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Perception of extension workers about rural development processes in Morelos, Mexico

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ABSTRACT

Objective: To determine the problems that extension workers face during their work to promote rural development, from their own perspective.

Design/Methodology/Approach: The research was carried out with extension workers, who took part of the 2019 Rural Development Program (PDR) in Morelos, Mexico. An exploratory-descriptive methodology, with a non-probabilistic convenience test, was carried out. The tool comprised 25 items. Thirty-one extension workers and 6 technicians of various programs were interviewed.

Results: Most of the extension workers were men, 86% of their professional profiles are related to agricultural sciences, 10% has a master degree, and 45% has some kind of proficiency certificate. The interviewees pointed out that they were not paid enough for their services, that each technician had to work with too many producers, and that a short-term contract is not enough to achieve the development processes. The main activities carried out were related to the program.

Study Limitations/Implications: As a result of the SARS COVID pandemic, the interviews were carried out remotely and we could not get in touch with more extension workers.

Findings/Conclusions: Extension workers demand long-term contracts, appropriate payments, and a lower technician:producer ratio, in order to make their work more efficient and to contribute to the development of families and communities. They also mentioned that they would like to focus on extension activities and that their involvement in management issues aimed at exercising the resources of government programs should not be a priority.

Keywords: Rural extension, communitary agricultural work, capacities, rural development.

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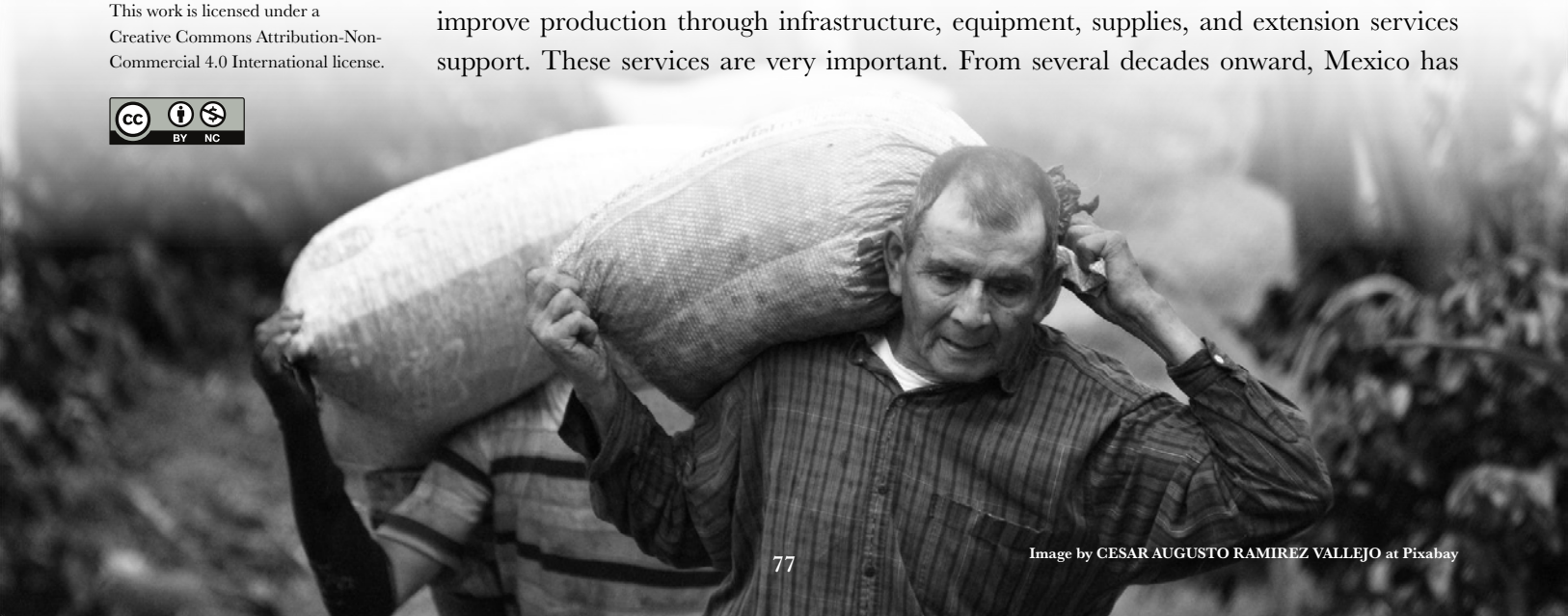
INTRODUCTION

Government policies seek to improve development and, therefore, to increase and improve production through infrastructure, equipment, supplies, and extension services support. These services are very important. From several decades onward, Mexico has



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implemented technology transfer, training, and technical support programs, in order to help producers to obtain higher income from their harvests, consequently improving the quality of life of their families.

Extension is the service provided by the technicians recruited by government, education, and research or private programs, which facilitates the access of rural actors to knowledge, information, and technologies (López-Barbosa, 2021). However, the term extension can be defined from different angles. Some authors restrict its definition to technology transfer and technical support, while others point out that extension includes several economic, productive, social, environmental, and even psychological subjects. They claim that it should be holistic and inclusive, because respecting the needs of the producers themselves is vital. The main problems could be solved based on a participatory appraisal. Knowledge must not only be considered from a technical-productive point of view, but it also must take into account the lore, customs, and traditions of the producers. Providing this knowledge exchange from an eclectic point of view would facilitate its appropriation (López-Barbosa, 2021; Méndez-Sastoque, 2006). The technician role is fundamental for extension. According to the Secretaría de Agricultura y Desarrollo Rural (SADER, 2016), extension workers provide agricultural knowledge to producers and exhort them to adopt new and improved ways to work with their crops and livestock. Extension workers favor the achievement of the processes of the said development. Other authors point out that extension workers must think about rural life beyond the territorialization of primary activities, acknowledging its multidimensional character and fully understanding that, besides the economic and productive point of view, rural life also includes social, cultural, political, and environmental aspects. Additionally, they must acknowledge that agricultural activities are part of a broader whole, involved in territorial dynamics, which include local, regional, domestic, and international levels (Mayoral-García *et al.*, 2015). Extension workers are also trained in different aspects, in order to achieve a development in the family unit, group of producers, or communities where they carry out their work. Extension workers are essential actors in rural development processes, and they must have different characteristics that allow them to complete objectives required by extension. These characteristics include: an active engagement; a professional behavior; self-training; values and principles; capacity to transmit knowledge and show the producers new and improved production techniques; acknowledging the main problems of the community in order to look for joint solutions; and combining the knowledge of the producers to strengthen their capacities in their rural environments (López-Alcocer and Castro-Ibáñez, 2010; Medina *et al.*, 2015). In order to face and solve problems, these professionals must work in coordination with other involved actors, and they require training that, sometimes, goes beyond the capacities acquired through a sound technical-scientific education (Méndez-Sastoque, 2006). Therefore, education and research institutions must find a break-even point between the education offer and the social demand that the agricultural professionals carry on their shoulders (Méndez-Sastoque, 2006).

From a holistic point of view, the work of the extension workers requires commitment, a clear vision about the rural development processes, and an institutional environment

that guides, fosters, and encourages them (López-Barbosa, 2021). Therefore, they must feel the support of an income and a solid contract, that will allow them to focus their whole attention in the development of the inhabitants, instead of worrying about how long they will be paid or which extra activities they must fulfill, because they are under a government contract. Medium and long-term contracts would allow workers to achieve better results. Extension workers must also have guarantees about their quality of life, in order to contribute with greater interest and authenticity to their full-time jobs as extension workers and, consequently, to the rural development processes. Rural development boosts territorial resources, involving inhabitants or interested parties as driving subjects of their own development, through the implementation or development of capacities to improve the economic, social, political, cultural, and environmental quality of life of the inhabitants.

As a result of the importance of extension workers for rural development processes, the objective of this research was to determine, from the extension workers' perspective, the problems they face in their work in favor of rural development. The assumption was that the activities of extension professionals are not aimed at a holistic extension —*i.e.*, to achieve the development of a family or community—, as a result of the short-term nature of their contracts and the extra activities they must carry out on behalf of the contracting institutions.

MATERIALS AND METHODS

The research was carried out with extension workers who took part in the 2019 Rural Development Program (PDR), in Morelos, Mexico. The Rural Development Program was 1 out of 11 support programs implemented in 2019 by the Secretaría de Agricultura y Desarrollo Rural (SADER), under the U category (other grants). The overall objective of the program was to sustainably increase the productivity of the family production units (UPFs), aimed to improve the income of rural populations. The program was made up of four components: I. Capacity development, extension, and rural assistance. II. Economic integration of productive chains. III. Strengthening of family production units (UPFs). IV. Technology research and transfer (SADER-FAO, 2019). The target population was the formal or informal UPFs, located in municipalities of rural priority attention areas, and formal or informal family production units, located in highly and extremely marginalized areas (SADER-FAO, 2019).

A descriptive and exploratory method was used in this research, in order to describe the characteristics of a set of individuals and areas of interest (Monje-Álvarez, 2011). Exploratory studies can be used to obtain information about the possibility of carrying out more complete research about a particular context, to explore new problems, to identify concepts or promising variables, and to establish priorities for future research (Hernández-Sampieri *et al.*, 2006). Descriptive research specifies properties, characteristics, and important features of any analyzed phenomenon (Hernández-Sampieri *et al.*, 2006). The sample was a non-probabilistic convenience test: an easy, efficient, and economic sampling, which allows the use of other methods as data is gathered (Monje-Álvarez, 2011). The main interest is not measurement, but to understand the full complexity of

the phenomena and the social processes (Martínez-Salgado, 2012). A data gathering tool —including semi-structured questions— was sent via Google Forms to 31 technicians who took part in the PDR 2019. The tool included 25 items. Additionally, six extension technicians from several programs were interviewed. Data was gathered from April to July 2020. The data was systematized using Excel® and, subsequently, it was analyzed. In addition, literature research was carried out, in order to obtain information about extension and its importance.

RESULTS AND DISCUSSION

General aspects of extension workers

Out of the interviewed technicians, 77% are men and 23% are women. Despite a majority of men, the involvement of women in these programs is increasing. This increase is the result of the need to get a work that will allow women to contribute to the economic income of their families. Additionally, they mentioned their good performance in the communities helps them to obtain contracts for new programs. Women have an easier access to the domestic environment of families, which helps them to not only participate in productive aspects, but also organizational or commercial aspects, such as health, culture, environment, and education, among others (Esquisabel, 2018).

Regarding the age range, 50% are 31-50 years old; this category can be considered as optimal for the development of this activity, taking into account that people work from 25 until 60 years old (Mayoral-García *et al.*, 2015). The lower percentage included 20-to-30-year-old technicians, who have just obtained their bachelor degree and who have just entered the work market. The age range was distributed as follows: 20-30 (17%), 31-40 (30%), 41-50 (20%), 51-60 (27%), and 61-70 years old (6%).

The prevailing professional profiles were those linked with agricultural sciences (86%), followed by biotechnology (7%), and administration, accounting, and business (7%). Ten percent of the interviewees has a master degree. Exceedingly few technicians from the social area are hired; this situation can be related to a productive approach by those in charge of the program. There is also a lack of holistic knowledge, which includes different factors that must be considered to achieve rural development. Landini (2013a) carried out a study aimed at determining the profile of extension workers who work for the Argentinian public extension system and found that most technicians obtained a master degree on rural development or extension. Despite having technical careers, extension workers must also be aware about the areas of their work in which they are not proficient; therefore, they constantly seek to update their knowledge about the subjects required in their work areas, both technical and non-technical subjects.

Training

Forty-five percent of extension workers have some kind of proficiency certificate, including: teaching in-person human capital training group courses (EC00217); development of rural investment project design (EC0020); facilitation of innovation processes to improve competitiveness (EC00489); facilitation of innovation processes to improve competitiveness among people, social groups, and economic organizations

(EC00818); evaluation of the qualifications of candidates, based on competitiveness standards (EC0076); and citric harvesting (EC0093). The rest does not have any kind of certification. They attend the appropriate training offered by the institutions on the subjects that producers require the most.

The main objective of the PDR is to contribute to the improvement of the income of the rural population. Therefore, determining if the technicians were trained in regional development aspects —to carry out their work and to comply with the objectives of the program— was fundamental. Forty-seven percent of the workers said that they were trained; however, the training was not always related to regional development. The training mainly included program operation guidelines, project development, and the use of platforms to meet requirements or to submit reports; other workers mentioned training about technical issues. Forty-three percent did not attend training and 10% did not answer the question. Without a clear idea and without an institutional environment that promotes, guides, and encourages it, it is very difficult to achieve rural development (López-Barbosa, 2021). Therefore, technicians must be involved in these ideas; otherwise, they will not know where to go, to whom they must turn, or how they can take part of the rural development processes.

Sixty-eight percent of the technicians provide training and consultancy to producers or groups, based on the needs they mention during their meetings; six percent said that they base these training and consultancy on their own decisions, because they do not have enough time to carry out a participative appraisal; the rest of the extension workers did not answer the question. The technicians mainly provide training in four areas: production (87%), organization (45%), management (32%), and commercialization (9.6%). Production is the most important subject for producers and, as a consequence, also for technicians, because their certifications are mainly about this subject. These results match those obtained in the Caazapá, Canindeyú, and Central regions in Paraguay, where extension workers were asked about the subjects, they wanted to be trained in. The three most mentioned areas were commercialization, to learn how to "persuade" producers, and several technical subjects (Landini, 2013b). Additionally, Landini (2013b) pointed out that the thematic areas in which extension workers are most interested include: first, technical issues and then, rural extension methodologies.

Regarding the way in which the training and technology transfer are carried out, the extension workers pointed out that it was through consultancy, exchange tours with producers from Morelos and Michoacan, demonstration plots, trainings, and mainly through work sessions in collaboration with the Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias (INIFAP). However, only 2% of the technicians said that the lore of the producers was considered during the knowledge exchange. Nevertheless, the combination of knowledge must be considered, because the producers' traditional lore is aimed at production systems management, which guarantees their physical and social reproduction (Sánchez-Olarte *et al.*, 2015). Therefore, this lore should be included, along with eclectic knowledge.

Contribution of field work to rural development

Ninety percent of the interviewed service providers was hired as a field technician, 7%, as project designer, and 3%, as strategic planner. Field technicians received $20,000.00 MXN for their services; strategic planners received $30,000 MXN, and project designers received $25,000.00 MXN. The terms of their contracts were variable: the strategic planners were hired for 12 months, the project designers for 11 and 10 months, and the UPF technicians for 7, 5.5, and 3 months. The argument was that the different times were the result of a gap at the beginning of the program; the technicians pointed out that the time was not enough to carry out the proposed methodology and that the situation got worse due to COVID 19. Therefore, they suggested that they should be hired at least for a year, in order to appropriately implement the methodology of the territorial development project (PRODETER). A longer contract period would allow them to achieve a good performance in their jobs.

The work of the extension workers is very complex; it is not only aimed at technology transfer, but also at carrying out a more comprehensive job —that includes production, organization, management, social, and commercialization aspects—, mainly with the UPFs, helping them to achieve their development. If people are to take part in the answer to their problems and, consequently, appropriate the solutions and projects, a long-term field work must be carried out. Therefore, systematic technical accompaniment must be provided properly and on time, considering different aspects of rural life (Cadena-Íñiguez *et al.*, 2018). Non-explicit purposes, guidance, and inefficiency in the use of resources in extension strategies, and creativity to adopt and adapt different short-term models have created an environment of dissatisfaction, despondency, and even uncertainty among the actors in charge of extension and the extension services in the Mexican agricultural sector (Rendón-Medel *et al.*, 2015).

Based on experience, to generate results in extension services, four consecutive cycles are needed in the case of agricultural production units (Santos-Chávez *et al.*, 2019).

The activities that extension workers carried out with the UPFs' members were mainly project formulation and follow-up, organization and entrepreneurial development of the work groups, productive chain integration, technical support, file integration, resource management, intervention plan development, request for quotation, accounting logs development, and georeferencing. These activities are mainly reflected in the implementation of the program. Ultimately, the work of the technicians was to identify, develop, and kickstart projects that would benefit the groups that took part of the program and that would obtain assets to improve their production systems. However, an alleged accompaniment never took place, and a set of educational processes did not favor an integral and sustainable rural development (López-Barbosa, 2021).

Although most of the professionals pointed out that they carry out the activities according to the producers' needs and based on a participatory appraisal, producers continue to prefer benefits in kind, while government institutions give priority to the spending of resources, because some of the activities required by government institutions from producers include spending of resources before a given deadline. Technicians mentioned that —and as a result of the hiring gap— they spent most of their time carrying out administrative and management activities, in order to exercise the resources.

Each field technician provided services for at least 31 producers from 16 municipalities; the highest coverage was found in Tepalcingo, while Puente de Ixtla and Totolapan had the lowest number of technicians (Table 1). Thirty localities from a highly and extremely marginalized area were benefited. The number of producers was too high regarding the period of the contract and, as a result of it, the workers could not carry out all the activities included in the work plan.

The technicians also mentioned that going from a community to another or to the capital of the state —to carry out the necessary procedures to follow-up the producers' needs or to implement the program— took a great effort, as a result of the lack of time to perform all the activities. Therefore, the heads of the programs must be aware of the technician:producer ratio. Extension workers should be able to provide their services to a smaller number of producers, spending enough time working with them, because the main objective of the programs is to contribute to the improvement of the quality of life of families and not only to exercise the resources of the said programs.

Technicians provided their services to more than 30 producers during their work contract. We must mention that their work has an influence; however, they must not be considered as the only actors and actions that can contribute to the improvement of the rural population of marginalized areas. Rural development depends on several actors, mainly the producer, government institutions, professionals from several specialties, and communities, among others. The work of technicians as facilitators and the involvement of various actors can achieve rural development.

Table 1. Percentage of municipalities where extension workers provided their services.

Municipality	Technicians (%)
Ayala	3
Axochiapan	7
Jonacatepec	4
Ocuituco	7
Puente de Ixtla	1
Temoac	6
Tepalcingo	24
Tepoztlán	8
Tetela del Volcán	4
Tlalnepantla	10
Tlaltizapán	2
Tlaquiltenango	8
Tlayacapan	6
Totolapan	1
Yecapixtla	3
Zacualpan	6

CONCLUSIONS

The involvement of extension professionals is required to favor rural development processes. They must be aware of rural development. This will help them to know how to perform their work, because the responsibility is not exclusively theirs. Instead, it depends on different actors who can contribute to the welfare of families. Therefore, a holistic and eclectic work with the producers must be carried out. Technicians cannot mainly be focused in the productive area and in complying with the requisites for the exercising of the resources of a government program; they must also be authentically involved, based on their own conviction. Extension workers should sign long-term contracts, have a decent salary, and work with a lower technician:producer ratio, in order to work in an efficient manner and to contribute to the development of families and communities.

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