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RESEARCH NOTE

Collaborative market study of traditional dairy products in Maravatío, Michoacán, Mexico: a process grounded in Participatory Action Research

Estudio de mercado colaborativo de lácteos tradicionales en Maravatío, Michoacán, México: un proceso desde la Investigación-Acción Participativa

Randy Alexis Jiménez-Jiménez[1]*, Erika García-Torres[2], Miguel Ruiz-Uribe[2], Enrique López-Vargas[2], Valentín Efrén Espinosa-Ortiz[1]

[1]Universidad Nacional Autónoma de México, Facultad de Medicina Veterinaria y Zootecnia. Ciudad de México, México.
[2]Asociación Ganadera Local de Maravatío. Michoacán, México.

ABSTRACT

This article describes the Participatory Action Research (PAR) process developed to carry out a collaborative market study between members of a Rural Production Society (RPS) in Maravatío, Michoacán, Mexico, and an academic team, with the aim of identifying marketing channels and points of sale ahead of the launch of a micro-enterprise for the production and sale of artisanal dairy products. As part of the PAR, the study was driven by the RPS members themselves, who formed a core working group of five participants to carry out the research. The procedure followed the participatory market survey methodology, incorporating throughout the dialogue of knowledge, experiences, and expertise of the group members. As results, 16 sales locations for the products were identified; the busiest locations corresponded to urban areas, notably the municipal seat of Maravatío, Ciudad Hidalgo, and Mexico City (CDMX). Based on the information obtained, two markets with price-premium potential were detected: Mexico City and the United States (USA), with margins of between 10% and 100% above the local price. Ranchero cheese was identified as the main product marketed, with high preference among consumers willing to pay a premium. It is concluded that PAR enabled the collective to develop a greater sense of ownership over their process, the knowledge generated, and the responsibility to implement actions that benefit their enterprise, by having timely information to guide their production and marketing of traditional dairy products.

Keywords: Co-research, dialogue of knowledge, artisanal cheeses, family dairy farming, participatory market study.

RESUMEN

El presente artículo describe el proceso de Investigación-Acción Participativa (IAP) desarrollado para realizar un estudio de mercado colaborativo entre miembros de una Sociedad de Producción Rural (SPR) de Maravatío, Michoacán, México, y un equipo académico, con el objetivo de identificar canales y lugares de comercialización ante la apertura de una microempresa de producción y venta de lácteos artesanales. Como parte de la IAP, el estudio fue impulsado por los propios socios de la SPR, quienes conformaron un grupo motor de cinco participantes para llevar a cabo la investigación. El procedimiento siguió la metodología del sondeo participativo de mercado, incorporando en todo momento el diálogo de saberes, las experiencias y los conocimientos de los integrantes del grupo. Como resultados, se identificaron 16 puntos de comercialización de los productos; los lugares más concurridos correspondieron a zonas urbanas, destacando la cabecera municipal de Maravatío, Ciudad Hidalgo y la Ciudad de México (CDMX). A partir de la información obtenida, se detectaron dos mercados con potencial de sobreprecio: la CDMX y los Estados Unidos (EE. UU.), con márgenes de entre 10% y 100% por encima del precio local. Se identificó al queso ranchero como el principal producto comercializado, con alta preferencia entre consumidores dispuestos a pagar un sobreprecio. Se concluye que la IAP permitió al colectivo desarrollar un mayor sentido de pertenencia sobre su proceso, el conocimiento generado y la responsabilidad de implementar acciones que beneficien su emprendimiento, al contar con información oportuna para orientar su producción y comercialización de lácteos tradicionales.

Palabras clave: Co-investigación, diálogo de saberes, quesos artesanales, lechería familiar, estudio de mercado participativo.

***Corresponding Author:**
randy-alexis@fmvz.unam.mx

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INTRODUCTION

Family dairy farming in Mexico contributes to the livelihood of approximately 147,167 families; it is the country's main milk production system in terms of production units, accounting for 78% of the total, and it supplies 9% of the national milk supply (964.05 million liters) (Chávez-Pérez et al., 2021). This system has been shown to contribute to food sovereignty by supplying milk in some regions and local markets, covering the recommended consumption for their population, providing a nutritious food at a low price, and contributing to the regional market for milk and its derivatives (Jiménez et al., 2009), thereby enriching and preserving the national culinary culture (Cesín Vargas, Cervantes Escoto, and Álvarez Macías, 2009).

Despite the above, family dairy farming has suffered marginalization and exclusion in neoliberal government policies. Under this economic paradigm, it is considered inefficient: the low production volumes and yields per cow, as well as the small size of the plots where the herds are raised, limit the efficient use of resources, which generates high production costs and low competitiveness. Moreover, owing to the low production volumes and the lack of organization, a large share of producers have been left subject to the prices set by intermediaries. Their limited integration into production chains prevents them from accessing the benefits of commercialization or the added value of their product, with the intermediary being the one who obtains a larger profit margin in the final sale (Espinosa Ortiz, 2008; Jiménez-Jiménez, Rendón-Rendón, Chávez-Pérez, and Soler Fonseca, 2019).

In this context, successive governments have implemented policies focused on technology transfer aimed primarily at improving productivity; however, these have not had the expected impact, largely because they are not designed in accordance with the socioeconomic, commercial, and social characteristics of the local production system (Álvarez-Macías and Santos-Chávez, 2019; Ponce-Méndez, Álvarez-Bernal, and Ceja-Torres, 2017; Rivera de la Rosa, Ortiz Pech, and Santoyo Manzanilla, 2021). In terms of commercialization, policies have been promoted for the development of dairy basins oriented toward the industrialization of the liquid product (Léonard, 1988; Velázquez Pacheco, 2017) or toward its integration into the cheese-making agro-industry (Bolos, 2003; Crespo, Réquier-Desjardins, and Vicente, 2014). Nevertheless, the results of these policies have not always been as expected and have sometimes failed (Crespo et al., 2014; Léonard, 1988), with insufficient or nonexistent monitoring and continuity.

Through technical support and on the basis of community organization, processes have been promoted that, through PAR, seek to generate practices that foster a sense of ownership, collective action, self-management, and the sustainability of rural-sector enterprises (Miguel Reyes et al., 2012; Jiménez, 2019). PAR represents a critical paradigm regarding the role of the social scientist in reducing injustices, one that promotes people's participation in the search for solutions to their own problems and strengthens their capacity for control over relevant aspects of their lives (Daza Sanabria and Chávez Méndez, 2003). In this approach, the members of a community collect and analyze information and act on their problems collectively, taking on the role of agents of change rather than objects of study, under the conviction that everyone's experience is valuable and can contribute to the research process (Balcázar, 2003; Freire, 2017; Selener, 1997).

The main applications of PAR have been developed in liberating education and rural community development; in recent years, its fields of intervention have expanded to urban, governmental, academic, and business settings, among others. However, documented reflections on its contributions to technical support in the livestock sector are scarce, as are those on the processes of knowledge construction based on local knowledge and experiences for the development of rural enterprises in different markets. In this context, the present work aims to describe the PAR process developed to carry out a collaborative market study between members of a Rural Production Society in Maravatío, Michoacán, and an academic team, with the purpose of identifying points of sale ahead of the launch of a micro-enterprise for the production and sale of traditional dairy products.

MATERIALS AND METHODS

The market research was carried out as part of the ongoing support provided by the Research and Engagement Collective of the Department of Economics, Management, and Rural Development of the Faculty of Veterinary Medicine and Animal Science (FMVZ) of UNAM to local organizations in the municipality of Maravatío, Michoacán, Mexico. The study is grounded in the methodological principles of PAR (Balcázar, 2003; Jiménez, 2019; O'Brien, 2001).

Since 2009, this collective has supported the organizational process of a group of milk producers formally constituted as a Rural Production Society (RPS) in the municipality, with the aim of accessing government support that would enable them to have a dairy processing plant equipped with technology, in order to guarantee producers a secure market and better prices for their milk. The present market study was incorporated as part of the diagnostic activities of a third cycle of PAR-based support, following two previous stages: the first, oriented toward the formal constitution of the RPS; and the second, focused on the management, construction, and equipping of the dairy processing plant.

In this third stage, the board of directors requested collaboration to reactivate the plant's production process. Through the development of a logical framework and a brainstorming session (Geilfus, 2009), the research collective and the board jointly identified the activities required prior to the start of dairy production and commercialization. Within this framework, a core working group was formed —a team made up of producers, community members, organizations, technicians, and researchers, responsible for planning and carrying out the research— with the purpose of identifying potential points of sale for cheese and milk for the RPS's dairy processing plant. To this end, the core working group followed the market survey procedure proposed by Parsons, Mancero, and Carrillo (2008).

The core working group was made up of five people: four producers who are members of the RPS and one academic researcher. Based on their experience and knowledge of the region, the usual sales areas of those who market dairy products in the area were discussed, following the line of reasoning below:

1. Identify the main milk production and sales localities.

2. Identify the most recognized traders in each locality engaged in the collection and sale of dairy products.

3. Indicate the most common places where these people market their products, as well as whether they transport or pick up their products for resale.

4. Draw up a list of the main products marketed and identify the possible places where price-premium exists.

With this information, a dialogue guide was developed (Geilfus, 2009) aimed at the people who sell at the places mentioned in the previous list. The guide included the following aspects: product destination, volume of products transported, sales frequency, type of products marketed, prices, products in greatest demand and their causes, buyer characteristics, other products in demand, purchasing preferences (establishments, street vending, labeling, price, among others), expenses and, as far as possible, profits.

The places and people to be interviewed were assigned and distributed by consensus among the members of the core working group, taking into account their networks of acquaintances and their familiarity with each area. The results were organized following the same structure as the market survey carried out.

RESULTS AND DISCUSSION

The main production sites in the municipality located within the RPS's area of influence number seven: Campo Hermoso, Santa Elena, El Tejero, Poblado de Dolores, Casa Blanca, Colonia Maravatío, and the Municipal Seat. These localities concentrate the main producers, collectors, and sellers of dairy products; 20 cheesemakers, two dairy processing plants, and six *boteros* (informal bulk-milk vendors who distribute directly to the consumer) were identified (Table 1).

With the above information, the most recognized traders in each locality —engaged in producing, collecting, and selling dairy products— were identified. Table 2 shows the number of individuals and companies, the places where they market their products, and whether they transport their product themselves or go to producers' premises to pick up the dairy products for resale. In addition, it presents the main products marketed and the places with price-premium potential, identified on the basis of the experience of the local collaborators, who also pointed out these marketing spaces.

In total, nineteen individuals or families producing cheese and two dairy companies were identified in the municipality, which together recorded 53 points of sale, of which 38% are located within the municipality of Maravatío (mainly in the seat), fifteen in other nearby municipalities, seven in the State of Mexico, seven in Mexico City (CDMX), two in other states (Guanajuato and Querétaro), and two in Chicago, United States. The products marketed comprise four types of cheese (Ranchero, Oaxaca, panela, and Cotija), natural cream, requesón, and milk. Of these traders, 38% have two points of sale, 24% only one, 19% three, 10% four, and only two traders had five and seven points of sale, respectively. At that time, five places with price-premium potential had been identified, located within the municipality's surroundings, within the state, and beyond it.

With the information organized, a list of the main points of sale and those with price-premium potential was drawn up, which was also useful for identifying the people with whom to discuss the aspects described above. It should be noted that, according to the information gathered, only five places appeared to offer price-premium possibilities; nevertheless, based on the knowledge of the core working group's collaborators, it was decided to include heavily frequented places such as Maravatío, as well as others mentioned as options, including Morelia, Michoacán, and Irapuato, Guanajuato. In this way, sixteen people were identified to carry out the semi-structured dialogue on points of sale; however, only thirteen were available to participate. The interviews focused on the lesser-known places with price-premium potential: six people who market in Mexico City, two regarding Tlalpujahua, two regarding Atlacomulco, two regarding Irapuato, and one regarding Chicago, United States. The people selected were trusted owing to the proximity and the existing relationship with the core working group's collaborators.

The main characteristics of the traders and consumers at their points of sale are described below, information that the collective considered useful for the Rural Production Society.

Mexico City market. For this market, two people who market their products there had been anticipated; however, once the dialogues were held, people with two or more points of sale emerged, so that ultimately six people with a presence in Mexico City responded. According to the semi-structured dialogue guide, four people indicated that they personally sell their products; the rest hand them over to another person who is responsible for reselling and distributing the product. Those who sell directly take it to the homes of regular customers or to government offices and companies, where they have identified the people who regularly purchase the products.

These people transport between 30 and 70 kilograms, with an average of 55 kilograms every one or two weeks. The main products marketed are Ranchero cheese, requesón, and cream. Regarding prices, only four people provided information. According to them, Ranchero cheese is sold at 10 to 20% above the local price; one of them mentioned selling it at the same price as in Maravatío, since he resells it. In all cases, the activity generates enough income to

Table 1. Localities and points of sale of milk producers, collectors, and dairy traders in Maravatío, Michoacán, Mexico.

Locality	Number of traders	Points of sale
Campo Hermoso	13 cheesemakers	United States, Mexico City, Toluca, Atlacomulco, Tlalpujahua, Cd. Hidalgo, Irimbo, San Miguel, Apeo, Maravatío.
	2 boteros	Maravatío
Santa Elena	3 cheesemakers	Maravatío
	2 boteros	Maravatío, Campo Hermoso
Tejero	Do not market	They consume in Maravatío
Poblado de Dolores	2 cheesemakers	Mexico City; Atlacomulco, Edo. Mex. and Maravatío
Casa Blanca	1 cheesemaker	Maravatío, Cd. Hidalgo, and Floresta processing plant
Colonia Maravatío	1 botero	Maravatío town center
Cabecera Mpal. y Otros	2 processing plants, 1 cheesemaker, 1 botero	Maravatío, Cd. Hidalgo, Taranda, Acámbaro, Atlacomulco, Toluca, Querétaro, Mexico City

Table 2. Identification of points of sale, products, and dairy traders in Maravatío, Michoacán, Mexico.

Point of sale	No. of individuals/companies		Specific places	Products	Price premium
	Transports product	Resells product			
Maravatío Municipal Seat	15	1	Municipal market, central square, home sales, supermarket, company's own outlet	Ranchero, requesón, crema, Oaxaca, panela	No
Apeo	2	-	No data	Ranchero, crema, requesón, milk	No
San Miguel	2	-	Supermarket	-	No
Campo Hermoso	1 local botero	-	Not applicable	Milk	Yes
Cd. Hidalgo, Mich.	7	4	Home and market	Ranchero, Oaxaca, Cotija, panela, requesón	Yes
Irimbo, Mich.	1	1	No data	Ranchero, requesón, crema	No
Tlalpujahua, Mich.	2	-	-	Ranchero	No
Atlacomulco, Edo. Mex.	2	2	Home, wholesale vendor	Ranchero, Oaxaca, panela	Yes
Toluca, Edo. Mex.	2	1	-		Yes
Cd. de México	6	1	-	Ranchero	Yes
Taranda y Acámbaro, Gto.	1	-	-	-	-
Querétaro, Qro.	1	-	-	-	-
United States	Variable	2	No data	Ranchero	Yes

cover their expenses, as one of the participants put it: "with this I have supported my family, and without a husband."

Ranchero cheese is the most preferred product among consumers, who value it, in order of mention, for being "fresh," "different," "without chemicals," "traditional," and "natural." In addition to dairy products, consumers have expressed interest in other products from Michoacán, including mole, chili, bread, tortillas, carnitas, chicharrón, and nopales. The consumer profile is heterogeneous: according to the traders, any type of person buys their products, including homemakers, wage earners, and office managers, among others.

Tlalpujahua market. Of the people with whom dialogue was held, only one transports product to sell; the other receives buyers at home, who acquire the product to resell it in the municipal seat. The person who transports their

products sells them mainly at homes, taking 40 kilograms of Ranchero cheese each week, although they also market cream and requesón. Consumers in Tlalpujahua prefer Ranchero cheese by tradition, without indicating a specific reason, and do not present a particular profile. As for prices, there is no difference relative to the local price in Maravatío; nevertheless, the trader indicated that the activity generates enough income to cover their expenses.

Atlacomulco market. Of the people who shared their experience, only one transports product to Atlacomulco, making deliveries every twenty days with 30 kilograms of Ranchero cheese, which is the main product marketed and the most preferred. According to those interviewed, buyers are mainly acquaintances who have already consumed the product previously, and they prefer it for being "natural, different, and by tradition." The sale price is equal to the local price in Maravatío, and even so the activity allows the trader to cover their expenses.

Irapuato market. Those interviewed agreed that it is a good market where everything brought in gets sold. Deliveries were made weekly, mainly to the seller's acquaintances and directly to their homes, although the possibility of selling wholesale to stores for resale was also mentioned. Ranchero cheese is the most preferred product among consumers. The sale price corresponds to the local price in Maravatío and, even so, the activity is profitable for the traders.

Chicago, United States market. For this market, one person was interviewed, although other participants also contributed comments on the matter. It was identified that the main sellers are relatives of the cheese producers, with a constant flow of movement toward that country. The destinations mentioned were Los Angeles and Chicago, and sales are predominantly personalized. The product transported is Ranchero cheese, in quantities of approximately 60 kilograms per shipment, and it is preferred even though it loses organoleptic properties and presentation during the journey. Consumers, usually acquaintances and relatives, value it for its connection to the place of origin and because they consider it natural and different from the cheese available locally, which some describe negatively for its texture and flavor.

Price is not an obstacle to purchase: according to the interviewee, a large piece can sell for up to 15 dollars. As for transport costs, these are not clearly defined, since the product is transported as a complement to family trips, so the traders consider that the activity generates additional income for them.

After reviewing the information and based on the experiences of the core working group, sixteen places were identified where Maravatío's dairy products are commonly marketed. The places most frequented by producers and traders are urban in character, notably the municipal seat of Maravatío, Ciudad Hidalgo, and Mexico City. Studies on the market and consumer preferences in Mexico (Rendón-Rendón et al., 2019; Rendón-Rendón and Brunett-Pérez, 2022) have found that the market for traditional cheeses in cities is little known and marginal; however, this study shows that Maravatío's cheese production could have greater influence in these populations.

The information analyzed initially showed six places with price-premium possibilities: the United States, Mexico City, Toluca, Atlacomulco, Tlalpujahua, and Morelia. However, after dialoguing with the traders who regularly sell at these sites, it was identified that only Mexico City and the United States offer a documented price premium, of between 10 and 100% above the local price. Nonetheless, in some experiences it was observed that a price premium can be obtained in other places if the sale is carried out in a personalized, one-on-one manner.

Ranchero cheese is the main product marketed and the most preferred among consumers who pay a price premium, since they associate it with attributes such as freshness, naturalness, the absence of chemicals, and a distinctive character, aspects that have been identified in the general population of Mexico (Rendón-Rendón and Jiménez-Jiménez, 2024; Rendón-Rendón and Brunett-Pérez, 2022). Likewise, the traders do not perceive significant differences in the physical or economic characteristics of the dairy products relative to other markets, which is largely explained by the recognition of the product and the direct, personal relationship between producer–trader and consumer. In this regard, Rendón-Rendón et al. (2019) note that geographic proximity generates relationships of trust that allow cheesemakers to prevail and remain competitive in the market.

Among the recommendations formulated by the core working group, based on the research experience and collective reflection, the following stand out:

- Selling at a price premium requires a personalized commercial relationship, with people who have the ability to socialize, offer the product, and persuade, as well as the time available for direct selling.

- Selling in volume requires exploring other types of markets, given that consumers of this type of product prefer personalized sales, except in contexts where there is consolidated tradition and recognition.

- It is recommended to continue characterizing the consumer at different times of the year in order to assess purchasing willingness and volume.

- Regarding the payment for milk to producers who deliver to the micro-enterprise, it is recommended to review the base price taking transportation costs into account, in order to seek a balance that harms neither the producer nor the company.

The PAR process developed to identify the market niches of the Maravatío RPS demonstrated the relevance of using this community research and action approach. This is likewise noted in marketing studies where PAR has been implemented, since this inquiry approach makes it possible to better understand markets and maintain constant observation of consumption trends from a local perspective, which, for this type of enterprise, will allow

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for better adaptation to change and the achievement of their objectives (Simón, Verdugo, and Delgado, 2020).

Based on the principles of PAR (Balcázar, 2003; Jiménez, 2019), the relevance of the knowledge, expertise, and experiences of the local participants became evident, as they made it possible to learn in a more direct and agile way about the places, people, routes, and companies where the municipality's dairy products are marketed. This characteristic underscores the importance of the actors' knowledge of their territorial sphere and their proximity to different sectors of the population, which provides a vision more closely tied to reality (Signes, Calvo, Roig, and Buitrago, 2019). The participants recognized themselves as social actors with their own voice and with the capacity to decide, reflect, and actively participate in the research and change process; this recognition, built jointly with the academic researchers, reinforced the individual and collective strengths of the group's members.

This strengthening, in turn, makes it possible to progressively define actions that lead to the transformation of reality, not only of the enterprises but also of the research paradigm of the academic researchers (Salgado, Hernández, and Demuner, 2015). This is because, as happened in this case, diverse quantitative and qualitative methods are integrated, allowing reality to be approached in other ways, different forms of generating knowledge to be recognized, and recommendations to be produced, together with local actors, for facing the challenges in market niches.

The process also involved reflection on the challenges of the enterprise in the production and marketing of dairy products. While the activity arises as an initiative of the RPS, during the market survey it was identified that this procedure constitutes a starting point for identifying places and processes that must be considered for the launch of their products, which reflects the PAR principle establishing that the problem originates in the community and is defined, analyzed, and resolved by its own members (Balcázar, 2003; Jiménez, 2019; Salgado, García, and Demuner, 2015). The above, together with the active participation of the group, the dialogue with key actors in the municipality's production and marketing, and the exchange within the core working group, led the participants to develop a critical awareness of the reality of the local and regional market for traditional dairy products.

CONCLUSIONS

The present work shows the procedure for applying PAR to carry out collaborative market research between members of a rural production society and academics, with the aim of identifying points of sale ahead of the launch of their micro-enterprise for the production and marketing of dairy products in Maravatío, Michoacán, Mexico. Thus, sixteen possible points of sale were identified, among which Mexico City stands out owing to the high preference for a fresh soft-paste cheese and the possibility that consumers will pay a price premium.

In this way, PAR enabled the collective to learn and understand the possibilities and implications of commercialization and the market niches for their cheese-production enterprise. The process also led the core working group to learn and apply methods and strategies to generate knowledge within their collective and together with academic research, which allowed them to recognize their territory and the food circuit related to dairy products.

It is concluded that PAR enables the collective to develop a greater sense of ownership over their process, the knowledge generated, and the responsibility to implement actions that benefit the enterprise and the reality of the RPS, particularly with respect to the receipt of milk and the price paid to each producer member. This last aspect is crucial, given that the study does not guarantee that the products will be marketed at the identified points or at a price premium; nevertheless, the collective now has timely information to guide and give continuity to their process of producing and marketing traditional dairy products.

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