management, collaboration and construction of solutions from one's own vision, resuming productive activity, which allows collaboration through of a network of links with government and research institutions. The creation of an organization with an ideology and vision shared by the partners allowed the direction of the organization's actions from a participatory vision, preceded by the promotion of democratic and inclusive organizational processes for the generation of work agendas. The planning integrates collaborative diagnostic processes, which allowed actions to be taken in spaces related to the development of the agroecological model to produce differentiated coffee, thereby coffee is no longer a commodity.

It is important to note that the processes identified in the systematization of information are in temporal spaces, not necessarily linear, that some overlap and have different durations, although they are indicated chronologically for analysis, they do not refer to a systematic order. In some cases, these processes were developed without conceiving them from the indicated terminology, but in a practical way. Therefore, it can be argued from the observation of the organization's trajectory that the development stages of growth and interconnection for the development of organizations exposed by Holling (Velázquez-torres, 2015) are present in the historical narrative of the organization. Which highlights what was stated by Irausquín *et al.* (2016) on the complexity of development. Therefore, the need for a leader with a strategic vision argued by Yovera (2020) is reinforced, which makes it necessary to review the type of leadership in an organization like the one analyzed in this study.

In the same order of ideas, the organizational forms indicated by Padilla & Del Águila

(2003) can be noted as the actions identified and related to the stages of development. The micro-organization in which it begins with the design of the organization idea, with the beginning of coordinated actions with different organizational units, decentralizing decision making. The hypertext organization designated as a structure that allows the generation of knowledge within the organization and is made up of different levels or contexts, which are integrated into a project. The horizontal organization in which the work is organized from various processes that link the activities carried out with the needs and capabilities of the partners to improve results for the benefit of those involved. Which allows us to infer that this organizational form integrates improvement processes, such as the integration of development plans. Thus, reinforcing the planning phases proposed for this analysis.

Conclusions

The present analysis of the implementation of development plans for a peasant-based organization allows us to see the compatibility of application of the organizational forms, which increase in the complexity of processes according to their type, as an evolutionary process of the organization around a system productive.

The integration of the dimensions of development in the analysis and design phase was identified as a prior step to the execution of plans and actions. Therefore, a development plan will allow the creation of links and collaborations, once there is a precise diagnosis of the productive system to which the organization is linked, to know and integrate the dimensions of development from its territoriality in the search for objectives. in the short, medium and long terms.

In the trajectory of the organization there are moments of withdrawal, caused by external (global) conditions. However, having a development plan since the creation of the organization allowed them to adjust reactively, in times of crisis, and corrective measures for management in the short and long terms. Which demonstrates the dynamism and multidimensionality of the process and, at the same time, the creation of resilience through development plans.

The analysis developed shows, in essence, a unique strategic plan based on the endogenous organizational conditions and territorial context formed during the organizational trajectory of coffee producers. Therefore, it is interpreted as an evolutionary (emerging) process of the organization achieved through participation in the search for solutions with different bodies and organizations, both public and private, national and international. This allowed the generation of information through collaborations, for the construction of a long-term project with 37 years of the history of peasant struggle.

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PARTICIPATORY EVALUATIONS IN PUBLIC POLICIES FOR LEARNING IN SUBNATIONAL GOVERNMENTS: CASES OF JALISCO AND ZACATECAS (2019-2021)

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Abstract

This research addresses two case studies of the participatory evaluations carried out in Jalisco and Zacatecas, specifically the programs "My passage" and "Model for Equality between Women and Men" respectively. The importance of these cases lies in being the first evaluation exercises that break with the traditional methodologies of the National Council for the Evaluation of Social Development Policy (Coneval) and the Ministry of Finance and Public Credit (SHCP), pointing to qualitative methodologies. What is participatory evaluation? It should be noted that they are practices promoted by the subnational governments themselves, and in the case of Jalisco they are the product of coordination with international agents. The methodological process of the evaluation is conceived under a hypothetico-deductive vision, the approach is mixed with greater orientation towards a qualitative analysis, using techniques such as: documentary and bibliographic work through content analysis, semi-structured interviews and questionnaires. The significance of these evaluations is expressed in offering a new vision which promotes the participation of the actors, it also promotes a better use of the evaluation, therefore, the most relevant findings are that participatory evaluations generate significant learning from the process for the cycle. of public policy that serve as precedents for public improvement in subnational governments, taking into consideration that institutional capacities, public officials and the evaluation team need to be strengthened so that learning is transferred from one organization to another to design, implement and participatory evaluation.

Keywords: participatory evaluation, process learning, public policy cycle.

Introduction

The Monitoring, Evaluation and Systematization Network of Latin America and the Caribbean (ReLAC, 2021) points out that the new century demands a

substantial change in the management, formulation, implementation and evaluation of public policies. In this context, it points out that a transition is required from "a society that receives benefits to another more active one" that assumes a predominant role in each of the phases of public policy (ReLAC, 2021). In this framework, the evaluation requires a renewed conceptual and methodological development that allows its appropriation by both the implementing agencies and the participants and beneficiaries, that is, by society, for them to be perceived as agents of change. with the capacity to influence and transform policies (ReLAC, 2021).

Likewise, ReLAC (2021) emphasizes the need for evaluations to identify, recognize and promote the participation of all actors involved in explicitly established spaces and times. In this sense, Portilla (2021) points out that the evaluation has experienced an important qualitative change; However, at the subnational level, this problem is more complex, since the evaluation has had different developments and advances due to specific factors and contexts of the subnational public administrations.

On the other hand, Ballescá (2018) establishes that evaluation in subnational governments has been characterized by two aspects: first, as a mechanism for transparency and accountability of public spending; and second, due to the centralization and standardization of traditional methodologies provided by the National Council for the Evaluation of Social Policy in Mexico (Coneval), which has hindered the transition of the evaluation towards a qualitative approach.

However, at the subnational level, the culture of evaluation has been strengthened to face the challenges of the new century. In this sense, the cases of evaluations implemented by federal entities such as Jalisco and Zacatecas stand out, which have chosen to promote methodologies for participatory evaluation. However, other entities in the country are still in a development process to consolidate this type of practices in evaluation.

The objective of this article is to compare and systematize two case studies in which participatory evaluations were carried out in specific programs: "My passage" in Jalisco and "Model for Equality between Women and Men" in Zacatecas. From these cases, the aim is to point out learning in the public policy cycle that can be replicated in other entities in the country.

The text is structured in three sections: first, a theoretical framework is offered for understanding the central category and its peripheral implications; Secondly, the methodology used in the research is explained; and thirdly, the results and their discussion are presented, through a summary of the variables or aspects highlighted in the evaluations of each entity, with the purpose of showing how these contribute to improving public policy. Finally, the most relevant conclusions of the research are presented.

Theoretical framework

In the development of this section, the discussions between authors of the categories and central concepts of the object of study are presented. For the purposes of this research, the central category is participatory evaluation, and its peripheral implications or central concepts are public policy cycle and learning.

What is a participatory evaluation?

Evaluation is a phase of the public policy cycle; As a result, different types of evaluations have been established, such as participatory evaluation, which has been defined by various authors.

According to Tapella *et al.* (2021), participatory evaluations are those in which "the parties involved in the project define what will be evaluated, with what objectives, when it will be done, what collection methods will be used and how the results will be communicated." This type of evaluation implies a participatory approach that "should serve to learn, readjust and act by taking corrective measures to obtain better results […], that is, the evaluation should serve to provide new and different knowledge for the development of policies and programs" (Tapella *et al.*, 2021).

Tapella *et al.* (2021) also points out that participatory evaluations have a double function: on the one hand, "they contribute to strengthening organizations so that they have greater control over their own development"; and, on the other hand, they function as "a tool to improve the capacity of various actors to reflect, analyze and propose solutions from their multiple perspectives."

What is learning in participatory evaluations?

The concept of learning in participatory evaluations is of utmost importance, for its understanding in this research two aspects are pointed out, on the one hand, it refers to the fact that participatory evaluations imply a teaching-learning process, and on the other hand, it refers to to the use and learning of participatory evaluations.

Regarding the first, Rotondo (2021) points out that participatory evaluations are "a teaching-learning process in which different positions and values are exposed." On the other hand, Tapella *et al.* (2021) points out that in a participatory evaluation, facilitation is of utmost importance, which refers to a teaching-learning process. In this regard, Rodríguez and Tapella (2018) point out that it is "a participatory learning process" which draws the most important lessons for all the actors involved.

Returning to the argument that participatory evaluations are a participatory learning process Tapella *et al.* (2021) point out that thanks to this, the evaluation is made "more interesting, more efficient and effective, which will allow us to achieve better

results." This process tries to seek the development of the participants' capabilities, in the words of the authors it speaks of "that the participants develop new skills or abilities, and that this allows them to participate more and plan and implement a better evaluation process in the future." The authors discard the idea of training; rather, it is a learning network in which each participant has a specific role and functions. In this sense, reference is made to the role of the facilitator who oversees:

"generate the conditions to learn by doing, so that while participating, the members of a team develop those skills that will allow them to participate in a better way, and that will allow the evaluations to give better results. And his responsibility is for everyone to learn (including himself)."

Rotondo (2021) points out that participatory evaluations are based on "the valuation of local knowledge and knowledge, with the purpose of generating learning about the changes, in order to strengthen their capacity, empower people and social groups to make decisions." The author's idea points out the importance of building meaningful learning in the evaluation participants. In addition, Rotondo (2021) explains that participatory evaluation, by focusing on the actor, "recognizes the role of consciousness and human action in social changes, therefore, it is part of transformation paradigms. That is, when the individual acquires new learning, he becomes aware of his environment, which allows him to influence living conditions, solve problems and make decisions. In the author's words, it adopts a "transformative approach to reality that involves the construction and feedback of knowledge and learning".

Finally, what would be expected from a participatory evaluation is that it produces learning in the participants of the evaluation and of the evaluation in general, so that these learnings are useful for change, social transformation and the transformation of policies, in such a way that these learnings can be useful in other contexts and the relevance of adapting and institutionalizing them is considered.

Learning in the process and use of evaluation

From another point of analysis, Browne & Wildvasky (1998) (in Pressman and Wildvasky [1998]) refer to learning, in the sense that "learning is change." The authors return to Bateson (1972), who devised a theoretical learning scale. For the author, the lowest rung of this scale is "zero learning," which is merely reduced to "receiving a signal." The second step is "learning one" which according to the author "incorporates a signal that extends from the original event to the organism's memory." The third step corresponds to the conception of "learning to learn", this is described as "learning to receive signals". For the author, it involves a "double turn" process that "annuls the point-by-point correlation established in behavior between a stimulus and a change" (Browne & Wildavsky, 1998).

For Browne & Wildavsky (1998) in double-round learning the processes are deeper. In the context of evaluation, this type of learning leads to significant changes, for Browne & Wildavsky (1998) "evaluative learning generates a context for organizational change: an expected and continuous change thanks to learning. A climate of evolution emerges through continuous self-analysis." This double-round learning allows an organization to refine its evaluative behavior." Likewise, the authors point out that learning and evaluative processes "are deposited in an accessible memory of the organization, and are reactivated on each appropriate occasion, thus facilitating learning and organizational change."

In this sense, learning in evaluation should be considered "learning to re-project." From this perspective, evaluation should not be considered the end point of policies, rather as the beginning of being able to transform policies. In this regard, De Leon (1982) (in Browne & Wildavsky 1998) suggests the following:

"The policy evaluation community, by conducting careful analysis of the program, could compensate for the policy inadequacies of the system. It could systematize this particular redesign process and facilitate the transfer of learning from one redesign organization to another. However, without institutional support that comes from external groups of residents or participants in internal organizations, institutional reinforcement of learning is problematic."

In this line of analysis, De Leon reiterates the importance of evaluations being participatory and placing special emphasis on the production of learning, so that this is used to influence the different phases of the public policy cycle. In addition to the previous argument, when evaluation and each of the phases of the policy cycle are taken as isolated parts and not as interconnected learning processes, the opportunities to learn during each of them are overlooked. For this reason, it must be considered that "each stage depends on others that have occurred before and that continue later, this is not because someone is opposed to learning but because, on the contrary, there are profound philosophical differences in the type of learning." to be instituted" (Browne & Wildavsky, 1998).

The institutionalization of learning continues to face challenges, however, as Etheredge (1979) proposes (in Browne & Wildavsky 1998), emphasis should be placed on the need for "the production of organizational memories so that they can encode experience and learning." The ability to implement the learning acquired during the evaluation is limited by "the initiative and personal experience of the participants in each project. This network of personal experiences dedicated to finding and using lessons learned is weakened by personnel changes." Following this line of analysis, when learning from evaluations is not institutionalized and is not codified in organizational memories, it is very likely that they will leave while the people who acquired the learning leave, therefore, the possibility of transforming policies.

Finally, it should be noted that in a scenario in which there is resistance to change, it is not possible to cement learning, therefore, the management and action of organizations is not planned based on it. This situation intensifies when officials decrease their interest in learning, since their attention can be diverted to external matters away from any form of organizational learning. Therefore, the most important work focuses on how to make decisions based on and produce learning, as well as the demand for how to generate and use learning from evaluations in a way that leads to policy transformation and a learning process. interconnected throughout the policy cycle.

Methodological section

The methodological process used in this research is hypothetical-deductive. The type of study corresponds to the descriptive one through two case studies of the intrinsic type, due to the nature of the federal entities addressed, likewise, it is expected that the relationships and associations that exist between the two entities can be known, in such a way that it is possible to identify those elements that can serve as a learning experience. The research approach is mixed with greater orientation towards a qualitative analysis of case studies (Zacatecas and Jalisco), for this it will be based on the selection of an evaluation carried out on a program or policy in each of the entities.

For this research, three research techniques were used, privileging documentary and bibliographic work through content analysis; In addition to this, questionnaires and semi-structured interviews were designed and applied to key informants remotely through the Zoom and Google Meet platform. For the selection of interviewees and respondents, sampling was used for special or unique cases, as well as sequential and snowball sampling in the case of interviews. The interviews were applied to two members of the government from both case studies, and two actors from the evaluation stays. This selection was made considering the number of people who participated in the evaluation team of each case. Finally, the questionnaires were applied to the beneficiary users of the program and actors who participated in the evaluation group.

The object of study of this research is the methodological proposals for participatory evaluation at the subnational level in the field of study that refers to the Evaluation Unit of Jalisco and the State Evaluation Council of the State of Zacatecas. The characteristics of the study space are: on the one hand, Zacatecas is one of the 32 entities of the Mexican Republic, it is located in the central north of the Mexican nation; With an area of 75,284 square kilometers, it represents 3.84% of the national territory. The total population of Zacatecas, based on data from the National Institute of Statistics Information (INEGI) in 2022, was 1,622,138 inhabitants, of which 51.2% are women and 48.8% men. The economically active population (EAP) or labor participation rate in the first quarter of 2022 was 56.6%, while the unemployment rate

was 2.79% (INEGI, 2022). In relation to poverty and social deprivation indicators, according to the INEGI in 2020, 40% of the population was in a situation of moderate poverty and 3.79% in a situation of extreme poverty.

On the other hand, Jalisco is located in the midwestern part of the Mexican Republic, it has an area of 78,588 square kilometers, which represents 4.0% of the national territory. The total population of Zacatecas based on data from INEGI (2020) was 8,348,151 inhabitants, with 50.9% women and 49.1% men. Regarding socioeconomic characteristics, in the first period of 2022, according to INEGI data, the economically active population was 61.6%, while the unemployment rate was 2.36%. Of the total employed population, 53.7% were employed in the formal sector and 46.3% in the informal sector. Regarding poverty and social deprivation indicators, based on data from INEGI (2020), 29.1% of the population was in moderate poverty and 3.48% of the population in extreme poverty. In this same year, the vulnerable population due to social deprivation reached 31.2% and the vulnerable population due to income was 9.29%.

Failures as a learning subject in participatory evaluations

In participatory evaluations we talk about learning, in the sense of learning in the process and from the process. Learning in the process refers to that knowledge that is learned at the time the evaluation is being carried out, however, process learning is that which arises after the evaluation, that is, the use and appropriation generated by the participatory evaluations. This subchapter emphasizes the learning of the process that starts from those mistakes that result from these two experiences of participatory evaluations carried out in Zacatecas and Jalisco.

The participatory evaluations carried out on the Mi Pasaje Program and the Model for Equality between Women and Men, show from a general vision that the learning of the process generated by the participatory evaluations are methodological rigor, greater usefulness of the results, transparency and accountability. accounts, and strengthening the culture of evaluation. Although learning is generated because of the evaluation process, there are also some mistakes that could be taken into consideration to undertake actions that counteract the deficiencies of these evaluation exercises. Based on Caballero (2022), the mistakes that result from these evaluations are: institutional capacities, technical capacities of officials, and capacities of the evaluation teams.

Results and Discussion

Institutional capacities

The experiences of participatory evaluations of the federal entities of Jalisco and Zacatecas denote many weaknesses and mistakes in institutional capacities. The most relevant challenges that stand out in this topic are evaluation systems in the process of consolidation (uneven growth of evaluation systems), deficiencies in the legal framework (absence of institutionalization of participatory evaluation), and political-electoral agreements.

Evaluation systems in the process of consolidation

The evaluations of the entities denote an uneven growth of the State Evaluation Systems. On the one hand, Jalisco is a clear example of how evaluation has been consolidated by subnational governments, not only in the regulatory field, but also in the practical component, that is, in the management of the evaluatioOver the years, the government of Jalisco has worked to strengthen the culture of evaluation in search of innovative practices that contribute to the improvement of public policy. In this sense, Jalisco, through its State Evaluation System, has promoted the management of participatory evaluations starting in 2019 and in the last year the first actions have been undertaken to institutionalize it.

On the other hand, Zacatecas is an entity that has a State Evaluation System in the process of consolidation, with the last five years being the most important to strengthen the culture of evaluation. However, although a robust Evaluation System has not been consolidated, there has been a commitment to managing participatory evaluations for public improvement; However, its permanence over time has not been possible due to the political-electoral changes that occurred in the entity, since in 2021 the transition of government took place where the governorship of the 2016-2021 period ended, in which carried out these evaluations.

This disparate growth of each of the entities in terms of evaluation positions us in a scenario where it is increasingly complex to consolidate new evaluation practices, specifically participatory evaluations. By having different contexts influenced by various causes of the subnational public administrations themselves, such as: political will, corruption, clientelism, lack of acceptance and interest in evaluation, power relations, political-electoral changes, among others; it is difficult to enable an epistemological change in evaluation.

To transcend towards this change in participatory evaluations, it is necessary that the State Evaluation Systems point towards innovative practices, therefore, it is essential to recognize the importance of evaluation and, above all, the learning that

they generate not only in the improvement of public policies but in organizational learning itself.

In this sense, evaluation must be promoted as a priority issue for the government, in such a way that it is possible to direct actions to carry out complementary evaluations that go beyond the traditional schemes and methodologies of the National Council for the Evaluation of Policy. Social Development (Coneval). This paradigm shift in evaluation transcends the two great characteristic aspects of evaluation in Mexico, on the one hand, being a mechanism of transparency and accountability, and, on the other hand, the centralization and standardization in the Coneval methodologies.

The adoption of these evaluation methodologies requires strengthening the legal-institutional framework regarding evaluation that leads to maintaining the practice of participatory evaluations over time and ensuring that they are not ephemeral. That is, organizations aim towards a vision of evaluation as a subsystem within the public policy system, that is, anchoring evaluation to the different phases of public policy and not segregating each of them so that it works independently. One from the other, either a priori or a posteriori.

Institutionalization of evaluation practice

Talking about the institutionalization of evaluation refers to the fact that State Evaluation Systems must have a regulatory framework of a mandatory or indicative nature regarding evaluation. The subnational governments of Jalisco and Zacatecas prevail the need to establish within this regulatory framework the application of participatory evaluation, so that the construction of the terms of reference (ToR) is based on a broad typology of evaluation, where the evaluation participatory is an additional type to the current typology in subnational governments and in this way does not limit its application to the political will of subnational governments.

In the case of Jalisco, various reforms are being carried out to state laws with the purpose of incorporating citizen participation into the entity's monitoring and evaluation regulations, that is, to institutionalize participatory evaluation. Some of these reforms refer to the addition of citizen participation in the evaluation processes to articles 80, 81 and 83 of the Participatory Planning Law for the State of Jalisco and its Municipalities. Likewise, in the General Guidelines for the Monitoring and Evaluation of the Government of Jalisco Programs, participatory evaluation was added as an additional type to those already established.

The participatory evaluation in the entity has been implemented as a result of the articulation of local (subnational) and international agents, that is, an agreement between the government of Jalisco with the Ministry of National Planning and Economic Policy (Mideplan) of Costa Rica and the German Institute for Evaluation of Development Cooperation (DEval) that, although there are no formal agreements, there are factors to contain the agreement through the project Promotion of Evaluation

Capacities in Latin America (Focelac). At the subnational level, participatory evaluations are formal acts that materialize alternative and emerging forms of management and organization, which are being carried out in the current administration period that covers the years 2018-2024.

The government of Jalisco has implemented different participatory evaluations after the pilot evaluation of the Mi Pasaje Program, which reflect how the organization has managed to refine its evaluative behavior. This refers to the fact that the evaluative learning process in the entity generates a context to continue facilitating organizational change[2], in other words, the improvement, learning and evaluative processes acquired from this first experience have been impregnated in the organizational structure. in such a way that it has been possible to reactivate them in each evaluation experience, facilitating the learning process to project again.

In the case of Zacatecas, the panorama is very different, since during the administration that included the period 2016-2021 there were no actions in the regulatory framework that required the management of participatory evaluations as a type of evaluation. It was only established in the current Annual Evaluation Plan (PAE) that three evaluations would be carried out on the three most important interventions of the entity's social policy. This situation led to the fact that at the end of the administration there was no legal matter that would ensure the implementation of more evaluations of this type, therefore, the participatory evaluations ended with the administration period, being a short-term action that did not achieve permanence in time.

The participatory evaluation in Zacatecas, the scenario is different because its implementation was not an act with greater institutional scope, therefore, the subsequent implementation of this type of evaluations was limited because there were no containment factors for the agreement, as well as formal acts. that would ensure its permanence. Consequently, the application of participatory evaluations is limited to the initiative and personal experience of officials, which is weakened or worse still extinguished due to personnel changes or the organization's own resistance to change.

Returning to the idea of the previous paragraph, participatory evaluation is subject to political will; in this scenario, if the operational leaders of the new administration are not interested in resuming these experiences and, far from seeing them as an effort to improve policies, they see it as a experience that destabilizes their governments diminishes interest in resuming these practices, therefore, the possibility of their survival over time is once again extinguished; because new officials divert their attention towards preferences or ideologies of a specific government that increasingly distances the evaluation processes from beneficiaries, program operators, academics, private actors, and public sector actors. civil society, succumbing any form

[2] Learning is change (Bateson, (1972) in Pressman y Wildavsky).

of organizational learning that would have resulted from the participatory evaluations carried out prior to his government.

Participatory evaluations in Jalisco exemplify the normative or indicative component of an organization which tends to readjust and reform so that the participatory evaluation is a general agreement that transcends the variable political-electoral changes and government transitions. In this sense, Zacatecas from its institutional character requires generating actions to form a technical-political construct in which the agreements are solid and can sustain the contributions of the new participatory methodology. That is, generating a Political Administrative Action Program (PPA), which according to Knoepfel *et al.* (2008) constitute a specific moment of decision in which the legal bases that support public action are established in norms, regulatory acts, laws, decrees or administrative agreements. In this sense, the Administrative Political Agreements (APA) are of special interest, which are an institutional element in which the decision made in the PPA is operationalized.

The Administrative Political Agreement (APA) will then be the means by which the subnational government of Zacatecas generates agreements in general terms that contain the pertinent administrative, technical and financial elements to consolidate the organizational and procedural basis for the incorporation of participatory evaluations as a additional typology to the current one. The idea presented here is exemplified more clearly in Table 1, which shows the regulatory component regarding evaluation in the entity of Jalisco and Zacatecas.

Another factor that decisively influences the institutionalization of the evaluation is the allocation of the budget, that is, more financial, human and material resources must be allocated to the execution of participatory evaluations, since these require more time and involve greater costs. The case studies analyzed show us two different scenarios, on the one hand, the case of Zacatecas denotes that limiting participatory evaluations to the annual budgetary logic limits the evaluation process, and, therefore, it is more difficult to institutionally consolidate the practical component of participatory evaluation.

On the other hand, the case of Jalisco shows that organizations can promote financial mechanisms for the management of participatory evaluations, since by having trusts for external evaluation, financial resources can be exercised on a multi-year basis, so that the Participatory evaluations, being more expensive and requiring more time, have a greater chance of lasting over time. The previous finding is exemplified more clearly in Table 2 about the practical component of the evaluation in both entities.

Technical capabilities of officials

The participatory evaluations analyzed allow us to understand, from the technical capabilities of officials, those exchange goods to facilitate the evaluation process within organizations, which can be a reference for subnational understanding.

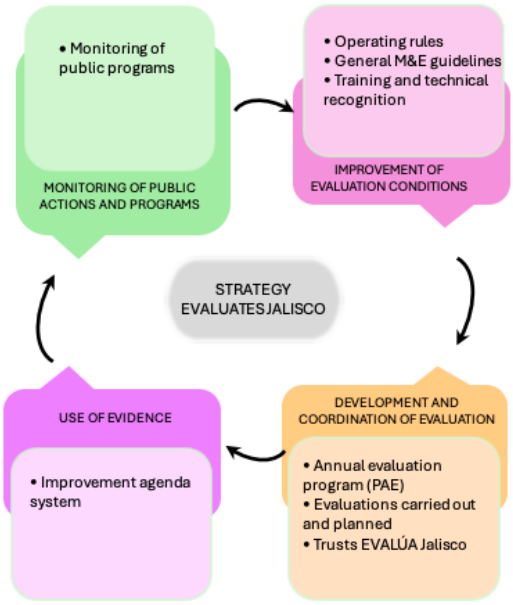
Table 1. Regulatory component regarding evaluation.

Jalisco regulatory component		Zacatecas regulatory component
Political constitution of the state of Jalisco	1	Political constitution of the free and sovereign state of Zacatecas
Organic law of the executive branch of the state of Jalisco	2	Planning law of the state of Zacatecas and its municipalities
Participatory planning law for the state of Jalisco and its municipalities	3	Social development law
Law of social development of the State of Jalisco	4	Fiscal Coordination Law
Budget, accounting and public spending law of the state of Jalisco	5	Federal Budget and Fiscal Responsibility Law
Transparency and access to public information law of the state of Jalisco and its municipalities	6	Financial Discipline and Tax Responsibility Law
General guidelines for the monitoring and evaluation of Jalisco government programs	7	General operating guidelines for results-based budgeting
Internal regulations of the secretary of planning and citizen participation of the state of Jalisco	8	Guidelines for monitoring aspects susceptible to improvement
Guide for the preparation of operating rules for the government of the state of Jalisco	9	Regulations of the state evaluation system

Source: own elaboration based on data from Coneval (2021).

In subnational governments there is resistance towards evaluation for two reasons, first, because no one wants to be evaluated, especially when from the planning of the program and from its implementation processes, the organization has identified the failures and inconsistencies that have been committed. Second, because the program executors themselves have the erroneous view of evaluation as an audit (Caballero, 2022). Given this panorama, the conviction of the operational leaders who are entrusted with the task of facilitating change processes from the organization is of utmost importance. In this sense, officials are an indispensable element of institutional

Table 2. Practical component regarding evaluation.

Practical component Jalisco	Practical component Zacatecas
 **My programs** **Measure Jalisco**	**Zacatecas is evaluated** It is an innovative practice that is responsible for monitoring and organizing actions for the continuous improvement of government programs. **Development indicators platform and statistical components** Contained in the comprehensive information system for planning.

Source: own elaboration based on data from Coneval (2021) and the Government of Jalisco (2021).

leadership to promote different evaluation alternatives. . That is, causing the leaders of the evaluation units to be decided on this paradigm shift, that is, leaving the traditional and betting on these innovation alternatives such as participatory evaluations, among others.

In this situation, the case studies show that officials have technical-political skills that allow them to link the phases of public policies with the levels of participation, as well as specialized technical training in evaluation and specifically in participatory evaluations; which together constitute a fundamental requirement for the consolidation of the State Evaluation Systems. On the other hand, participatory evaluations require the actors involved in the evaluation process to undertake certain actions, such as: the willingness to give up power in decision-making, constant training of evaluation, organization and communication personnel; and greater time, commitment; and material and human resources to participate in the evaluations.

Regarding the willingness to give up power in decision-making, an element that could be identified from both evaluations carried out is that not all the actors who were part of the evaluation group (for the case of Zacatecas) and the expanded work group (for the case of Jalisco) had the same level of participation in each of the stages, that is, the actors did not manage to obtain control of the evaluation process. In the case of Zacatecas, a level of decision-making participation is reflected and at some points in the process a level of association; However, in the case of Jalisco, the level of participation is concentrated at lower levels of participation, such as the decision and consultation levels. The above depends largely on the hierarchies and levels within the institutions, since there are actions that normatively only comment to government actors in which the rest of the actors are not involved since they are actions that are outside. of their jurisdiction and cannot directly influence said processes, mainly in the planning and use stage of the evaluation.

Although the selection of the intervention to be evaluated and the construction and monitoring of the improvement agenda are two actions that are normatively the responsibility of the program executing agencies and the evaluation management agencies, it is necessary to open transversal spaces where the different actors involved in the evaluation groups work collaboratively, facilitating shared decision-making. To exemplify these spaces, actions would have to be generated from two different visions: the first, to promote from the executing agencies of the program dialogic spaces in which the different actors who were part of the evaluation team participate to discuss and deliberate about those actions that should be carried out. be undertaken to readjust the program based on the results and learning obtained from the evaluation, once the institutional positioning has been carried out and the aspects susceptible to improvement have been established. In this way, the participation of the actors would be expanding towards another stage of public policy in which the re-design no longer corresponds solely to the executing agency of the program but is a product of shared decision-making thanks to the learning of the process generated in participatory evaluations.

From the second vision, it is up to the evaluation management units to generate dialogic spaces where the actors involved in the participatory evaluation participate to monitor the progress and compliance of the aspects susceptible to improvement, that is, to generate collaboration agreements to delegate obligations and responsibilities. to the actors involved, so that they generate pressure and counterbalance against the program management agencies. These actions fall mainly on organizations and public officials since their function is to configure themselves as facilitating subjects of the process to achieve a level of control participation on the part of all the actors involved and especially the users who participate in the evaluation.

Within this order of ideas, constant staff training is important for many reasons because evaluations are a paradigm shift that transcends the vision of evaluation seen as a check list or as a numerical rating towards the executing agency of the program.

. Given this panorama, the need to train all levels of command, from headlines, operatives and auxiliaries, in participatory evaluation to commit them to the demand for an evaluation with creative and technical development is clear. Likewise, encourage the abandonment of the vertical relationship that predominates in traditional evaluations and provide them with the necessary knowledge and skills to facilitate transversal relationships that allow the diversity of actors to empower themselves and conceive themselves as agents of change in the evaluation.

Another determining factor in participatory evaluations is the organization and communication between the diversity of actors involved in the management of the evaluation. Therefore, it is essential to build a learning and feedback network in the organization to make the evaluation process more feasible and fruitful. In relation to the above, commitment and time are constitutive elements; since they demand the obligation to include participatory evaluations in the work agenda, since they require full dedication of officials.

In this sense, the two experiences analyzed in this work show that the officials of the different agencies involved in the evaluations had difficulty dedicating themselves fully to the evaluation, because these require additional workloads to the daily dynamics of the instances, which made progress in the evaluation difficult. This is where the importance of allocating more human resources is recognized or taking actions from the same authorities to ensure that the participation of officials in the evaluation does not interfere or have negative repercussions on their daily work activity.

Finally, the time factor is an essential element for the management of participatory evaluations. In general, these types of evaluations take longer in the selection of the various actors, their training, the implementation of the evaluation, the analysis of results, the preparation of findings and recommendations, the communication of results, and the follow-up. and monitoring of aspects susceptible to improvement. Therefore, extended time periods are required that are not annual but multi-year.

In addition to the above, it would be necessary to consider the external factors of the context itself, since the evaluations carried out in Jalisco and Zacatecas show the complexity of carrying out participatory evaluations in short periods characterized by a context of confinement due to the COVID-19 pandemic, which On many occasions it exceeded the technical capabilities of the participants, as they were factors that cannot be predicted or controlled; However, currently there are other factors that entities must consider when executing participatory evaluations in a post-pandemic context.

Technical capabilities of the evaluation team

Participatory evaluations reveal deficiencies in the technical capabilities of the evaluation team. The main challenge that evaluators present is to conceive themselves

as facilitators of the change process using the rigorous techniques and methods they possess. In the case of Zacatecas, it is evident that the main function of the evaluation group was that of facilitator of the process, accompanying the evaluation group during the different stages: preparation, design and implementation of the evaluation, providing workshops for constant training in the use and implementation of different techniques and methodological tools, such as brainstorming, simulation games, focus groups, audiovisual techniques, among others.

In the case of Jalisco, the evaluation team maintained its role as external evaluator as in any other type of evaluation. This action reflects that from the perspective of external evaluators the paradigm change is not completely accepted. This is based on two different visions of the evaluator, on the one hand, he does not conceive participatory evaluations as an epistemological or paradigm change, rather he considers it an innovative technique different from doing evaluation. On the other hand, there is a vision that believes that participatory evaluations are a paradigm shift that involves a way for the evaluator to rethink how to do evaluations. Following this line of analysis, according to Caballero (2022), the most important challenge for the evaluator is to differentiate between a traditional evaluation with field work and a participatory evaluation.

From the first vision that was presented in the previous paragraph, participatory evaluation is a type of traditional evaluation with field work, which involves the expanded work group in the last phase of the implementation of the evaluation where different techniques are used. participatory to present the results and findings of the evaluation, with the aim of their validation and acceptance. The result is that the findings generated from the participatory evaluation were like those of another traditional evaluation of results that was carried out by the same evaluation team years before where the program had another name.

Another of the most significant challenges of the external evaluation team is knowing how to communicate their technical-methodological knowledge with the various actors that participate, since it is based on the premise that they do not have specialized knowledge in matters of evaluation. Therefore, it is essential that the evaluation group, from its role as facilitator, carries out the necessary training and pedagogy so that the participants do not feel excluded from the process and have the necessary elements to give their opinion and defend their ideas regarding what they want to know, how they want to do it and how they are going to communicate the results, in front of the rest of the evaluation team. Therefore, the evaluation team: must use language that is close to the citizen without technicalities; have the willingness to listen and generate spaces of trust with the different actors to break the tensions, conflicts or pressures that generate the same power relations, in such a way that the actors are maintained throughout the process; and, finally, it must make the evaluation a transversal process where power in decision-making is transferred and shared agreements are generated.

The experiences of Jalisco and Zacatecas show that training for external evaluators is necessary, as well as the communication and organization of participatory evaluation from the State Evaluation Systems themselves. The case of Jalisco reflects that the evaluation management itself is designed with different levels of participation in each of the stages, which excludes the evaluation team from the planning process and only reduces its function to the execution stage in which limits the participation of the expanded working group, this explains why the external evaluators have not fully accepted that this is an important methodological change and different from traditional evaluations with field work. Given this panorama, the challenge is to rethink the management of participatory evaluation so that the evaluator is conceived as a facilitator of the change process who provides support to the evaluation group throughout the evaluation process.

Contributions of participatory evaluations to the improvement of public policy

The learning obtained in participatory evaluations can generate improvements in the evaluated policy cycle, this does not mean that the evaluations generate results of the failures that exist in each of the phases of public policy, rather, it is about understanding that the learning that these evaluations generate serve as a reference to improve the following phases of public policy, since its very nature means that this is not a process that occurs linearly, but rather cyclically, in which the phases they tend to blur, overlap and intermingle[3].

Learning the process for the transformation of the public policy cycle

The public policy cycle, according to Aguilar & Lima (2009), consists of four phases in which participation is placed at the center from its founding moment. In this situation, participation becomes a constitutive element for the cycle of public policies that must be considered from the gestation, formulation, implementation and evaluation as a daily exercise that implies "the fulfillment of an entire cycle aimed at guaranteeing the effectiveness of citizen action and its impact strategies on public policies" (Cespedes, 2017).

Participation in the evaluation phase is the telos of participatory evaluations, for this reason guaranteeing the participation of the various actors that are part of an intervention enriches the evaluation exercise, likewise, creates an environment of validation and continuity of the policy. Based on Canto (2005), participation is conceived from different levels that range from the lowest level, which is information to control, in this case the evaluative process (see Table 3); However, what participatory

[3] Aguilar y Lima, 2009, pág. 18.

Table 3. Levels of participation in the phases of public policy.

Participation level	Description
Information	Knowledge of budgets, regulations, programs, plans, projects of the government sector and which are the basic condition to make any type of participation possible.
Consultation	Consultation with citizens is carried out, with the purpose of the government finding out about the proposals and opinions of citizens on specific aspects of public action.
Decision	You participate in the decision, that is, not only is an opinion issued, but it is obligatory for the person making the consultation.
Delegation	It is established when the government grants (delegates) to some citizen organizations the implementation of a project or program related to addressing public problems.
Association	It implies that the initiative can also be on the side of citizen organizations and that they agree with the government to carry out common policies or programs.
Control	It is the control of the actions of the government by the various forms of citizen organization.

Source: own elaboration based on Canto (2009).

evaluation seeks is precisely to transcend a process of citizen participation in which there is not only information or consultation, but delegation and deliberation.

It is then proposed that the participation of the various actors in participatory evaluations generates learning from the process that facilitates organizational change; it also enables the transfer of learning from an evaluation organization to a design organization and to an implementation one, since the stages of the cycle of public policy function dependently on each other either a *priori* or a *posteriori* and not in a fragmented manner.

The learning of the process is reflected in the phase of use of the evaluation, in this last phase the evaluation group follows up on the improvement agenda launched by the executing agency of the program, that is, it is in charge of verifying compliance with the recommendations that were generated from the evaluation. In the case studies analyzed there is no redesign of the program, rather, it is a readjustment in the areas that suggest aspects susceptible to improvement; However, much of the learning generated by these evaluations is relevant to talking about a redesign of the program. Following this line of analysis, it is important to reconnect the evaluation with the planning so that the areas susceptible to improvement as a result of the evaluations are institutionally taken up in the planning, and in this way generate mechanisms through which the beneficiaries are included in coordination with the executing agency to work in these areas so that they influence the redesign of the evaluated intervention.

The transfer of learning from an evaluation organization to a design organization will only be possible if resistance to change is not generated in the organizations. For this, it is essential that the decision makers of the design organization, through their

technical-political capabilities, generate agreements to include the participation of program beneficiaries, civil society actors and/or private actors who are involved with the intervention. This does not mean that the entire potential or target population served by the program, much less that all actors involved with the intervention should be part of the redesign process, rather, it means that decision makers can generate negotiations between the different actors with the aim of creating a joint agenda, in which the functions of each one are well established and the learning resulting from the evaluation is taken up to apply them in the redesign or in the areas that need to be improved in the program.

The evaluations of Jalisco and Zacatecas suggest two characteristics of the programs that can be evaluated participatively, these are: that the program has a high participatory component and that it is a solid program that has matured over time; However, this last characteristic makes it difficult or more complex to talk about a redesign. Returning to the previous idea, it is proposed that the programs evaluated participatively be those of recent creation, this means that, if a type of participatory evaluation is established that the objective is to evaluate the design, processes, implementation or whatever it may be , it is more likely to take advantage of these learnings to be able to create the necessary institutional adjustments to make available to the various actors integrated in the intervention mechanisms that guarantee their participation (not reduced to consultation or decision but to deliberation and association) in the planning phase. redesign of the policy, considering that it is more feasible to address the inadequacies in a young policy than one that has been implemented for a long time, which would make it difficult to talk about a redesign or even change the program's intervention logic.

Based on the previous analysis, once formal collaboration agreements have been established for the redesign, it is possible that in the implementation phase there will be co-responsibility between the various actors involved in the intervention. In this sense, decision-making capacities are required to talk about co-governance, that is, a level of participation where the various actors have specific functions during the implementation of the program and are not only beneficiaries, but subjects of rights.

Finally, it follows that the most successful contribution of participatory evaluations is the involvement of different actors for the transformation of public policy, in the sense of providing citizens with political responsibilities to facilitate the process of change. Therefore, it is required that the levels of participation of these actors transcend a level of participation of association and deliberation in the evaluation process and not be reduced to consultation or decision, so that it is possible to establish consensual and shared decision-making. Likewise, serve as a mechanism for the democratization process.

Conclusions

Participatory evaluations show an important part of the articulation of the phases of the policy and the levels of participation, which generate learning from both the successes and failures of its execution which, when shared with the design and implementation organizations, facilitate the process of change and the continuity of the transformation and improvement of the policy. Therefore, as shown in this paper, opting for complementary approaches contributes to transforming not only the traditional vision of evaluation in Mexico but also to promoting the culture of evaluation and strengthening subnational systems.

In addition to the above, participatory evaluations transcend the use of evaluations thanks to the learning generated from the involvement of the various actors involved in the management and implementation of the evaluated program, as well as the scaffolding of knowledge of the program itself as a result of the change of the traditional terms of reference with which they are evaluated, adapting them to the specificities of each one and the aspects that one wants to know about them.

Finally, if the learning from participatory evaluations leads to organizational change and by rethinking and proposing the programs that are being evaluated, this analysis leaves other lines of research open by questioning how participation can be configured and permeated in the subsequent phases of the cycle. of politics.

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EVALUATION: DEFINITION, PURPOSE AND USES

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Abstract

The document addressed the evaluation of public policies, their relevance and how to optimize their implementation to improve social programs. A methodology based on theories from authors such as Weiss and Cohen were used; qualitative and quantitative evaluation models were analyzed; it also included experimental and quasi-experimental techniques. Evaluation was defined as an activity aimed at making judgments based on specific criteria, with the objective of identifying achievements and areas of improvement in social programs. Additionally, the "implementation gap" is discussed and we analyze the impact of the evaluation on accountability and budget control. Impact evaluations favor experimental methods, but it was observed how qualitative methods, in combination, help to better understand the reasons behind the results. The study concludes that, although evaluation should contribute to decision-making, its success depends on an appropriate political context and a flexible approach that considers the realities of each program. It is emphasized that evaluation should not be used as an end, but as a strategic tool that allows optimizing policies and practices, recognizing the importance of adapting its approaches to the concrete and social situation of each intervention. Based on this analysis, it is proposed that policy evaluation, when used appropriately and thoughtfully, is a fundamental tool to promote transparency and effectiveness in government interventions, contributing to the exercise of citizen rights and the improvement of social well-being.

Keywords: accountability, programmatic effectiveness, decision making.

Introduction

Policy evaluation acquires, with the passage of time, increasing relevance; No one currently denies, at least in public (Thoenig, 2018), the advantages offered by evaluating policies; However, this public praise does not correlate with issues such as promotion and financing, not to mention utilization, which are issues that are still

pending[2]. Despite the laudatory speech, ambiguities persist regarding its meaning, uses and exploitation, therefore, without the intention of clarifying an issue that has been in the foreground for decades, we will make our contribution to the debate in a synthetic way.

First, we will focus on the definition of the term evaluation, because, although it seems like a common sense issue, talking about the evaluation of policies or programs requires a greater specification; We will continue with the characteristics that an evaluation is expected to have, and for that we will rely on the proposal of Weiss (2018) that establishes five characteristics that must be met, trying to delve into its explanations by adapting them to the Mexican context. Finally, we will reach some brief conclusions.

Theoretical framework

According to Weiss (2018), throughout our lives we carry out acts of evaluation: such as when we rate a service we receive, when we judge the usefulness of a product, or when we make a judgment about the seasoning of some food that we receive. we taste Something similar is commented by Meny & Thoenig (1992), who say that: "Evaluation is a daily gesture […] In their own way, all citizens make judgments about what the government of a State or the city council does."

The most common way in which as children we are linked to the topic of evaluation is with the application of questionnaires or tests in which the level of achievement achieved in school lessons is "judged", that is, after setting a standard (a set of expected learning), a series of lessons is carried out that are expected to be assimilated by the students, and to estimate whether the objective has been achieved, those instruments are used. However, these types of "evaluations" generally take on a punitive nature, in which the person who does not reach the minimum requirements is forced to retake the course until what is expected is "met"; and although the establishment of formative (and therefore non-punitive) evaluation mechanisms has been advocated for some years now, work still needs to be done on their design and implementation.

As can be seen, evaluation is a term that accompanies us from our first stages of life; However, in the case of the evaluation of policies and programs, particularly with a social objective, the definition of this activity takes on a slightly more technical nature. Cohen & Franco (1992) define evaluation as:

[2] The Mexican meta-evaluations also identify important problems in the use of the recommendations arising from the evaluation processes (Cardozo, 2012).

> *"The attempt to compare a pattern of desirability (objective-image towards which the action is oriented) with reality (the potential extent to which it will be modified, or what really happened as a consequence of the activity deployed) and, on the other hand, the concern to effectively achieve the stated objectives [...] To evaluate is to establish the value of a thing; To do so, a procedure is required by which what is to be evaluated is compared with respect to a specific criterion or pattern."*

Based on the above, we can propose a definition like the following: evaluation is the issuance of a judgment on some public intervention, which is issued after having applied different research techniques, both qualitative and quantitative, that allow analyzing the scope of the program objectives, to reach a set of conclusions and issue recommendations that may eventually help improve the effectiveness and operation of said intervention.

In this definition proposal we try to recover some of the points that Weiss (2018) postulates that the evaluation must comply with: 1) Carrying out a systematic assessment, which is issued, either, 2) on the operation or, 3) on the impacts. of the program based on, 4) the establishment of certain standards that serve to make the comparison between what is sought and what is desired to be achieved, finally, 5) identifies the purpose of carrying out the evaluation. We will develop each of these points below.

Issuance of a value judgment that is arrived at thanks to the application of a certain method. Although since the end of the last century, Patton reflected on the "war of paradigms" which, from his perspective, did not help the development of evaluation, and therefore, he advocated the establishment of combined approaches, the reality is that impact evaluations have a bias strongly aligned with quantitative methods, specifically through the application of experimental processes (despite the existing complications, such as, for example, the greater time required for the application of observation techniques as well as a greater amount of economic resources; ethical - deliberately leaving sectors that need it without attention; guaranteeing validity, both external and internal, etc.). Given this, Campbell & Stanley (1973) say:

> *"There are many social situations in which the researcher can introduce something similar to the experimental design in his programming of procedures (e.g., the when and to whom of the measurement), although he lacks complete control over the programming of experimental stimuli (the when and to whom of the exposure and the ability to randomize it), which allows an authentic experiment to be carried out [...] because there is a lack of total experimental control, it is essential that the researcher has in-depth knowledge of which are the specific variables that its particular design does not control".*

Thanks to the flexibility of quasi-experimental methods, the rigor that must be taken to control the sources of invalidation, both internal (history, maturation, test administration, etc.) and external (reactive or interaction effect of the tests, effects of interaction of selection biases and the experimental variable, etc.)[3].

The important thing, in any case, is to identify what has been achieved (or why the desired objectives have not been obtained) through the application of a methodology that, ideally, can combine both qualitative and quantitative research techniques. Following Deleau *et al.* (1986), the aim is to answer questions such as: To what degree has public action caused the objectives to be achieved? Which of its elements have contributed? Could another policy have been more effective? Are these results generalizable to policies of the same nature, but with target populations or applied in different regions? Has the policy had positive or negative effects? What can be said ex-post about the relevance of its objectives or what other objectives should replace the current ones?

Next, Weiss refers to the way in which the policy is being put into practice, that is, the operation (instrumentation or implementation). From the landmark study by Pressman & Wildavski (1998), it is recognized that a policy is almost never implemented in the way in which it was designed, and in part it depends on the clarity with which the different steps to be followed are specified (However, we must keep in mind that, in certain experiences, as the Mexican experience very well attests, public programs often begin to be implemented and, *ex post facto*, the design is reflected in guidelines or terms of reference). But, regardless of the thoroughness with which the course is detailed, the implementers will reinterpret and adapt the policy to their environment, which leads us to raise questions such as: how to fight against a customary practice of the Mexican public administration in which. For example, is the procedures manual replaced by the training carried out by the most experienced bureaucrat? In the same way, in his metaphorical study The Implementation Game, Bardach (1978) identified the different strategies that bureaucrats implement when they can put a policy into practice, which, thanks to both the monitoring and evaluation of the processes, we will be able to identify and reduce its harmful effects on the policy in question. All of this refers to the so-called implementation gap, which can be identified through the evaluation of processes or operations.

Moving on to the fourth point, the American political scientist refers to the very objectives that the intervention set itself. In his own words: "once evidence about the process and results has been collected, the evaluation determines the merit of the program by comparing the evidence with a series of expectations, and there will always be an element of judgment. Sometimes the criteria applied to make judgments

[3] For a better understanding of the internal and external sources of invalidation, it is recommended to consult the texts of Hernández, *et al.*, (2014) & Campbell y Stanley (1973)

comes from the official statement of the program's objectives […] (Weiss, 2018). At this point, we will have to specify two things: On the one hand, in the first part of the statement we can see that it is necessary for the evaluation to be designed thinking about what the program itself postulates, that is, what is intended? achieve?, which, implicitly, ends up being a criticism of the standardization of evaluations, since we cannot ask that a process carried out for a certain context be used to apply to any program regardless of the objectives[4].

Although it is true that the establishment of terms of reference, such as those prepared by the National Council for the Evaluation of Social Development Policy (Coneval), can serve as support so that other entities can take advantage of them to evaluate their programs, it is necessary that These terms can be adapted to the specific program. Likewise, it must be considered that, regardless of the normative positions of the evaluator, he must consider the design of the policy and not judge the intervention from its axiological framework, since, if this error is incurred, the program may be completely invalidated, although in fact, he is fulfilling what was expected of him. On the other hand, as we have just seen, Weiss specifies that, regardless of the objective pursued by the evaluation, there is an obligation for the personnel conducting it to make a value judgment to determine to what extent the objectives have been met or not. established by decision makers

The last point that Weiss (2018) refers to is the purpose of the evaluation, and in this case, it must be very clear: the purpose of all evaluation of public policies, and specifically social policies, is: "to contribute to the improvement of the program and policy. Despite this, at this point we must add some things, for example:

In order for the improvement of the program to be achieved, it is necessary that, based on the identified gaps (relevance - that is, that the actions are appropriate to address the identified problem -, congruence - which implies that the objectives can be achieved with the designed means - or implementation - if the processes are carried out as they were designed - (Cardozo, 2012), recommendations are issued that enable their adoption, therefore, only pointing out the failures without indicating the route to follow for their correction can be insufficient to fulfill the purpose of the evaluation. In addition, it is necessary to specify that it would be advisable for the evaluation team to establish the periods that it considers appropriate for its fulfillment, if it considers

[4] We could say that, although currently in Mexico, there is a strong tendency to apply the same solution (monetary transfers) to different problems (be it problems of access to basic satisfiers, attention to malnutrition problems, substitution of care services, etc.).), we cannot expect the same type of evaluation to be applied to different contexts, says Cardozo (2012) that Thoenig was concerned since 2002 by "the tendency to apply the same methodological recipes in different contexts, obtaining conclusions from the mere treatment of the data without taking into account an explanatory theory that allows its interpretation"

the time margins to which the evaluations are subject. dependencies, whether for administrative[5] or regulatory reasons[6].

In this case it is important to take into consideration the debate, precisely between Weiss and Patton about the use of evaluations. Patton, for example, states that since evaluations provide much more than they cost, they must be supported and funded, and that, for him, their use will depend on "knowledge [that] includes the ability to propose an appropriate approach to interact with target users and key stakeholders in order to educate them as information users, and work with them in a mutual commitment to use the evaluation process and its results" (in Delahais, *et al.* 2021: 38) . For his part, Weiss recognizes that "Those responsible for public programs and policies do not systematically use evaluation "as a basis for decision-making" [in addition to the fact that] Mike Patton does not mention the word "policy." In their world everyone behaves rationally" (Delahais, *et al.* 2021: 54), that is, Patton ignores the weight that politics, or inter- and intra-organizational interests, exert on the evaluation.

In general, the use will depend on various factors, e.g., the existence of a binding regulatory framework (is there a mechanism that forces the implementers to return to the recommendations? - in this case it is worth looking at the existing procedure in Mexico City -[7]), the level of complexity of the recommendation, etc.; In other words,

[5] It would not be possible, for example, to issue a recommendation that would imply a budget increase to expand the coverage of the program in the immediate term, without taking into consideration the budget programming deadlines that depend on the fiscal calendars in each administration.

[6] In this case, a recommendation to redesign the operation could not be established without considering the established deadlines in case a reform is required that involves other actors beyond the Executive branch; Let's take as an example what happened recently in Mexico, in which several programs to care for vulnerable groups have been established in the Magna Carta, therefore, promoting a reform to any of these interventions must go through a lobbying process both at the level of commissions and parties in Congress.

[7] Por ejemplo, en la Ciudad de México, la Ley de Desarrollo Social (LDS), establece en su artículo 42D que será el consejo de Evaluación (Evalúa CdMx), quien, con base en los informes finales de las evaluaciones, analizará las recomendaciones y propondrá a su vez las propias, juzgando su viabilidad tanto normativa como política y presupuestaria, acordando un calendario de cumplimiento con el ente evaluado, y en caso de que no suceda de esta manera, se iniciará un proceso de controversia que será dirimido por la Comisión intersecretarial de Desarrollo Social y, "[…] Una vez agotado el procedimiento ante la Comisión el cumplimiento de las recomendaciones será obligatorio, estableciéndose entre el Consejo de Evaluación y el evaluado un programa y calendario para su cumplimiento. La omisión en el cumplimiento de esta obligación será hecha del conocimiento de la Contraloría General del Distrito Federal [sic] y sancionada en términos de la Ley Federal de Responsabilidades de los servidores públicos". Pese a las aparentes ventajas de este modelo, también se debe considerar que la conformación del calendario y el llamado a la conformación de la Comisión Intersecretarial es una potestad del titular de la Jefatura de Gobierno, es decir, la propia autoridad que instrumenta las acciones de desarrollo social, por lo que lo convierte en juez y parte, lo que puede entorpecer los procedimientos para dirimir las controversias. Por ello, la promulgación de la Constitución Política de la Ciudad de México en el 2017 establece en el artículo 47-3 que, "El Consejo de Evaluación de la Ciudad de México, con base en la ley de la materia, determinará mediante acuerdos generales el número de comités encargados de evaluar respectivamente las políticas, programas y acciones en materia de desarrollo económico, desarrollo social, desarrollo urbano y rural, seguridad ciudadana y medio ambiente. Las recomendaciones que emitan los comités serán vinculantes para orientar el mejoramiento de las políticas, programas y acciones".

the social context of the evaluation referred to by Thoenig (2018) must be taken into consideration.

In general, the use will depend on various factors, e.g., the existence of a binding regulatory framework (is there a mechanism that forces the implementers to return to the recommendations? - in this case it is worth looking at the existing procedure in Mexico City -), the level of complexity of the recommendation, etc.; In other words, the social context of the evaluation referred to by Thoenig (2018) must be taken into consideration.

In addition to the improvement of the policy, the evaluation can eventually serve for the budgetary control that the Legislative Branch carries out in a regime with a system of checks and balances, this is what O'Donnel calls horizontal accountability. However, in environments such as Mexico, in which budget approval does not require a qualified majority, it is highly feasible that the budget will be defined, practically, in the sense defined by the head of the Executive Branch (if his party has with a relative majority in Congress, as happened for several decades during the PRI hegemony, or as has happened in the last two legislatures in which the President's party has had that advantage in both chambers), that is, make an allocation of resources based predominantly on the interests of the party in power and not on the results identified by the evaluation.

In parallel, evaluation could also be used as a means for vertical accountability (beyond the limited perspective of O'Donnell (1997))[8]. The vertical accountability to which we refer is the one that Schedler (2008) defined by associating it with three components: information, justification and sanction; That is, evaluations would serve as the first component of the Schedlerian triad, providing information to citizens about the effectiveness of policies; in a second moment, citizens could question the authorities about the results obtained and they would have the obligation to argue, substantiate and motivate the reasons for said results; and finally, if the response is not satisfactory or justified, we could reach the third and final component: that of the application of sanctions, a situation that, however, must be qualified, something that we will do in the next paragraph.

Within the evaluation we can find two approaches: the punitive and the formative. Punitive is one in which the evaluation serves to apply sanctions, whether of a political-electoral, budgetary, administrative or criminal nature, against public authorities or officials, either for failure to comply with their obligations or because the objectives are not achieved. expected results; This will cause, in part, reluctance

[8] Horizontal accountability, according to O'Donnell (1997), is what is carried out when power monitors power, that is, when there is an effective system of checks and balances between the Executive, Legislative and Judicial powers, in so much so that vertical accountability is identified, almost exclusively by the Argentine political scientist, with electoral processes, where citizens have the power (from time to time) to reward or sanction the authorities.

and distrust towards the evaluation, precisely because we think about the negative consequences that it brings with it. On the other hand, the training or learning approach, according to Nioche, represents the search for the evaluator to collect and judge the evidence, and serve as "facilitator of the learning process, which implies a change in role and characteristics." required to fulfill it (interdisciplinarity, negotiation skills, didactics, etc.)" (cited in Cardozo and Mundo, 2012: 28).

In Mexico, since the late 1990s, performance evaluation was introduced through the postulates of the NPM, and it had a strong punitive nature, that is, punishing officials who did not achieve the objectives entrusted to them. However, for some years now, both Coneval and Evalúa, to give an example, have been adopting a perspective that adopts more for learning than for sanction. However, we must make it clear that policies that do not obtain adequate results must be modified or replaced since these are interventions that fail to establish the expected changes in the population they serve.

In addition to the above, a couple of additional issues must be considered. Firstly, if the evaluation has a single purpose (the improvement of public interventions, whether called policies, programs or projects) and different uses (horizontal accountability through budget control, democratic exercise, vertical accountability, etc.), It must be kept in mind that evaluation is not an end. If for a moment we adopt Patton's romantic vision, where it seems that the information provided by the evaluation serves, yes or yes, for the improvement of policies independently of the political and technical processes, it is because the evaluation is part of a whole process, the process of all public policy and, therefore, we must consider the evaluation within an entire planning scheme.

Yehezkel (1980), during the last decades of the last century, proposed the establishment of a general planning model in which, from the diagnostic phase, it was necessary to think about carrying out evaluation activities throughout all the stages of the policies, therefore, ex ante, ex post and ex tempore evaluations had to accompany both the formulation and implementation of the policy. Also, Cohen & Franco (1992) established a general framework in which evaluation was not separated from the rest of the activities of public programs, but rather went hand in hand, serving as a feedback process.

The word planning began to suffer from a stigma that associated it, in the context of the Cold War, with the socialist bloc (due to the five-year planning carried out in the former Union of Soviet Socialist Republics). Luis Aguilar says that this type of planning was associated with the exhaustive rational model[9], typical of totalitarian societies, which implied an omnicomprehensive view, as well as a high capacity for

[9] A la letra, Aguilar menciona lo siguiente: "En un frente los racionalistas, analistas sinópticos, comprehensivos, planificadores, maximizadores…; en el otro frente, los incrementalistas, racionalistas limitados, pluralistas, los politólogos de las [ciencias de las] políticas" (2000: 59)

processing and analyzing information that allowed us to know not only the causes, but also the consequences of each alternative action (2000, 2000a). Later, the adoption of the New Public Management model, which sought to establish the private management administration model in government organizations without considering the enormous differences between both fields, continued in its concealment of the importance of planning, and has not been but until very recently when the importance of betting on planning has been reaffirmed.

Finally, in this regard, we must say that, without attempting to make a tiring summary of the different typologies that exist around evaluation (ex ante, ex post, ex tempore, internal, external, mixed, participatory, design or formulation , of processes or implementation, of results, of impact), since Cardozo & Mundo (2012), Cardozo (2012), Franco & Cohen (1992), have already paid To this objective, it is necessary to say that we must differentiate between evaluation and evaluative research, since the latter is only concerned with the accumulation of knowledge, while the former has "applied and instrumental" purposes (Cardozo & Mundo, 2012), and although Weiss refers interchangeably to evaluation and evaluative research, the former is characterized by its practical nature, while the latter is content with making findings; The first is carried out at the request of the implementers who seek to improve public action, while the second is initiated by a personal initiative on the part of researchers, generally associated with university research centers. In short, only evaluative research represents an end, while evaluation broadens its horizons. Evaluation has value only to the extent that it allows for the redesign of policies and the improvement of decision making.

The second aspect to consider, and with which we intend to conclude this work, is closely related to the previous one. If we assume again that some sectors consider evaluation as an end, without considering that the usefulness of evaluation goes beyond identifying the results of the policy, in recent years there has also been a metonymic process, in which that a part assumes the position of a whole, in this case we are referring to the reification that the word evidence has experienced. In recent years, a current of thought in which we can mention the texts of Head (2010) and Merino *et al.* (2021), as well as the holding of multiple seminars, such as that of the Instituto 512 (2022) or that of Conevalvideo (2023), we see that evidence is put before (and not evaluation) as the basis for decision-making.

At the outset, we must say that the word evidence is a copy of the English evidence, and the Pan-Hispanic Dictionary of the Spanish Language, indicates the translation as accurate, both in its quality of concrete manifestation and abstract quality, but identifies an enormous abuse in the use of this word, and adds that it is not justified:

> *"The indiscriminate use in Spanish of the word evident as a synonym for proof or indication, a reprehensible copy of the English evidence: in English, evidence is any evidence (circumstantial, testimonial, material, documentary, etc.) that is alleged in a judicial process; In Spanish, it would only be acceptable as a synonym for evident proof, that is, clear and manifest proof; Thus, uses such as the following are not appropriate: "The evidence that has been provided does not seem very convincing in any case» (Ninyoles Idiomas [Esp. 1977]);" "The circumstances and evidence were clear against Dr. Sittón" (Siglo [Pan.] 12.5.1997)" (RAE)".*

On the other hand, Hausmann (2016) mentions that, "it is sensible to demand that policies be based on evidence and that this be the best possible, within reasonable limits of time and budget. However, the way this approach is now implemented may be causing a lot of harm by weakening our ability to learn and improve what we do." This former Venezuelan planning minister warns that this trend comes, as we said previously, from the preponderance that exists in the application of experimental methods (with their epitome, randomized control trials), however, this preponderance of evidence can lead to attribution errors, such as thinking that the application of a certain method (such as the introduction of a new technology to improve academic achievement - that is, evidence) can be extrapolated to other environments in which It will not yield the same fruits. Therefore, Hausmann advocates a process of learning and concomitant feedback.

On the other hand, it is necessary to detail that, in legal language, a criminal is not sentenced based on "evidence", but rather this serves to contextualize the way in which a certain crime is committed. The evaluation of this evidence (or evidence) by the judge and jury is what will determine the guilt or innocence of the accused. Transferring this reasoning to evaluation, it is not the evidence that allows the improvement of a certain policy, it is the entire evaluation process in which they play an important role (but not the only one), since they allow certain statements to be made about politics, but they will not be the only factor that allows the value judgment to be made. Evidence is part of a whole process, so it cannot take the form of that whole, since, as Hausmann says, this evidence can be judged wrongly and may not produce the same results in different contexts.

Conclusions

Herein, the definition of the evaluation activity was specified, not in its colloquial sense, as the cited authors have helped us identify, but in its manifestation as part of the policy process, therefore, evaluation has its It was valuable to the extent that it fulfills its main purpose (improvement in decision-making for the redesign of politics), and can help other types of activities carried out in a democratic regime.

Based on this, it is concluded that policies, programs and projects can improve their results to the extent that they are evaluated, and despite its weaknesses, a binding system can better help to get the most out of them. this type of efforts (despite the various limitations it presents); although we cannot ignore a system like the one that Coneval implements with its Follow-up to Recommendations of External Evaluations, which implicitly assumes that officials and decision makers will do what is most convenient for public interventions.

For all these reasons, evaluation is an indispensable tool to expand the exercise of political and citizen rights, in a democratic regime, but also to pay for the fulfillment of economic, social, cultural and environmental rights.

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INNOVATION IN HIGHER EDUCATION: EVALUATION OF FLIPPED CLASS AND CRITICAL PEDAGOGY IN COMMUNITY LINKAGE PROJECTS

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Abstract

This study investigated the effects of combining flipped classroom methodology and critical pedagogy with higher education students involved in community engagement projects. It was carried out in a Technological Education Institute and the students' perception, the use of critical pedagogy, the influence on motivation and skills, as well as social awareness about the community were evaluated. The results indicated that the implementation of these methodologies had a mostly positive effect, with an increase in student involvement, social awareness, and collaboration in community projects. Students expressed an interest in more practical education and skills applicable in real life. Although there were benefits, areas for improvement were identified, such as the organization of and access to online resources. In general, this study supports the promotion of inclusive and quality education, aligned with the UN Sustainable Development Goals; and, furthermore, it suggests that the combination of these methodologies can promote learning and student participation in community engagement projects in higher education.

Palabras clave: Keywords: learning method, active learning, self-learning, educational technology

Introduction

This study focuses on higher level teaching, specifically on how the flipped classroom methodology and the application of critical pedagogy impact students in the subject of community engagement projects. The study is carried out in an Institute of Technological Education in Ecuador, where these careers are considered third level, equivalent to university training (CES, 2022).

The importance of this transversal subject is highlighted, which faces the challenge of limited time of synchronous contact between teachers and students. To address this limitation; and, in addition, improve the quality of learning, the flipped

class methodology and critical pedagogy are proposed. A pilot program was previously conducted (Gallegos-Montero, 2023), and the current research focuses on a broader group over a longer period.

The research is based on specific objectives, such as assessing student perception, examining the application of critical pedagogy, investigating the impact on student motivation and engagement, exploring skill development for community engagement projects, and analyzing how students perceive its impact on the community.

The report focuses on the results of the April 2023 diagnosis and the September 2023 final evaluation after the implementation of the flipped classroom methodology and the critical pedagogy approach, providing a comprehensive view of the effectiveness of these methodological approaches. and pedagogical in higher education and its impact on the training of students.

Review

The literature review carried out with various authors provides a comprehensive perspective on the implementation of the flipped classroom methodology and the adoption of the critical pedagogy approach in the subject of community engagement projects in higher education students. This analysis draws on research such as that of Aznar-Díaz *et al.* (2020), who highlight the benefits of the flipped class, according to which academic performance, dialogic learning and creativity stand out as positive results. Her research focuses on the practical aspects and positive impacts of the flipped classroom.

As for, Colomo-Magaña *et al.* (2020) emphasize the positive assessment of the flipped class by higher education students, with greater focus on time management and teacher availability as key factors for successful implementation. Meanwhile *et al.* (2019) contribute by highlighting that the flipped class positively impacts students' knowledge and skills, providing practical recommendations for implementation. Likewise (2019) adds a solid theoretical perspective supporting the implementation of flipped classes and critical pedagogy, emphasizing his perspective on the student, personalization and collaboration as essential foundations.

On the other hand, Buil-Fabregá *et al.* (2019) focused their study on sustainable development and how the flipped classroom improves students' understanding and dedication. They provide practical recommendations for educational institutions and future research areas. Additionally, Steen-Utheim & Foldnes (2017) delve into the effectiveness of the flipped class, highlighting its positive impact on student participation and affective dimensions. Its socio-constructionist approach and its attention to psychosocial dimensions offered valuable perspectives.

Alebrahim & Ku (2020) provide direct experiences of teachers and students in the application of the flipped classroom, highlighting the importance of prior

preparation, active interaction, and adaptability. At the same time, Al-Samarraie, *et al.* (2019) provide a comprehensive review spanning various disciplines, highlighting the effectiveness of the flipped classroom in improving student learning and engagement. Although not directly focused on critical pedagogy, its robust analysis provides a theoretical framework for exploring the intersection between the flipped classroom and critical pedagogical approaches. Meanwhile, Berić-Stojšić *et al.* (2019) enrich the discussion by examining the effectiveness of the flipped classroom in a public health course, integrating theories such as liberation pedagogy and Vygotsky's theory, highlighting its inclusive and empowering potential.

Together, these studies provide a solid foundation to address the research question about how the application of the flipped classroom methodology and the application of critical pedagogy in the subject of community engagement projects influences higher-level students.

Theoretical framework

The implementation of critical pedagogy and the flipped classroom methodology in the subject of community engagement projects in higher education students offers a transformative perspective that goes beyond conventional educational structures. This theoretical framework seeks to provide a solid foundation to understand how these two pedagogical streams can positively influence knowledge acquisition and student engagement, with a particular focus on sustainability and the Sustainable Development Goals (SDGs), UN (2018)).

Critical pedagogy, rooted in the ideas of Freire (2002) and supported by Giroux & Ocampo (2020), is positioned as a catalyst for student empowerment, social consciousness, and transformative action. Fundamental principles, such as dialogue and participation, critical reflection, awareness-raising and transformative action, offer a solid framework to foster the connection between academic learning and social reality.

The application of critical pedagogy in community engagement projects involves engaging students in an active dialogue with social problems, promoting reflection on structures of oppression and stimulating actions that contribute to positive social change. This methodology, aligned with the SDGs (UN, 2018), can nurture crucial skills such as critical thinking, active citizenship and awareness of social responsibility, essential elements for building a sustainable future (Giroux & Ocampo, 2020).

The flipped classroom methodology offers an innovative approach by allowing students to acquire theoretical knowledge autonomously before class (Sanchez-Rodriguez *et al.* 2014). This frees up valuable classroom time for interactive and collaborative activities, aligning perfectly with the foundations of critical pedagogy.

The flipped classroom makes it easy to personalize learning, allowing each student to progress at their personal speed and delve into specific areas based on their individual needs. Adding to the above, it promotes active and collaborative learning, essential to develop superior skills such as critical thinking and problem solving (Freire, 2002; Sanchez-Rodriguez *et al.*, 2014).

Technology plays a crucial role in both methodologies. The flipped class relies on digital resources, providing flexibility and access to students anytime, anywhere (Cobo & Moravec, 2011). This not only aligns with contemporary learning demands, but also contributes to a sustainable approach by reducing the need for printed materials and optimizing the use of class time.

The evaluation of these methodologies must go beyond the conventional measurement of academic performance. Students' ability to use the knowledge acquired in real-life situations, their active involvement in solving social challenges and their contribution to sustainable development, in line with the SDGs, must be considered (Cobo & Moravec, 2011).

The proposed research is especially aligned with Sustainable Development Goal number 4 (SDG 4): "Ensure inclusive, equitable quality education and promote lifelong learning opportunities for all" (UN, 2018). The combination of critical pedagogy and the flipped classroom not only seeks to raise the level of excellence in university teaching, but also advocates for equity and inclusion by allowing the active participation of students in their knowledge acquisition process, adapting it to your individual needs. Along the same lines, it promotes fundamental competencies necessary for life and the workplace in an increasingly intricate and varied global environment, thus contributing to the achievement of SDG 4 (UN, 2018).

Methodology

This study is framed in the interpretive approach (Burrel & Morgan, 1979; Guba & Lincoln, 1994), whose objective is to understand in depth the experiences of students in relation to the flipped classroom methodology and critical pedagogy in connection projects with the community. With this interpretive perspective, the study adopts a mixed approach (Creswell, 2014), combining qualitative and quantitative methods to provide both a detailed understanding of students' perceptions and quantifiable data that reflects the influence of these pedagogical methodologies.

The research design is exploratory and descriptive. The exploratory approach allows a deep and holistic examination of students' perceptions, prior knowledge and expectations. In turn, the descriptive approach is used to identify patterns and trends in the data obtained, which facilitates a systematic and robust interpretation of the results.

For data collection, a survey design was used based on questionnaires administered anonymously, to promote confidentiality and honesty in the responses (Dillman, 2000). The questionnaires included open and closed questions, allowing us to obtain both qualitative data on the individual experiences of the students and quantitative data on the frequency and distribution of certain opinions and experiences.

The selection of the sample followed two phases to ensure its representativeness and validity. In the initial phase, a simple random sample was carried out (Levy & Lemeshow, 2013) for a population of 243 students enrolled in the subject of community engagement projects, with the support of the following formula:

$$n = \frac{Z^2 \cdot p \cdot q \cdot N}{E^2 \cdot (N-1) + Z^2 \cdot p \cdot q}$$

Where: n: is the sample size; N: total population size; Z: confidence level, usually 95%, which corresponds to a value of 1.96; p: expected proportion of success in the population, usually 0.5 is used if there is no known value, to maximize variability; q: complement of p, that is, q = 1 – p; E: Allowable margin of error desirable to be 5% = 0.05. That by establishing values, a sample of 98 surveys was obtained.

This simple random sample was used to obtain an overview of students' experiences and perceptions and had a favorable collaborative response that allowed for the application of 157 instruments. To determine stratified sampling (Fowler, 2014), the number of instruments applied in the previous phase was used as the calculated sample size, to improve the expected representativeness of the instrument. In this phase, factors considered relevant and applicable to the type of study such as gender, age and majors of the students were considered, which allowed us to reflect the diversity of the student population and ensure that the subgroups were proportionally represented in the final sample. It was distributed as shown in Table 1.:

This stratification allowed the results to be generalizable to the entire

Table 1. Calculation of the stratified sample.

Stratification factors	Representativeness (%)	n	n_e
Gender	50	121.5	46.61
Ages	25	60.75	30.45
Vocational training	25	60.75	30.45
		243	107.5

n: Relative population size, n_e: Stratified sample size.
Source: Own elaboration.

population of interest, guaranteeing that the experiences and perceptions collected are representative of the different profiles present in the student community. The application in this second phase, the sample was expanded to 200 students, due to the students' interest in participation. For the interpretation of the results, the response obtained was considered, which allows representative inferences to be made, based on the response obtained in the application of the study instruments.

Data Collection and Analysis Process

Qualitative data were analyzed using thematic coding, identifying patterns and trends in the perceptions and experiences expressed by students. On the other hand, the quantitative data were analyzed with descriptive statistics techniques to detect the frequency and distribution of the responses in relation to the methodological approaches evaluated. Self-administered questionnaires were used that included closed questions with the purpose of simplifying the analysis of numerical data and using open questions to collect additional qualitative information. The surveys were distributed electronically, guaranteeing the confidentiality and anonymity of the responses. A brief introduction was provided to contextualize the purpose of each survey and highlighted the importance of honest responses to obtain meaningful results. A specific period was assigned to complete the surveys.

1. Diagnostic Questionnaire: Applied at the beginning to obtain data on expectations and prior knowledge (Fraenkel & Wallen, 2006).
2. Didactic Intervention: Implementation of the flipped class methodology and critical pedagogy.
3. Evaluation Questionnaire: Applied at the end to collect data on students' experiences and perceptions.
4. Data Analysis: Quantitative (descriptive statistics) and qualitative analysis is used, through content analysis (Hsieh & Shannon, 2005) to identify patterns and trends.

This methodological design integrated elements of both approaches to offer a holistic and precise vision of the influence of the flipped classroom methodology and critical pedagogy on learning for the application of community engagement projects.

Results and Discussion

The results of the diagnostic questionnaire provided a complete vision of the students' perception and previous experience regarding the use of the flipped classroom methodology and critical pedagogy in the subject of community engagement projects.

A relevant finding is that 73.89% of the students have no previous experience with the flipped class. Even so, those who have previously used it express a marked preference for practical activities over theory (54.78%), which reflects an alignment with the fundamental principles of this methodology, which promotes active and practice-based learning (Giroux & Ocampo, 2020).

Likewise, student's express expectations of acquiring practical skills (47.13%) and improving skills such as teamwork, leadership and interpersonal communication (29.30%). This interest in practical skills and group work coincides with the objectives of critical pedagogy, which seeks to go beyond the mere transmission of theoretical knowledge to promote transformative and socially engaged learning (Murillo-Zamorano *et al.*, 2019). Furthermore, a significant percentage of students (46.50%) consider connection with the community essential in their academic training, which reinforces the idea that both the flipped classroom and critical pedagogy have the potential to contribute to sustainable development (UN, 2018).

On the other hand, a high percentage of students (96.18%) express high learning expectations, valuing the development of practical skills applicable in real life (42.68%). These results reflect the positive perception of students regarding the benefits of the flipped classroom and critical pedagogy, in terms of both academic learning and practical skills (Buil-Fabregá *et al.*, 2019). In line, 54.78% of students express the desire to participate in practical activities, which coincides with the purpose of the flipped class to promote active and collaborative learning (Sánchez-Rodríguez *et al.*, 2014).

The lack of experience in the flipped classroom methodology (73.89%) highlights the importance of training for teachers in this methodology, since its correct application requires specific classroom facilitation and organization skills (Colomo-Magaña *et al.*, 2020). This is even more relevant when observing the skills considered key by students, such as effective communication (10.91%), teamwork (16.59%) and planning and organization (14.32%), which are closely aligned with the principles of critical pedagogy and the flipped classroom (Freire, 2002; Sánchez-Rodríguez *et al.*, 2014).

Together, these results show a convergence between student expectations, demand for practical skills, and the principles of critical pedagogy and the flipped classroom. This coincidence suggests an opportunity to design the subject taking these elements into account, providing an educational experience that encourages both academic learning and the development of social and practical skills, necessary in a context of community engagement.

Evaluation of the application of the flipped classroom methodology and critical pedagogy

When evaluating the implementation of the flipped classroom and critical pedagogy, the results are generally positive according to the perception of the students. Regarding the flipped class, 80.5% of students consider that this methodology allows more active participation in class sessions, which coincides with the benefits of this methodology for dynamic learning (Aznar-Díaz *et al.*, 2020). Furthermore, 26.5% appreciate the flexibility that this methodology provides in the organization of study and work time on the project.

In relation to critical pedagogy, a notable influence is observed on the motivation and commitment of students in the process of design and development of community engagement projects, reaching 75.5%. Furthermore, 54% consider that this pedagogy is effective in identifying relevant social needs and problems, in line with its fundamental principles of social awareness and transformative action (Giroux & Ocampo, 2020).

The perception of effectiveness of the flipped class reaches 74.5% in terms of application of tools and strategies for the development of community engagement projects, facilitating the dedication of more time to practical and collaborative activities (Sánchez-Rodríguez *et al.*, 2014). Additionally, students' responsibility in the knowledge acquisition process increases (84%), as does peer interaction and collaboration (80%), which reinforces the notion that critical pedagogy drives social awareness. and collective action, as well as active learning (Giroux & Ocampo, 2020; Sánchez-Rodríguez *et al.*, 2014).

Skill development and application of critical pedagogical principles

Regarding the development of skills for working on linking projects, the flipped class contributes significantly to strengthening teamwork (49%), aligning with the promotion of active and collaborative learning (Freire, 2002). However, other skills such as critical analysis and effective communication do not seem to have been so influenced, which suggests the need to reinforce these aspects in the implementation of the flipped class.

The results regarding critical pedagogy highlight the importance of aspects such as respectful dialogue (13%), the promotion of a deep criticism of the causes of social problems (18%), and citizen awareness and active participation (18%). These results demonstrate the application of critical pedagogical principles aimed at empowering students to influence their community (Freire, 2002; Giroux & Ocampo, 2020).

Synthesis of findings and contribution to the Sustainable Development Goals

In summary, the implementation of the flipped classroom methodology and critical pedagogy has a positive impact on student learning and participation in higher education, aligning with UN Sustainable Development Goal number 4, which promotes better education. inclusive, equitable and quality. However, areas for improvement are identified in aspects such as the organization and classification of online educational resources, which could optimize the educational experience of students.

Finally, the content analysis of the student responses reveals enriching experiences, such as team learning and the application of knowledge in real contexts, coinciding with the observations of Aznar-Díaz *et al.* (2020) and Colomo-Magaña *et al.* (2020) on the benefits of the flipped classroom on academic performance and dialogic learning. However, students also mention challenges, such as time management and coordination in online activities. According to Colomo-Magaña *et al.* (2020) and Steen-Utheim & Foldnes (2017), efficient time management is crucial to maximizing the effectiveness of the flipped classroom on student engagement.

Conclusions

This research focused on understanding how the flipped classroom methodology and the adoption of critical pedagogy affect higher education students who participate in community engagement projects. The effects of the study reveal that the majority of students had a positive experience with the flipped class, as it allowed them to engage more dynamically in classes and discussions, which is consistent with previous research that highlights its benefits, such as better performance. academic and more participatory and creative learning (Gallegos-Montero, 2023). Additionally, students appreciated the flexibility that this methodology gave them to organize their study time and work on community projects.

Together, the findings highlight the relevance of the flipped classroom and critical pedagogy in teaching, as well as its contribution to promoting collaborative and community-linking initiatives in the educational field, in accordance with the SDGs. Regarding the adoption of critical pedagogy, it was found that it positively influenced the motivation and commitment of students in the planning and development of community projects. This pedagogy has an approach that is directed towards social awareness and transformative impact, which promotes critical reflection on community problems. Additionally, the flipped class methodology is considered effective for applying tools and strategies in community outreach projects.

In terms of skill development, the flipped classroom contributed to improving students' group collaboration skills, which is essential in community projects. However, some skills, such as critical analysis and effective communication, were not as influenced. Students also identified areas for improvement, such as organizing online educational resources.

In summary, the implementation of the flipped classroom and critical pedagogy in community engagement projects in higher education had an overall positive impact. These approaches not only improved academic learning, but also fostered social awareness, contributed to dynamic engagement and cooperation among students, thus contributing to promoting high-quality education that is inclusive and equitable, in line with the UN Sustainable Development Goals.

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ASSESSMENT OF THE COMPETITIVENESS OF THE MAIN EXPORTING COUNTRIES IN THE INTERNATIONAL HONEY MARKET

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Abstract

In this paper, we review the honey global market using statistics FAO repositories from 2009 to 2018. We analyze the macro competitiveness in the honey international commerce, which is related with the trade practices of main exporter countries and how Mexico is compared with them. This paper shows a growth in honey production and commercialization. We also show the emerging of new countries as important producers, which increases commercial dynamism.

Keywords: Beekeeping; Relative balance; International trade; Competitive advantage.

Introduction

Beekeeping is a productive activity that is developed throughout the world due to the multiple benefits it offers both for the consumption of honey and for the pollination of crops, as well as the obtaining of other products. This profession can be complemented with other agricultural and livestock practices; however, the main objective of beekeepers is the production of honey for self-consumption or for marketing, being an activity with strong local roots.

Half of the honey produced in Mexico is destined for bulk export, the second destination is the national agroindustry, and a smaller amount is sold to the final consumer. The Mexican honey that is exported competes in price with honey from China and Argentina; however, the quality of Mexican honey has allowed it to position

itself in the German market. However, the honey market is experiencing important changes such as the incorporation of new honey producing powers.

In the current scenario that involves the production, marketing and consumption of honey in the world, Mexico seems to place as its best positioning strategy the over-enjoyment of comparative advantages, without considering the new market signals that make visible the importance of meeting the achievement of greater competitiveness.

Honey production is inserted in the national rural sector in structural terms as an economic activity that has certain comparative advantages for its better development, which allow it to improve its productivity in a commercial environment that has been internationalized for several decades.

Comparative advantages are not enough to build a more competitive productive sector in the international market. First, productive trajectories of continuous change must be established, which in addition to improving productivity seek to obtain greater quality and safety of the product. Secondly, you must know and understand the market in which you are participating, as well as your competitors.

To contribute to the study and characterization of the international honey market, the objective of this work is to measure the market share of the main honey exporting countries and analyze the performance of some of their honey marketing practices. that result in an increase in its competitiveness in international trade, through the formulation and measurement of participation indicators in the international market to determine the international context in which Mexico is inserted. The study period covered the period from 2009 to 2018.

Theoretical Framework

Honey production worldwide

In 2018, global honey production was 1,851,541 tons, half of this was concentrated in five countries: China, Turkey, the United States of America (USA), Ukraine and Argentina. The honey market is highly open since the main consumers have inefficient production to satisfy their internal demand and the main producers have low per capita consumption, therefore, there is an interrelation between exporting countries and consumers. Countries such as Spain, the USA and Russia have what is necessary to produce honey, however, they have more imports because they decide to allocate their resources to other activities, for example, grains, cereals, fruits and vegetables, as is the case. from the USA (Macías, 2010).

In this regard, it is important to note that the production of honey is a direct function of the quantity and quality of the natural resources of the producing region and according to the theory of comparative advantage proposed by David Ricardo

(1817), a nation will allocate its resources towards that activity in which it turns out to be more efficient and productive, and will choose to import goods whose opportunity cost is higher than its import cost (Krugman *et al.*, 2013). These advantages, with the support of advanced technology, new consumption patterns, and greater awareness of the use of natural resources, tend to exceed the limit imposed by the natural attributes they possess, thus evolving towards the stage of competitive advantages (Inter-American Institute for Cooperation on Agriculture [IICA], 1999).

Competitiveness as a factor of change

Krugman (1994) points out that it is incorrect to define competitiveness in the same way for a nation as for a company. Thus, when addressing the topic, he explains that a company is not competitive when its position in the market is unsustainable, and that unless it improves in generating value, it will go bankrupt. While countries may or may not be satisfied with their economic management, but they do not go bankrupt. In this framework, Chesnais (1986) and Rodríguez (1999) point out that competitiveness is "the ability of a country (or group of countries) to face competition at a global level: considering both its capacity to export and sell in external markets and to defend the domestic market from excessive import penetration." The latter also adds that international competitiveness is a sharing term, since one cannot speak of the competitiveness of a nation if it is not in relation to the behavior of its rivals.

Porter (1991a) in his publication the competitive advantage of nations explains that the competitiveness of a nation is based on its productivity, and that competitive advantage arises fundamentally from improvement, innovation and change, and indicates that as regards There are two basic types of competitive advantage that the company can possess: low costs and differentiation. In this regard, he explains that cost leadership is obtained when economies of scale are achieved, proprietary technology is developed and preferential access to suitable raw materials is obtained. For its part, differentiation is achieved through the product itself, the management of a continuous delivery system and the application of an ingenious and persistent marketing approach, among other strategies.

The IICA (2000) points out that a nation favors the competitiveness of its products through production subsidies and activity protection, and through the collection of import tariffs. This type of competitiveness is known as "spurious" or passive competitiveness, defined as that based on the overexploitation of natural and human resources, subsidies on factor prices, depreciations at exchange rates, among others.

On competitiveness Campos *et al.* (2018) point out that this is understood as the capacity of an economic organization to maintain, conquer or expand its participation in the market. Hence, the degree to which a nation achieves the insertion

and permanence of its products in the international market will be a reflection of its competitiveness (Magaña *et al*., 2017). However, various aspects influence its realization, such as obtaining favorable productivity, expanding the level of product differentiation and having the capacity to satisfy national consumption.

Campos *et al*. (2018) state that Mexico stands out as a net exporter of honey not because it has a large productive capacity, but because of the availability of natural resources and exportable surpluses it has, which generates cost advantages and makes it more competitive compared to other countries. situation that is enhanced by the low internal demand for the product. However, these advantages are not necessarily sufficient factors to confront the competitive position maintained by other countries that function as producers or commercial intermediaries, since they are the ones who dimension the triad: technological innovation, value addition, multiple product offerings. finals, as determinants to maintain quality and obtain better prices in the marketing of the product.

The use of competitiveness indicators allows comparisons to be made between nations to observe and evaluate one economy compared to another (Bonales & Gallegos, 2014). Romo & Abdel (2005) propose that the analysis of competitiveness can be carried out at three levels: micro (the company), meso (the industry and the region) and macro (the country). It should be noted that in this approach, macro-level competitiveness is the mechanism that determines the competitiveness of lower levels.

Although it is true that the global supply of honey will continue to increase, the participation of producing countries is entering a phase of change and dynamism, at the same time new producing powers are joining in that compete strongly to gain market share from the current countries. leaders. Given this, the producing powers, and in the particular case of Mexico, must maintain a good level of competitiveness by improving their productivity and through product differentiation to maintain their position in the market. In this way, those countries with environmental advantages in production will also be competitive in terms of the product offered, and will be in a position to confront (at the level of commercial competition) countries with economic resources that base their offer on differentiation. of the product. They may even respond to market signals by holding their prices against the group of countries that seek competitiveness with aggressive strategies such as dumping or productive alteration of the sweetener.

Methodological section

Haguenauer (2012) explains that, in a simple notion, competitiveness is associated with export performance. For the author, it is an "ex post" concept, which evaluates competitiveness through its effects on foreign trade: industries that expand their participation in the international supply of certain products are competitive. This

broader concept of competitiveness encompasses not only production conditions but all factors that inhibit or expand exports of specific products and/or countries, such as exchange and trade policies, the efficiency of marketing channels and financing agreements. of systems, international agreements (between countries or companies), strategies of transnational companies, etc.

Chudnovsky & Porta (1991) state that according to the indicators of participation in world markets, the concept of competitiveness suggests that a country will be more competitive the greater the international market share it has managed to capture. Therefore, it is a macro-level application of the way competitiveness is generally measured at the microeconomic level. The competitiveness analysis was carried out at a macro level, that is, the market shares of the main honey exporting countries were identified, and the calculation of participation indicators in the international market was carried out.

For the analysis of competitiveness in honey marketing of the main exporting countries, repositories of the Food and Agriculture Organization of the United Nations (FAO) were used, related to the production and marketing of honey in the world. Based on the information obtained, five indicators of participation in the international market were incorporated: i) export coefficient, ii) tradability index, iii) degree of openness, IV) relative trade balance, and v) import penetration coefficient. This was done for a period of 10 years, which covers from 2009 to 2018. They were considered appropriate for the purpose of this contribution because they facilitate the comparison of variables between different countries and in different years. Each one points out the behavior in production, export and import in the international market, as well as the relationship that exists between the variables. The methodology proposed by IICA (1995) to measure competitiveness was used as a reference. The indicators used are described below.

Average export coefficient (EC) from 2009 to 2018. It is the relationship established between the volume of exports (E) and the volume of production (P) during a period. It measures the percentage of production that is exported (Velin & Paúl, 2011). The indicator expression is

$$CE_t^i = \frac{E_t^i}{P_t^i} \times 100 \quad (1)$$

Where E= Volume of exports; P= Production volume. This indicator represents the percentage of production that is destined for export.

Average tradability index from 2009 to 2018. It is the relationship between the volume of the trade balance and the volume of apparent consumption. It measures the capacity to generate net surpluses in relation to domestic consumption (Velin & Paúl, 2011). The indicator expression is:

$$IT_t^i = \frac{E_t^i - I_t^i}{P_t^i + I_t^i - E_t^i} \times 100 \quad (2)$$

Where E= Volume of exports; I= Volume of imports; P= Production volume. Under the assumption that apparent consumption is greater than zero, P+I-E>0, the following can be said: if the indicator is greater than zero, it is considered an exporter, given that there is an excess supply E-I>0. If the indicator is less than zero, it is an importable product given that there is excess demand E-I<0.

Average degree of openness from 2009 to 2018. It is the relationship between the volume of exports (E) and imports (I) and the volume of production (P).

$$GA_t^i = \frac{E_t^i - I_t^i}{P_t^i} \times 100 \quad (3)$$

Where E= Volume of exports; I= Volume of imports; P= Production volume. It is an indicator whose use allows evaluating the openness of a country to the outside world and measures the influence that the rest of the world has on a sector of the country's economy (Velin & Paúl, 2011).

Average Relative Trade Balance from 2009 to 2018. This indicator measures the relationship between the trade balance of a product and its total trade for a country; If the result is positive, there is a competitive advantage; otherwise, if the result is negative, it indicates that the country is oriented toward importing the product (Pat *et al.*, 2016).

$$BCR_t^i = \frac{E_t^i - I_t^i}{E_t^i + I_t^i} \quad (4)$$

Where BCR = Relative Trade Balance of a country with respect to product i; E = Exports of product i by a country to the world market; I = Imports of a product i by a country to the world market or a specific market. The calculation is carried out in terms of constant prices.

Average import penetration coefficient from 2009 to 2018. It is the proportion of apparent consumption that is supplied with imports. The higher this coefficient, the greater the dependence on imports to satisfy domestic demand, and the lower it is, it will imply that the country has more capacity to satisfy its internal demand with national production (Fernández, 2012). The calculation was carried out in terms of volume.

$$CPI_t^i = \frac{I_t^i}{P_t^i + I_t^i - E_t^i} \times 100 \quad (5)$$

Where E= Volume of exports; I= Volume of imports; P= Production volume.

Average Annual Growth Rate (AGR) from 2009 to 2018. This indicator represents a measure of the average increase or decrease of a variable that went from an initial value (VI) to a final value (VF) in a certain period (t) at constant prices. The expression is:

$$TMCA = \left\{ \left[\left(\frac{Vf}{Vi} \right)^{\frac{1}{t}} \right] - 1 \right\} \times 100 \quad (6)$$

The method used to analyze the resulting data was comparative, with which participation in the international market was identified, that is, the level of competitiveness at a macro level. The total supply of honey with which a country can confront its competitors was identified, since according to Porter (1991b) a nation achieves competitiveness based on its productivity. In this work, the size of the production unit or the other income from beekeeping is not considered, since the basis of the analysis is the export capacity of each nation.

Results and Discussion

This section presents the main findings obtained in the analysis of the information. Firstly, the results of the international market participation indicators of the main honey exporting countries are shown. Secondly, an analysis of the practices carried out in their marketing by exporters to sustain and improve their market participation is presented.

Medición de la cuota de mercado de los principales exportadores de miel

The first indicator is the export coefficient, which makes it possible to measure the percentage of production that is exported (Fernández, 2012). In that sense, the estimates of the export coefficient showed that the highest coefficient in the defined period is in Vietnam with 168.1% and Germany with 106.7%; This indicates that its exported quantity is much greater than the quantity produced domestically. Regarding this, Magaña *et al.* (2017) point out that not all countries that appear as main exporters

are producers. The coefficient is greater than 100 because the exports made by this country are considered, coming from its production and its imports. In this case, Germany acts as a honey producing, concentrating and distributing country. The export of this product is not carried out as a commodity, but through a process to which value is added by including packaging and labeling, which makes it possible to differentiate the product and place it at a better market price.

In turn, Argentina has an export coefficient of 96.3%, while in the case of Mexico it is 58.7%. Both, in contrast to Germany, base their commercial positioning strategy on internal conditions conducive to the production of the sweetener. Another factor that strengthens their export coefficient is that both exhibit low per capita consumption.

In contrast to Argentina and China, Mexico exports its honey with a non-competitive sales price; The former export at prices lower than the average established from international prices. However, Mexico has the advantage of having Germany as a client, who prioritizes the quality of honey over price. China, despite being the main producer and exporter of honey in the world, only negotiates 25.3% of its production in the international market, this is because it does not meet the high quality standards of importing nations.

Türkiye, the second largest honey producer, has an export coefficient of only 3.7%; The same happens with the USA and Japan, which present export coefficients of 9.8% and 1.8% respectively, who allocate their production essentially to domestic consumption (Table 1). An outstanding fact for the US is that although it is the world's leading importer of honey, it also makes a significant volume of exports but adding value (packaging and labeling), with substantial improvements in price. Figure 1 shows that leading countries in production and export, such as China and Vietnam, acquire honey from the United States and some countries in the European Union, which implies that part of the honey trade they carry out is not produced in these countries, but rather who become intermediaries who only package and label it for sale.

The second is the tradability index, with which the capacity to generate net exportable surpluses in relation to domestic consumption can be measured (Fernández, 2012). According to the results shown in this index, Argentina is positioned as the main exporter of honey, above China, which handles the largest export volumes. As already mentioned, Argentina exports 96% of its production and its surplus availability is 62 times the volume of its apparent national consumption (ANC); Furthermore, the country has an index of 2533.4, and this value is 44% higher than what was found by Magaña *et al.* (2017) in the period 2000-2011 and by Campos *et al.* (2018) in 2001-2011. This difference is due to the fact that in 2011 and 2016 there were more exports registered than the sum of its production plus its imports.

For its part, Mexico is a competitive exporter with an index of 142.2%, in contrast to the results presented by Magaña *et al.* (2017) that show an index of 89.4%

Table 1. Foreign trade indicators 2009-2018.

País	Export coefficient	Tradability index	Opening degree	Import penetration coefficient	Relative trade balance
Germany	106.66	-75.11	-301.75	101.66	-0.40
Argentina	96.32	2533.40	96.20	3.13	1.00
Brazil	58.52	140.86	58.48	0.09	0.53
China	25.35	30.16	23.17	2.83	0.25
Spain	71.40	-2.49	-2.55	72.11	-0.90
EE. UU.	9.85	-67.52	-207.92	70.72	-0.99
Hungary	71.31	218.52	68.60	8.63	1.00
India	54.03	111.43	52.70	2.81	1.00
Japan	1.78	-93.56	-1453.81	93.68	0.99
México	58.75	142.25	58.72	0.06	1.00
New Zealand	54.84	119.40	54.42	0.91	0.95
Türkiye	3.72	3.86	3.72	0.00	0.94
Ukraine	43.12	75.62	43.06	0.12	0.94
Vietnam	168.14	-256.06	164.08	-6.34	99.38

Source: Own elaboration with data from FAO - FAOSTAT (2020) and Trade Map (2020).

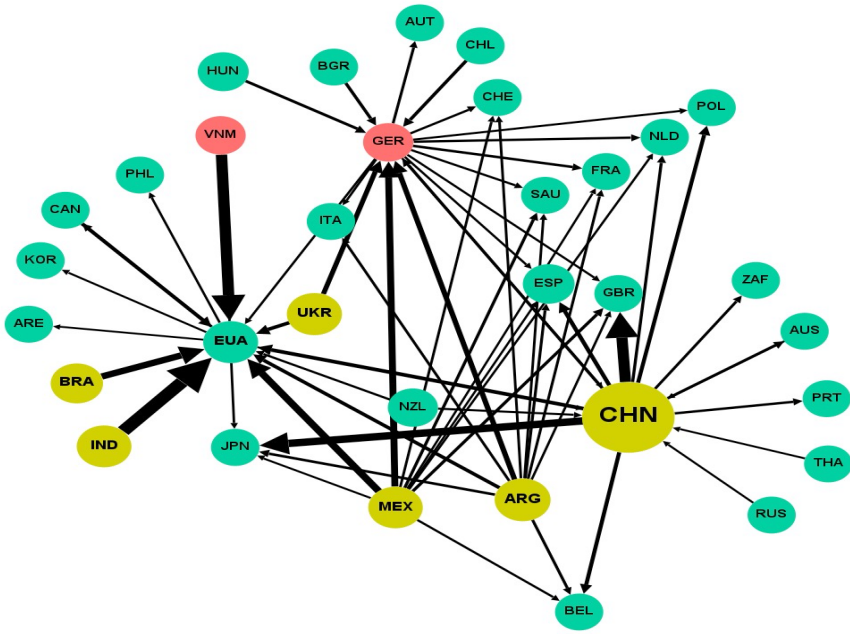

Figure 1. Destination of honey exports in volume in 2018

Note: The thickness of the arrow indicates exported volume. The size of the node indicates volume produced.

Source: Own elaboration with data from Trade Map (2020).

and by Campos *et al.* (2018) with 87.6%. In turn, Germany, the USA, Japan and Spain show a deficit to supply their domestic demand, so they resort to importing large volumes of honey. On the other hand, Vietnam has a negative tradability index of -256.1 (see Table 1).

The third indicator used in this work is related to the degree of openness, which makes it possible to measure the level of openness that a country has towards the outside world (Velin & Paul, 2011). In this sense, Germany, the US and Japan recorded negative values of -301.7%, -207.9% and -1453.8%, which indicates that the amount of their imports is much greater than their exports. These countries are characterized by being dependent on international production to satisfy their internal demand. The opposite happens in Argentina, China and Mexico, which present a positive degree of openness, with rates of 96.2%, 23.2% and 58.7%, respectively, to which is added their low internal consumption. It is confirmed that most of their production is destined for international trade. In addition, in the case of Argentina and Mexico, a greater dependence on exports is also revealed, therefore, they turn out to be more sensitive to changes in the curve of the demand. Vietnam registers a degree of openness of 164.1, which shows that it is sending more volume to the international market than it produces. The result of this indicator and the tradability index may indicate that Vietnam re-exports from China.

The fourth indicator is the import coefficient, which indicates the proportion of apparent consumption that is supplied with imports. In this case, Germany shows a CI of 101.7%, because in addition to satisfying its internal demand it re-exports. For its part, Japan has an CI of 93.7%, which means that it depends completely on imports to cover its domestic demand. In the case of Brazil, Mexico, Turkey and Ukraine, they have a CI close to 0%, which indicates that they do not need to import to satisfy their domestic demand. Regarding Vietnam, a negative CI of -6.34% is observed because the value of exports is greater than the sum of registered production and imports.

The fifth indicator represented by the relative trade balance measures the relationship between the trade balance of a product and its total trade. Regarding this, Germany, the United States and Japan register negative values of -0.40, -0.90 and -0.99, respectively. These values are consistent with those found by Campos *et al.* (2018) (calculated as a percentage); In the case of the United States, it shows values of -90.57% and Germany of -60.63%, which indicates that they are oriented towards the import of honey. On the contrary, Argentina, Mexico and Turkey register positive values of one, which indicates that they are countries with products destined for export, according to what was found by Campos *et al.* (2018) of 99.73%, 98.44% and 88.76%, respectively.

On the other hand, in the disadvantage in the trade balance that Spain and the US show:

> *"…their ability to allocate greater resources such as capital to increase their production and thus reduce their trade deficit is greatly influenced. But depending on the availability of these resources or the valuation of the opportunity costs that they make of them, of their use in other activities (comparative advantage) they will decide whether to allocate them to the production of honey or if they continue to depend on the international market for satisfy their internal demand" (Campos et al., 2018: 116-117).*

Companies decide what to produce and how to improve production; However, its productive capacity is encouraged by monetary, fiscal, exchange and commercial policies, which are implemented by the government and the central bank of each country. For a nation like Mexico, which allocates most of its honey production for export, competitiveness in the market is an incentive to continue production.

Analysis of the performance of practices in honey marketing of the main exporting countries

The volume of world exports during 2018 was 651,299 tons. 72% of exports are carried out by 10 countries. China exported 19% of the world total at an average price of 2,000 USD/t, and Argentina 10% at an average price of 2,400 USD/t (Table 2). As for Mexico, the price paid was 2,160 USD/t, while Spain received 4,500

Table 2. Average Annual Growth Rates of the main honey exporting countries (2009-2018).

País	Production volume (t) 2018	TMCA Production (%)	Hives in 2018	TMCA Hives	Exportation volume 2018	TMCA Exp. Vol. (%)	Exportation value in 2018	TMCA Export value (%)
Germany	20,333	2.38%	677,014	-0.29%	22,778	0.38%	$141,172	1.43%
Argentina	79,468	2.80%	3,020,370	0.19%	68,692	1.90%	$169,748	-22.14%
Brazil	42,346	0.91%	1,017,506	-0.08%	28,524	1.04%	$95,420	-2.50%
China	457,203	1.29%	9,048,546	0.28%	123,477	5.16%	$249,251	3.88%
Spain	36,394	1.32%	2,965,557	2.43%	23,111	3.98%	$105,737	5.42%
EE. UU.	69,104	0.44%	2,803,000	1.29%	7,863	5.71%	$25,469	3.88%
Hungary	27,963	2.44%	844,000	8.03%	22,018	4.96%	$90,622	1.70%
India	67,442	2.29%	13,048,275	2.34%	58,231	17.82%	$102,408	8.49%
Japan	2,886	0.93%	193,198	0.48%	18	-10.12%	$292	0.89%
México	64,253	1.52%	2,172,107	2.27%	55,674	8.38%	$120,405	0.01%
New Zeeland	20,000	5.30%	879,758	9.46%	8,033	-0.24%	$245,491	14.78%
Türkiye	114,113	3.74%	7,947,687	4.52%	6,413	24.38%	$25,669	11.53%
Ukraine	71,279	-0.43%	2,642	-2.28%	49,366	23.55%	$97,985	4.36%
Vietnam	20,415	6.53%	283,786	1.42%	14,210	1.90%	$65,866	5.96%

Source: Own elaboration with data from FAO - FAOSTAT (2020) and Trade Map (2020).

USD/t. Regarding world honey production, it was 1,851,541 tons. China's production corresponds to 25% of the world total; It is observed that its growth has been more accelerated in the volume of honey produced (AMCA of 1.29%) than in the number of hives it has (AMCA of 1.29%) (Table 2).

China exports a quarter of its production, while the rest of its production is consumed in the domestic market. Chinese consumers with higher incomes opt for better quality imported honeys. The dynamism in the production and export of honey in this country is due to various factors that have positioned it in the international market, among which three aspects stand out:

Preferential policies of opening to foreign trade. Because honey is a primary product, it is susceptible to receiving government support aimed at improving its competitiveness in the international market (Rodríguez, 2008).

The oversupply of labor with low salaries. This is an advantage that allows you to reduce costs and generates greater profitability in production, which makes this activity highly attractive (Ignjatijević *et al*., 2018).

The addition of other components to honey such as syrups and natural and artificial sweeteners. They do this in order to increase stocks or supplies of their inventories, thereby maintaining an increased and sustained supply of the product (Johnson, 2014).

The competitiveness of Chinese honey as a product of lower quality or "doubtful quality" creates a problem for countries, both producers and simple suppliers of sweetener, because it absorbs (at a very low price) a significant part of global demand. , being a "spurious" merchandise that is promoted and sold as pure honey (when only a minimum percentage of its components are), contravening international standards of genuineness, quality and labeling. There is evidence that some of this honey may contain antibiotics not approved by international organizations that analyze food additives that may be harmful to health. According to Strayer *et al.* (2014) Economically motivated adulteration (EMA) is the fraudulent alteration of food to obtain financial advantage. In this regard, the Food Protection and Defense Institute of the University of Minnesota (2020) defines it as:

> *"Economically motivated adulteration (EMA) is the intentional sale of substandard food or food products for economic purposes. Common types of EMA include intentional substitution of an authentic ingredient with a cheaper product, dilution with water or other substances, enhancing flavor or color with illicit or unapproved substances, and substitution of one species for another".*

These strategies to reduce costs allow the price offered by China to be lower than those of the international market and even below its production cost, that is, dumping, which causes distorting effects on the balance of the world honey market.

Some countries have implemented tariff measures to level the prices of honey from China. In response, this country has implemented a defensive trade strategy to continue introducing its product into the market.

This consists of triangulating the product by selling it to one or other Asian countries (among which Vietnam stands out), intermediaries who in turn re-export it, which results in its origin being disguised or masked through a process known as " honey washing", which has made it possible to avoid the payment of additional tariffs and the punishments applied to its imports at anti-dumping customs. It also uses the so-called "pollen filtering", a procedure used by China to mask the origin of honey. This entire procedure of dumping measures implemented by China has been widely documented in the works published by Strayer *et al.* (2014).

In this regard, it should be noted that pollen filtering is a procedure used to condition honey for the market, whether packaged or in bulk. Its purpose is to eliminate particles considered as insoluble solids that are incorporated into the honey during the extraction process, which can be legally limited to 0.1% of the total weight, being a very common practice among countries that re-export the product to to make the appearance of the product more attractive. However, the appearance of technologies that allow finer filtrations of the product has generated the opportunity for fraud, since if all the pollens are completely eliminated from the honey, its origin is masked, which makes it possible for it to be mixed, starting from certain proportions, with other honeys or substitute chemicals and labeling it with a false geographical origin. To avoid this fraudulent practice, new standards for honey have been generated (Directive 2014/63/EU), which has made it possible, based on expert analysis, to determine the minimum pollen content in filtered honey.

On the other hand, Argentina, the second honey exporting country, sends 98% of its production to the international market, as it has low domestic consumption of the sweetener (50 to 250 grams per capita annually) (Sánchez *et al.*, 2018). Likewise, it registered a negative CAGR in the value of its exports of -22.14%, which is due to a less favored price evolution compared to the rest of Latin America and the world (Berrettoni & Polonsky, 2011), a situation that is joint (and more problematic) with the Argentine government's policy of imposing the collection of export tariffs and with the competition represented by the introduction of organic honeys from Brazil. This can be observed particularly in the volume exported to the United States, the main consumer country of its product (Secretaría de Política Económica de Argentina, 2018). In the same way, it is affected by the loss of sales in the European Union market, as a result of the low prices offered by Ukraine and China. Given this, Argentina has deployed a recovery strategy for the European market by taking advantage of the loss of confidence that consumers show towards Chinese honey, which has allowed it to recover ground in that area (Secretariat of Economic Policy of Argentina, 2018).

As for Mexico, it is positioned as the fourth largest exporter in the world and ranks ninth as a producer of the sweetener. This position is lower than the sixth place identified by Soto-Muciño *et al.* (2017) in the period 2000-2015. In 2018, in addition to marketing to its main customer Germany (18,847 t), it sent a greater amount of the sweetener to the United States (22,962 t) (Trade Map, 2020). However, the price of honey produced in this country has fallen considerably. This differs from what was found by Campos *et al.* (2018) in the period 2001 to 2011, in which they show that both the volume of production and the volume and value of exports increased. It is worth mentioning that due to its quality, Mexican honey has wide recognition worldwide (Soto-Muciño *et al.*, 2017).

Regarding market distribution, it is observed that Mexico competes with Argentina and Ukraine for the German market; Likewise, its main competitors to supply the US market are Asian countries and Brazil (Figure 1). It is evident that the consumers that demand the largest quantity of the product are European countries and other nations with high per capita income, while the suppliers are Asian and Latin American countries, who in turn acquire small volumes of packaged honey.

Mexico has more production than some countries with a greater number of hives, this is due to the environmental conditions (water, floristic diversity and climate) that benefit it compared to other producing countries and that favor the development of the activity (Campos *et al.* , 2018). On the other hand, it maintains a low internal consumption of honey (200 grams per capita annually), which allows the strongest producers and national intermediaries to market almost the entire volume produced (Soto-Muciño *et al.*, 2017). Some aspects that limit the improvement in honey production are related to the fact that Mexican beekeeping is carried out as a complementary activity in most cases (Caro *et al.*, 2012), and to the lack of technological innovations aimed at modernizing its production (and therefore its commercialization). Difficult access to management programs and the costs associated with technological improvements condition the implementation of innovations by beekeepers. Martínez *et al.* (2018) explain that, to cover the high costs of quality compliance certifications, small beekeepers depend on external agents in the supply chain (governmental and non-governmental), otherwise small producers will not be able to access exports.

In the case of Germany, like the United States, it is a honey producing country that shows a deficit in its trade balance to satisfy its internal demand, which is why it is an important honey importer. Its imports represent 12% of the operations carried out in the world. In 2018, its traded volume was 85,968 tons of honey with a value of 307 million dollars. This country distinguishes itself from other exporters by purchasing honey in bulk to process and package it, in order to re-export it to other European countries, where the consumer's income allows them to pay for the added value (Magaña *et al.*, 2017).

It should be noted that for the European market, honey quality is a decisive factor for its acquisition, and within that concept, they give more weight to safety over other characteristics. The Chilean Commercial Office in Hamburg-Pochile (2018), in its analysis of honey consumption in Germany, indicates that German consumers consider environmental, labor, political and sustainability aspects when making their purchases. They also consider the price-quality ratio of the honey (they lean towards discount stores). The Consulate General of the Republic of Argentina (2016) adds that by law since 2004, German marketers are obliged to report the origin of their honey, which allows them to base their marketing strategy on a traceability system for each producer.

Honey importing companies make mixtures to homogenize the quality of the product and to stabilize prices within the market. The honey blend also allows them to offer a blend that does not exist on the market. The sale is made online under its own brand and other brands in conventional supermarkets; In several cases the sale is carried out under the "fairtrade" seal (Commercial Office of Chile in Hamburg-Prochile, 2018). Germany's main customers are France, Saudi Arabia and the Netherlands, and the honey it imports comes mainly from Mexico, Argentina and Ukraine (Figure 1).

For its part, New Zealand turns out to be an example in terms of value addition and its effect on the price, without showing a substantial increase in the volume of honey produced, since it registered exports in 2018 of 8,033 tons, equivalent to 1.2% of those made. throughout the world, with a value of 245 million USD, equivalent to 10.9% of what was paid to other exporting countries (Table 2). In that sense, it is the second country with the highest value of its honey exports only below China, but unlike China, the price of the product is what increases total income. This is explained by the degree of differentiation of the exported product.

An example of the above is shown by the Mānuka type honey exported by New Zealand to the United States, valued mainly for its beneficial health properties, which is not sold in bulk and has one of the highest values in the world. In this way, the negative AMR recorded in the exported volume is -0.24% and in the exported value it presents a AMR of 14.78%. The above is due to the innovation developed by New Zealand producers and marketers, who have massively ventured into online marketing networks, and to the packaging and labeling format that their product exported to the United States acquires, thereby making its consumer price increased by 62% from 2013 to 2017 (New Zealand Trade and Enterprise, 2018).

By locating the situation in New Zealand and Germany, it is clear that highlighting the intrinsic characteristics of the origin and production of honey is the simplest way to differentiate the product, then moving on to packaging and labeling processes. As a positioning strategy, at first producing nations such as Mexico can highlight the quality, origin, identity of the producer and the type of company (family), in such a way that these attributes allow it to obtain greater recognition worldwide. but it also makes it possible to be more competitive and improve the honey trade balance. In addition

to this, Magaña *et al.* (2017) proposes that Mexico can improve its competitiveness by obtaining greater productivity from the hive, for which it is necessary to make investments. In that sense, Martínez *et al.* (2018) point out that the implementation of good practices in honey production (BPPM), standards, quality certification, as well as the efficient use of inputs and better hygiene and health conditions favor the quality, health and productivity of the honey, which will allow small and medium producers greater access to national and international markets.

For their part, Campos *et al.* (2018) agree with what Magaña et al points out. (2017) and add that if methods are applied that reduce production costs, a greater presence in the global honey market would be achieved. However, to reduce costs through economies of scale, producers would have to increase their production units, and this is achieved by designing new productive strategies, which implies repositioning it by improving support and financing for the zonal infrastructure in honey-producing regions, based on a government-business commitment. In this regard, Martínez *et al.* (2018) suggest that support should promote BPPM in the production process, since these have a direct impact on bee health, product quality and performance. Subsequently, they point out, government support should be directed towards apiaries with a better level of adoption of innovations, which is intended to make public spending more efficient.

Conclusions

Mexican honey exports face great and diverse challenges: on the one hand, the honey marketing practices of some exporters (China), with an inclination to carry out actions that alter and modify the intrinsic quality of honey through the implementation of illegitimate strategies that They favor the supply of honey at a lower price, which distorts the market; On the other hand, the growth in the total supply of honey in the last decade, coming from Asian countries such as China, Vietnam, India and Turkey, who have entered more aggressively into the market of the European Union, Japan and the United States, the main ones (and constant) honey importers worldwide

Mexico presents weak growth compared to that shown by Asian countries, so it could be displaced from the first places in honey exports during the next decade, unless they develop strategies not only to stay in the competition, but to position themselves in a more consolidated manner in the world market.

The indicators used to measure competitiveness at a macro level are considered performance indicators, because they show the result of the conditions that countries offer to their value chain to gain a share of the international market. From this approach, a country is competitive when increases its market share.

The results of the market participation indicators reveal that, although a country has advantages in terms of natural resources, it is not enough to position itself in

the international market and consider itself competitive, since its policy orientation also influences sectoral economic, especially the trade policy that each country has to encourage its exports.

Countries that excel in production do not necessarily have the greatest market share, perhaps because quality and price are not attractive to consuming countries, because the limit on available production factors is lower than in other countries, or because its production is barely enough to satisfy domestic demand. This leads us to reflect on the level of competitiveness of a nation in market terms, since, although a country is not competitive in the exports of a single product, it can be competitive in the sum of all its goods and services offered or in the satisfied demand for the product being analyzed.

Countries like Mexico, where production is destined for export, must aim to remain in the market and increase their participation. The income derived from exports is to sustain activity in the nation. Consequently, strategies must be proposed that contribute to achieving this goal.

These strategies have to be oriented in two ways: first, the supply of honey must be sought at a competitive price, this is achieved by increasing the productivity of the hive through the implementation of good practices in honey production. (specifically bee safety and health measures) to improve production processes and obtain higher quality honey while reducing unit cost. Secondly, the differentiation of honey must be sought by highlighting the intrinsic characteristics of the product and its origin, which will generate the distinction of Mexican honey in the European market.

The search for increased productivity and differentiation is not exclusively the responsibility of the individual producer: a decisive public policy is required aimed at investment in technology, as well as in training programs that seek to improve productivity in the field and that tend to develop product safety processes (BPPM). At the organizational level, it is necessary to generate greater associativity among producers, for which exchange networks between them must be strengthened. Policies must also contemplate constant actions to promote domestic consumption of honey, which will involve reactivating communication and information mechanisms that make possible the social valorization of its nutritional and biocultural attributes, as well as financing and certifications, which strengthen producers and the organizations.

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PUBLIC INTERVENTION IN THE AGRI-FOOD SECTOR, PROCAFE-PIAC CASE (2015-2018)

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Abstract

Innovations, understood as activities incorporated into a productive system for its improvement, are related to the implementation of agricultural practices that benefited other producers in some variable of interest. Involving producers in their design and implementation represents an opportunity for their development and appropriation. This article analyzed the congruence of the innovations promoted by the Comprehensive Coffee Care Program (PROCAFE-PIAC) using the policy cycle approach. The objective is to identify lessons learned that may be useful in the design and operation of this type of initiatives. The problem and its respective causal complex were contextualized, based on information from articles, internal and official reports from PROCAFE-PIAC. The implementation was examined by identifying the actions reported with the use of the innovation adoption index, implemented by PROCAFE-PIAC. Finally, in the evaluation the results are discussed with indicators related to the objective of PROCAFE-PIAC. The problem and causal complex of PROCAFE-PIAC had as its narrative the drop in production due to the structure of the plantations and the incidence of Rust (*Hemileia vastatrix* L.), which is why the alternative was aimed at providing advisory services, support in inputs and renewal of coffee plantations. The actions promoted focused on the establishment of nurseries for seedling production, complemented with infrastructure and technological packages. For this reason, PROCAFE-PIAC obtained results related to productive aspects; However, the analysis indicates congruence between the objectives and the actions promoted.

Keywords: agricultural policy, public policies, coffee production, agricultural innovation, agricultural extensionist.

Introduction

Coffee is a crop belonging to a global value chain and one of the most important commodities in the world market; It is estimated that in Latin America 125 million people depend on it (Acosta, 2023). Coffee represents 38% of the total world market, within the classification of tobacco and spice stimulants (COMTRADE, 2020). Currently, coffee activity in Mexico is carried out in 14 states of the country (Sánchez, 2015), although production is concentrated in Chiapas, Oaxaca, Veracruz and Puebla with 84.6% of the total (SIAP, 2023). It is estimated that more than 280 thousand producers participate in coffee production, made up mostly of smallholders and indigenous people settled in marginalized areas, grouped in different local and regional organizations (Aguirre-Cadena *et al*., 2012).

The location of coffee-growing areas, poverty in producing areas combined with price volatility, the presence of diseases, climatic events, as well as the expansion and contraction of supply and demand have led to institutional initiatives to support production. of different kinds (Harvey *et al*., 2021), such as the agreement for inventory control with the International Coffee Organization (ICO). In the case of Mexico, with government initiatives, everything from institutional projects to strategic projects have been implemented. Such was the case of the Mexican Coffee Institute (INMECAFE), which brought together many producers and national production through the Economic Units of Production and Marketing (UEPC), participating in marketing directly from the producing areas (Perez- Akaki, 2013).

Given the need to compete in the free market, public policy was aimed at encouraging productivity, thereby favoring medium and large producers, which caused the polarization of production and relegated small farmers to social assistance programs. with the argument of economic viability (Fox & Haight, 2010). This shows that economic analysis has surpassed the areas of analysis for the definition of public policies (Aguilar, 2009).

When the new economic model was applied, focused on flexibility, a trade liberalization process began under the idea that boosting imports would generate the transformation of the agricultural sector into a more competitive and efficient one (Sánchez, 2014). After this and given the adverse scenario that was created with this action, the State intervened with actions to mitigate these effects on national agriculture, as public problems (Gómez & Tacuba, 2017). For the cultivation of coffee, it occurred through social programs and the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA now SADER), through investments in regional projects and direct allocation interventions that, far from representing an opportunity development managed to worsen poverty (Fox & Haight, 2010).

The most recent intervention by the State emanates from the Comprehensive Coffee Care Plan, which gave rise to PROCAFE-PIAC in 2014 with the objective

of increasing coffee productivity, operated under a model that included technical assistance services, subsidies for productive infrastructure and renewal of coffee trees, supported by diagnoses of the productive system and derived from the consensus of actors in the productive chain in the country.

The implementation of a program through the management of actors in the production chain with different roles makes it interesting to systematize this type of initiatives with the purpose of, from now on, having lessons learned, with the foundation of these with knowledge. acquired over a process of one or several experiences through reflection and critical analysis of its results (Luna & Rodríguez, 2011). Based on the fact that the comprehensiveness of a centralized intervention strategy allows the promotion of innovations consistent with the objectives pursued by the strategy with the application of public resources, the objective of this research was to analyze the congruence of the innovations promoted in the implementation of the PROCAFE-PIAC with elements of the diagnosis necessary for the design of a public intervention, and from there identify lessons learned that may be useful in the design and operation of current and future programs in the agri-food sector.

Methodological section

PROCAFE-PIAC operated in the period from 2015 to 2018 as a centralized innovation promotion strategy. It had coverage in 12 federal entities with the greatest coffee activity duly registered in the National Coffee Registry (PNC): Chiapas, Colima, Guerrero, Hidalgo, Jalisco, Nayarit, Oaxaca, Puebla, Querétaro, San Luis Potosí, Tabasco and Veracruz, in its initial phase. In 2016, it was included as a component of support for small producers; its coverage covered the 1,012 municipalities included in the National Crusade against Hunger and in the Development Poles, located in regions with productive vocation and potential. In this same year, the State of Mexico and Tabasco were included.

The information was analyzed with the public policy approach which, according to Arias (2019), is made up of five stages. The first indicated as the identification and definition of the problem; the second as the formation of alternatives; the third adoption of alternatives; the fourth as the implementation of the selected alternative; and the fifth as evaluation of results. For the purposes of this research, the contextualization of the coffee system and the problematization to place it on the public agenda were analyzed as elements of the design, which comprise the first three stages of the policy cycle indicated by Arias (2019); In this way, the analysis of the design, implementation and evaluation of PROCAFE-PIAC was integrated.

To identify the elements of the design, information from different sources was systematized (scientific articles, internal and official reports), reports, presentations and official statistics on coffee cultivation in Mexico (SAGARPA, SIAP, SIACON,

FAOSTAT and AMECAFE) were also included. In addition to information not published by the PROCAFE team that made it possible to elaborate the causal complex that the intervention is intended to address. The above allowed us to generate the problem tree around the context of the problematic situation of coffee in the country (Hernández-Hernández & Garnica-González, 2015), as well as the design elements and orientation of priority actions of the PROCAFE-PIAC.

For implementation, the databases generated by PROCAFE-PIAC were analyzed from the 14 federal entities with total coverage, with 18,790 observations. In this, its operation scheme, the main changes and the behavior of the activities were analyzed through the innovation adoption index (InAI) proposed by Muñoz *et al.* (2007). To do this, descriptive statistics were used (Infante-Gil & Zárate-de-Lara, 2012) to identify congruence between the objectives of the program design and its implementation.

In the evaluation, databases were used with variables related to the population served; characteristics of the Family Production Units (UPF) and the innovations promoted during the four years of implementation of the strategy. In addition, to compare the Baseline (LB) and a Final Line (LF) using the InAI as the main input of the actions promoted by PROCAFE-PIAC in the 2015 and 2018 period of program implementation, with the use of comparison of stockings (Infante-Gil & Zárate-de-Lara, 2012). Data processing was carried out with IBM SPSS Statistics (Version 22) computer software.

Results and Discussion

The results of this research were organized into four sections; In the first, the contextual situation of coffee is narrated and the actors for the formation of the agenda are identified (Casar & Maldonado, 2008) as elements of the design of PROCAFE-PIAC. It highlights the economic, social and environmental importance of the crop. The second analyzes the implementation of PROCAFE-PIAC that corresponds to the process in which the intervention was carried out. It analyzes the actions carried out and the objectives, the profile of the producers and the InAI indicators in each year of exercise. The third corresponds to the description of the internal monitoring of the strategy in which the main changes and results attributable to the operation are presented. The fourth section carries out a prospective analysis in relation to some particularities of the crop identified.

PROCAFE-PIAC design elements

Contextualization of the coffee production system

From the social point of view, when the program emerged, coffee cultivation occupied seventh position in terms of harvested area; highlighting its economic importance and social impact; since the coffee activity links, directly and indirectly, close to three million people and is practiced by just over 500 thousand producers (Chain-Guadarrama *et al.*, 2019). A high percentage of these are smallholders with properties of less than five hectares (98%). Of these coffee growers, 70% had areas of less than one hectare, and 2.6% had areas greater than five hectares (FIRA, 2015). In addition, coffee occupied 3.3% of the country's agricultural productive potential, and coffee-growing activity was registered in 13 states with a total of 1,672 municipalities; of them, 56.6% speak an indigenous language and represent 40% of coffee production (CEDERSSA, 2014).

The producers established themselves in areas classified as areas of high and very high marginalization, in the states of Chiapas, Veracruz, Oaxaca, Puebla and Guerrero, who concentrated 90% of the surface and the number of producers to the same extent. The highest number of hectares planted with coffee was reached in 2009, with just over 800 thousand hectares (SIAP, 2019), although with a downward trend, since by 2018 it decreased by around 100 thousand hectares (Figure 1). In the same

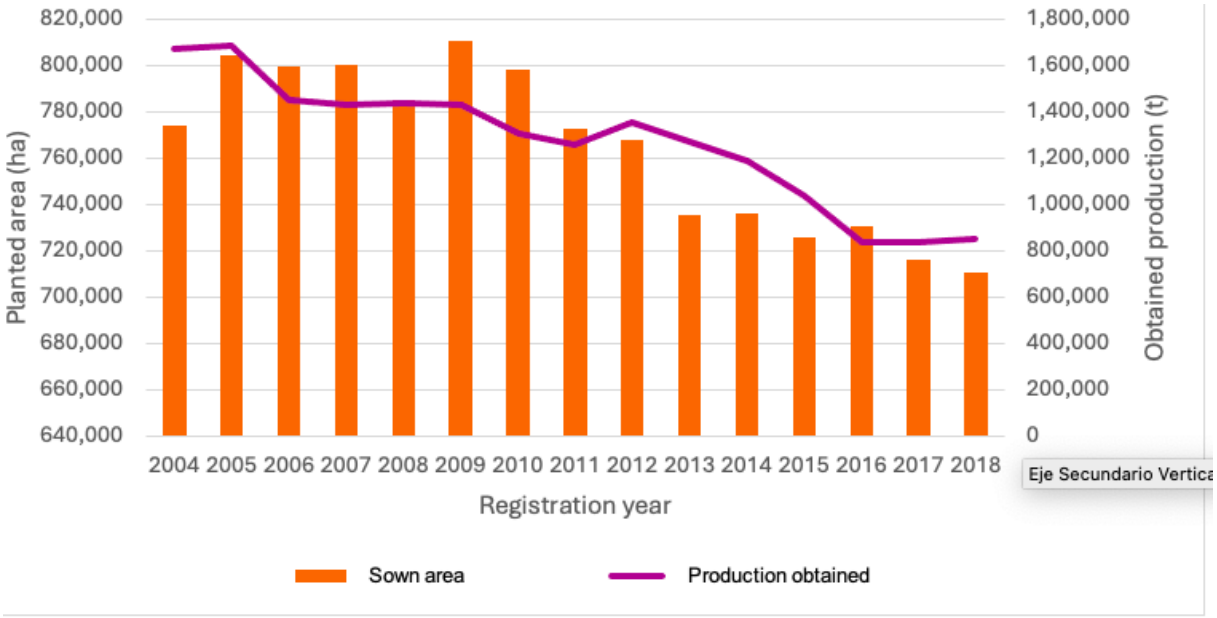

Figure 1. Area planted and coffee production obtained in Mexico in the period 2004-2018. Preparation with official SIAP data (2019).

way, the production obtained presented a downward trend, decreasing 49% between 2004 and 2016. It is also noteworthy that there was a slight change in this trend, between 2016-2018 (it increased approximately 2%).

On the other hand, historical production data from FAOSTAT (2018) reported for Mexico a production of 126,616 tons in 1961, with an increasing trend until 1990, the year in which it reached the highest value of the period. Starting in 1990, the production trend was downward and went from 440,000 tons to 153,794 tons in 2017, which represented a drop of 65%. In the period from 2011 to 2017, a drop in production of 35% was observed; That is, in these six years, more than half of the total produced since its highest record was lost (Figure 2).

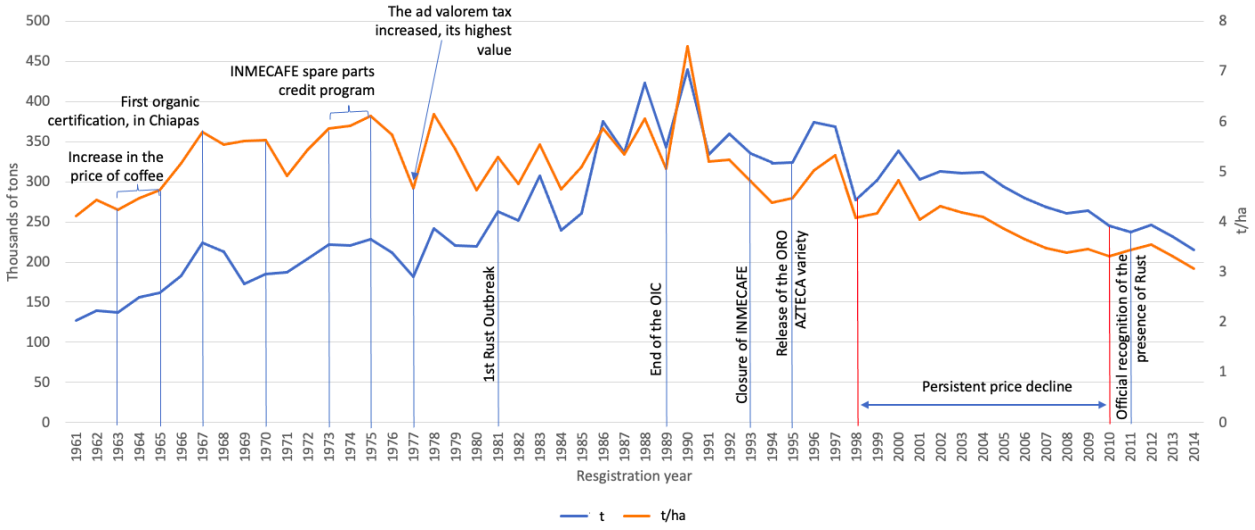

Figure 2. Evolution of coffee production and factors that affected production.
Elaboration with data from Aguirre-Cadena *et al.* (2012), Henderson (2019), Pérez-Akaki (2013), Sánchez (2015), Barrera (2017), FAOSTAT (2018) and SIAP (2019).

The drop in production was mainly related to the presence of coffee rust. According to records found, because of the measures taken regarding Mexico's participation in international coffee organizations and the intervention of the State, in 1941 and 1972 preventive measures regarding rust damage were recorded internationally. However, for Mexico it was not considered a threat, given that the climatic conditions did not favor its development. Therefore, rust outbreaks were related to temperature changes in all regions (Henderson, 2019).

According to Barrera (2017), the first rust outbreak recorded in Mexico was on July 11, 1981 in Soconusco, Chiapas, but it was not considered a threat to production.

In the 2011-2012 production cycle, Rust affected coffee production and was reflected in the 30% reduction in production attributable to this disease. Before the outbreak, classified as atypical, and because of the problems caused in other regions of Latin America, the production of improved varieties began in Mexico.

One of the varieties that best preserved the characteristics of coffee and adapted to the regions of Chiapas, the state where the presence of this disease began, was Oro Azteca. This variety was evaluated between 1986 and 1995 by INIFAP and obtained an average production of 4 t ha-1 of parchment coffee (in a range of 3.2 to 5.5 t ha-1), which meant 37% higher than the yield. of the Caturra Rojo variety (Barrera, 2017). However, the release of the variety was carried out under circumstances where rust was not yet considered a threat, in addition to the fact that the renewal of coffee plantations was scarce and low coffee prices prevailed, which made its adoption difficult by producers, and caused the area planted with this variety to not be significant until before 2012.

Agenda setting

Considering the problem described above, the causal complex was constructed and the problem of the coffee production system in Mexico was defined with the purpose of identifying the need posed to the State to include this issue on the agenda. As part of the public policy analysis, it is necessary to refer to the arguments of the problem faced and the possible consequences of not addressing it as a public problem (Aguilar, 2009).

This process sought the consensus of the largest number of actors in the coffee production system, to obtain a complete analysis and derive accurate alternatives to address the problem and its causes, as well as prevent or remedy its consequences. In this way, we sought to understand the causal complex that gave rise to PROCAFE-PIAC (Figure 3).

The systematization of the information generated, and planning exercises carried out by the technical team of PROCAFE-PIAC, pointed out as a central problem the decapitalization of the coffee producer because of the high production costs, the low prices that the producer received in the sale of the product, low performance and poor public policies. Combined, these factors caused producers to under tend their coffee plantations with the aim of migrating, first temporarily to obtain resources and invest in the next production cycle, waiting for prices to improve. If this did not happen, the migration would become permanent, thus affecting the abandonment of the plots and, consequently, causing a precarious generational transition. In addition to the fact that the low productivity related to these causes, in a context of climate change, becomes a threat to the worsening of poverty in coffee-growing regions (Cano *et al*., 2022).

In this causal complex, focused on the problem of the productive issue, it reinforces what was stated by Pérez & Echánove (2006) who indicate that because

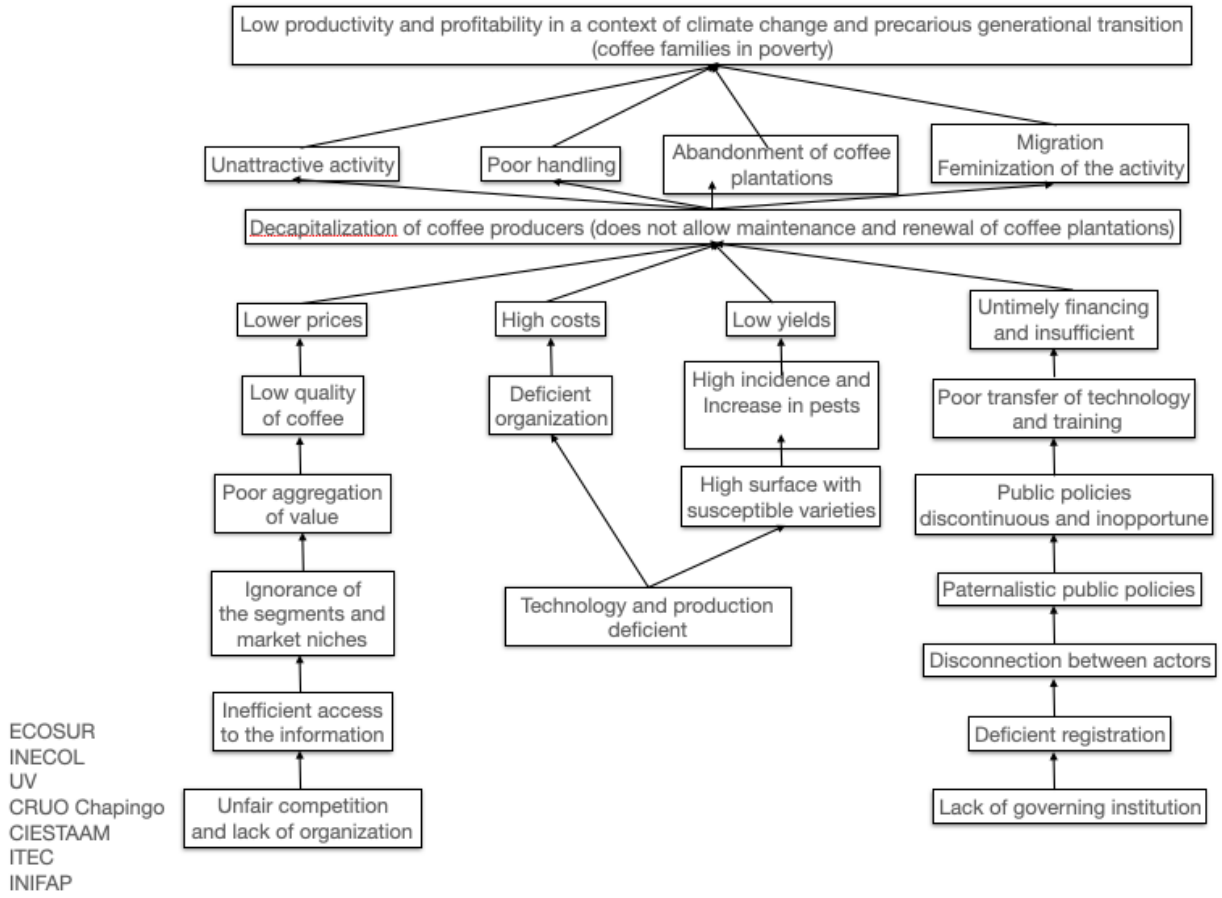

Figure 3. Problem tree of the coffee production system in Mexico. Preparation with data from the PROCAFE-PIAC Team.

of low prices the production costs of the crop are not covered, which causes the decapitalization of the producers. Because of this, coffee plantations are neglected and plagued, the quality of the coffee can decrease, and families look for alternative sources of income, among which migration to the United States is the most frequent. A coincidence is observed in the effects of the central problem. In addition, problems related to land tenure associated with internal and external migration are denoted; reflected in the agglomerations in cities or municipalities where people aspire to better living conditions

The importance of coffee, considering that coffee activity is carried out in marginalized and even indigenous communities, the importance as an economic activity in producing areas, the current opportunity in the face of climate change as an activity that provides a diversity of environmental services and of biodiversity conservation,

is considered of public attention and is reflected in the diversity of actors involved in the production of the aromatic. Furthermore, the multiple organizations that emerged for marketing purposes create a diversity of actors with the capacity to interfere and, in some, to veto the processes included in the formation of public policies (Figure 4).

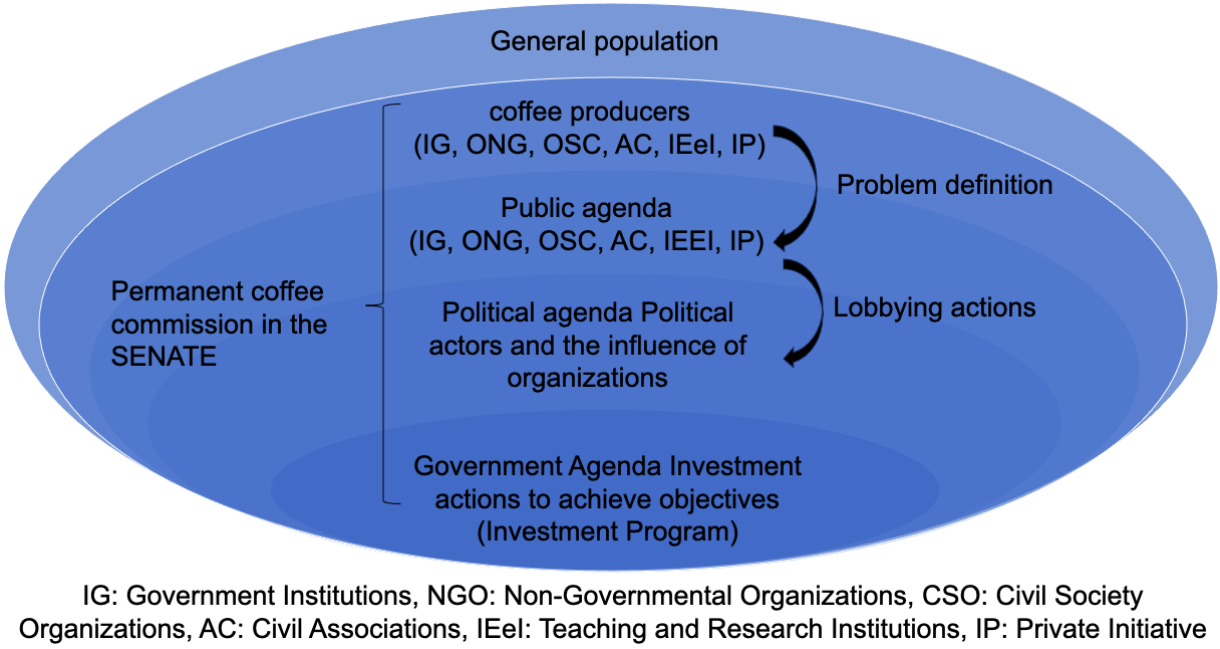

Figure 4. Formation of the government agenda that favored the origin of PROCAFE-PIAC. Adapted from Casar & Maldonado (2008).

As a result of a process of addressing a public problem, the comprehensive coffee care program (PIAC) was generated which, from five lines of action based on its specific objectives, sought to address the most sensitive demands of producers. In the design, PROCAFE was designated to carry out specialized technical assistance actions, and to identify needs to generate investment actions with the purpose of promoting the production of coffee plantations with areas less than five hectares. Promoted a series of innovations in accordance with the diagnosis of the productive structure (DEP) of coffee trees, in which priority was given to the renewal of coffee plantations as one of the essential needs to obtain plantations with productive potential.

The DEP carried out by the PROCAFE-PIAC team indicated that 67% of the productive structure of the coffee plantations needed an action or activity to improve their productivity. In contrast, the extinct Mexican Coffee Institute (INMECAFE) carried out a diagnosis, based on a sampling in nine representative delegations of

coffee activity in 1987 (Villaseñor, 1987), in which practically the same categories are considered. This was carried out with the purpose of knowing the expectations and challenges of national coffee growing before the upcoming commercial opening at that time. When making a simple comparison between the DEP INMECAFE-1987 and PROCAFE-2015, it is observed that the data reflect a practically similar productive structure of coffee trees (Figure 5).

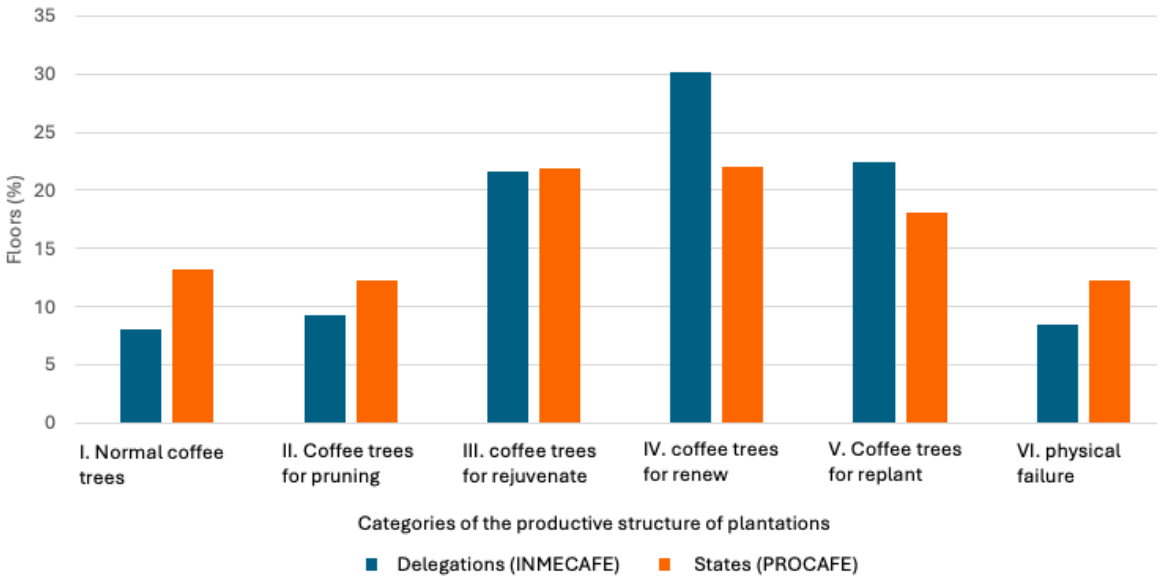

Figure 5. Comparison of the DEP carried out by PROCAFE and INMECAFE. Elaboration with data from PROCAFE (2015) and Villaseñor (1987).

Based on the results of DEP-INMECAFE-1987, in coincidence with the actions of PROCAFE-PIAC-2015, it is necessary to address rejuvenation, renewal and replanting to increase yields. In this way, SAGARPA generated the PIAC, which after its implementation contributed to the implementation of PROCAFE-PIAC as the person responsible for training and technical assistance for coffee production. This was created with the objective of increasing production and competitiveness, to obtain 4.5 million 60 kg bags in the 2018-2019 cycle.

Implementation of PROCAFE-PIAC

Once the problem was agreed upon and the objectives of PROCAFE-PIAC were declared, the implementation of the program was organized with the producers with the establishment of Technological Innovation Modules (MIT), through which

innovations were promoted, with the aim of improving the structure. coffee plantation fundamentally with the adoption of innovations for the care and management of coffee plantations. In these collective modules, certified nurseries were established to supply quality, disease-resistant plants, to renew the plantations. Technological packages that included inputs for production were also provided.

PROCAFE-PIAC declared five lines of action for comprehensive care of the crop (Figure 6), when contrasting them with the aspects that influence coffee productivity, it is observed that the actions carried out by the program are mostly related to production.

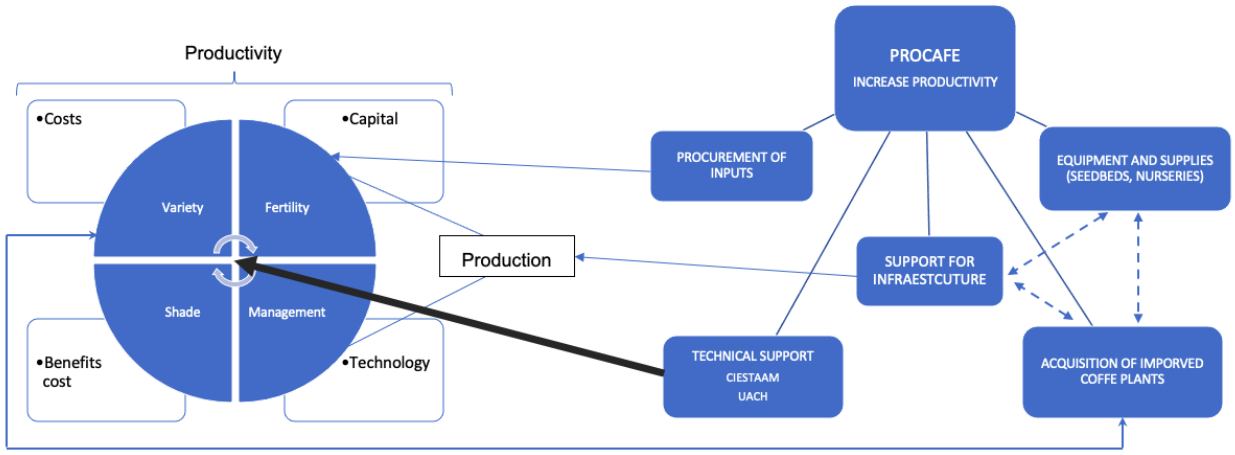

Figure 6. Strategic lines of PROCAFE and the factors that affect coffee production and productivity. Preparation with data from PROCAFE (2015)

The PROCAFE-PIAC intervention model, consisting of technical support, carried out a DEP for each MIT, as a fundamental aspect of the start of activities, which generated a list of innovations to implement and that would have to be agreed upon with the producer to define a work plan. Based on these diagnoses and the work plans with objectives and goals, an intervention strategy for technical support was generated that included workshops, training activities, care and follow-up visits, among others.

Promotion of innovations

The training component was implemented to fulfill plans directing actions to improve coffee plantations. These actions were integrated with the purpose of improving production parameters to obtain increases in production. For the second year (2015), a catalog of innovations was implemented that concentrated the actions

implemented at the national level. PROCAFE-PIAC had an action monitoring system that allowed timely assistance to the training needs of technicians. This process and the concentration of products are the longest, because this part focuses on carrying out the planned activities, both for the PROCAFE-PIAC team and for the technicians and participating producers.

Their actions were aimed at integrating technological packages, with digital tools for shadow monitoring and management innovations. In the latter, management actions involved sampling to diagnose rust, borer and physical failures for a diagnosis of each plot. From this, actions to care for the coffee plantation were planned, which included renewal plans. Infrastructure support was concentrated on the installation of nurseries with inputs and improved plants for group production and most of its actions focused on productive activities.

Producer profile

The population served by PROCAFE-PIAC met the selection criterion of having areas less than five hectares. The ages of the producers ranged between 53 and 59 years, with an average schooling of three years and practically similar for the states of Veracruz, Puebla, Chiapas and Oaxaca, which do not present significant differences ($P < 0.1$). The average coffee production experience was 30 years, and significant differences were identified in the five main producing states ($P < 0.1$).

The population served, in general, were older adults and, by relating their age to years of experience, the age of the coffee plantations was reflected. This aspect is relevant given that, when implementing technical support strategies, considered as productive technological packages, a knowledge transfer scheme is implicit for their implementation. This represents an additional challenge to the reality of cultivation because it concerns older adults (Naranjo, 2004).

The actions prioritized from the DEP correspond to the main innovation promoted in the first year of implementation of PROCAFE-PIAC. For the second year, they focused on renewing the coffee plantations (fertilization) and, in addition, actions that were considered to contribute to preventing and combating coffee rust (fertility, pest and disease management, management of productive tissues and shade management).

The innovation adoption levels in Table 1 highlight the positive increase in adoption levels for each year of the intervention. However, in a transexennial care scheme, innovations should not grow continuously with the same trend; That is, in a monitoring scheme with defined goals, it is necessary to advance various actions to consolidate objectives. The apparent trend in the results indicates incremental coverage.

Table 1. Comparison of InAI by category for each year of PROCAFE implementation.

InAI/Category	2014-2015	2015-2016	2016-2017	2017-2018
Seedling production	0.0743[d]	0.1511[c]	0.2417[b]	0.2567[a]
Renewal	0.1449[d]	0.2869[c]	0.4633[b]	0.5205[a]
Soil and water conservation	0.0704[d]	0.1157[c]	0.1696[b]	0.1807[a]
Fertility	0.0370[d]	0.0615[c]	0.1005[b]	0.1164[a]
Integrated pest and disease management	0.0533[d]	0.0829[c]	0.1112[b]	0.1205[a]
Fabric renewal	0.0949[d]	0.1343[c]	0.1739[b]	0.1873[a]
Shade	0.0696[d]	0.0999[c]	0.1354[b]	0.1495[a]
Organization	0.0507[d]	0.0805[c]	0.1142[b]	0.1287[a]
Harvest	0.1038[d]	0.1422[c]	0.1856[b]	0.1977[a]
Good processing practices	0.1133[d]	0.1432[c]	0.1743[b]	0.1882[a]
Diversification	0.0197[d]	0.0244[c]	0.0306[b]	0.0349[a]

*Different literals indicate statistically significant differences.
Preparation with data from PROCAFE 2015-2018.

The plant production category changed in the years of implementation, attributable to the fact that the coffee plantations have already surpassed their productive age, an action in line with the objectives pursued by the program. The adoption of the renewal plans was incremental, and it can be inferred that in the last year of the strategy there were plants for renewal.

In this context, it is of interest to mention the increase of InAI in soil and water conservation actions, which went from 7% to 18% at the end of the intervention. Given that these actions represent an opportunity for producers who may receive a premium for some certification that contemplates the adoption of practices of this type in coffee production processes (coffee practice, UTZ, among others).

Assessment

PROCAFE-PIAC activities followed four phases for their implementation. The first consisted of the preparation and registration in the DEP monitoring system, by the technicians of the established MITs. The second with the concentration of the MIT plans to systematize and verify the congruence of the plans and the DEP for the design of a training strategy and annual monitoring, by the PROCAFE-PIAC technical team. The third began with the implementation of the work program based on goals and objectives set in the MITs with national coverage. And the fourth phase began at the close of the annual cycle with the concentration of products that sometimes redirected or rethought the plans to achieve the general objective of the strategy.

This process allowed the integration of the catalog of innovations that directed the interventions of the technicians based on the objective of the program. This scheme is considered a contribution of a centralized advisory and training scheme, which facilitates feedback on actions. This is attributed to the change in the implementation of innovations

This promotion model to adopt innovations managed to improve InAI in the coffee-growing regions of the country, through actions originating from productive diagnoses in the MITs. The categories that reached the highest values are related to the increase in coffee plantation production (Table 1). The analysis of the intervention areas of PROCAFE-PIAC and the factors that affect production and productivity, show that the key actions are focused on productive aspects.

However, addressing actions from this approach has been insufficient, failing to observe sustained changes in the productive structure of coffee trees in the last 30 years. Therefore, it is inferred that the implementation of programs aimed at increasing productivity without reinforcing other aspects is not enough. According to Vázquez-López *et al*., (2017), it is important to consider that the reality of coffee production is immersed in productive and economic diversification as a way of life for producers.

All this reinforces what was stated by Rivera (2022) about interventions to increase competitiveness, who argues that this involves aspects beyond productive ones. Therefore, in future interventions with similar purposes, it is advisable to include actions to strengthen and link to the market. As well as the integration of activities that allow obtaining additional income with certifications that integrate incentives, through the implementation of environmentally friendly practices; as an alternative to mitigate the effects of climate change and, in this way, improve the adoption of innovations that increase the competitiveness of the coffee product system. In this regard, Márquez *et al.* (2024) argued the importance of the development of supply schemes for the development of coffee producers in producing areas, through mutual gain schemes, meeting consumer needs related to the demand for quality with environmental responsibility, compatible with the productive context of the country's coffee plantations.

Prospective analysis

Currently, the challenges that climate change poses for agricultural production are measured in areas such as water scarcity, the reduction of areas suitable for agricultural production and global warming. Against this backdrop, authors such as Godínez (2023) point out the importance of coffee production in traditional shaded systems as an important response mechanism to confront the impacts of climate change at a global level. In the case of PROCAFE-PIAC, the promotion of innovations related to the improvement and conservation of these characteristics

of production such as soil and water conservation, shade management, integrated pest management, diversification and conservation of biodiversity. The above could support coffee production systems related to quality production.

In general, and derived from the productivity approach, practices such as the introduction of improved varieties, the application and use of agrochemicals, in addition to the modification of spaces for intensive production, have been promoted for coffee cultivation. In the approach to promoting innovations, the maintenance of coffee trees, the increase in planting density, the addition of shade, the conservation of soil and water, productive diversification, diversification of shade with crops of value for the producers and the use of organic fertilizers. These promoted actions are related to appropriate management for the conservation of the benefits of biodiverse production (Harvey, 2021) and therefore more in line with the reality of national production, even when the focus of production was productivity.

According to Canet *et al.* (2016) who relate rust outbreaks to temperature increases in producing regions, the latter approach attributable to rust control in Mexico, in the interventions carried out to serve the coffee sector it is desirable to integrate the characteristics of the coffee systems that It involves different environmental services and thus gives the importance of cultivation at a national and global level. Considering also that of the 12.5 million coffee producers in the world, 95% are small producers, promoting activities of this nature would allow a favorable contribution to the impacts related to the increase in temperature of climate change (Rivera-Silva *et al.*, 2013). In this sense, the PROCAFE-PIAC strategy addressed topics sensitive to the reality of national cultivation, and for future interventions it is advisable to integrate topics of transformation, quality production and marketing from biodiverse production.

Conclusions

Based on the analysis carried out, a relationship was observed between the context that narrates the causal complex and the actions carried out in the implementation of the PROCAFE-PIAC program, as a component of advice and training in the promotion of innovations and the actions carried out. These actions are framed in the attention of phytosanitary problems and the nature of agricultural technologies indicated in strategic plans, with the difference of centralized implementation. In addition to developing plans together with the population served, directing the implementation of actions with monitoring and technical support. Therefore, it is inferred that the actions developed are in correspondence with what was proposed in the design.

Regarding implementation, it was observed that the population served complied with what was established in the program guidelines. The actions promoted by

PROCAFE-PIAC were consistent with the reality of national coffee trees. It should be noted that the productive structure is a fundamental part of achieving productivity, but it is not the only variable. However, it is considered that the actions undertaken from the design elements of PROCAFE-PIAC are consistent and developed necessary actions to achieve the general objective set out in its design. The centralized strategy was adapted in a timely manner to the needs of the coffee plantations in the producing areas, and demonstrates incremental actions related to the issue of coverage. The implementation of a catalog of innovations allowed the implementation of actions aimed at meeting its objectives.

Regarding the evaluation, feedback points are observed in the implementation of PROCAFE-PIAC at relevant moments of execution. These monitoring schemes allowed the directing of actions based on the objectives of the program, reflected in the implementation of the catalog of innovations. The evaluation was aimed at improving operational aspects and targeting objectives. The strategy did not transcend the transformation and marketing aspects, this is related to the need to meet the increase in productivity with coffee plantations that require attention before thinking about the transformation.

Given the commercial environment in which coffee activity is carried out, in future interventions it is advisable to consider that actions aimed at increasing production imply greater supply and, consequently, favor lower prices. Therefore, it is desirable to intervene to improve the sector with foreign trade, internal marketing and tax policy actions. This process involves inter-institutional coordination beyond the allocation of resources, to achieve the development of coffee activity, guiding development on market incentives.

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