Research Article

Implementation of the IAP Methodology, for the Development of a Epistemic Community in the Different Production Methods Under the Parameters of Food Security, Municipality

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Abstract

This research shows the panorama of food security, taking into account its importance in its international and international context, visualizing the dimensions, but above all contextualizing the implementation of a participatory action research process with a learning community in the municipality of La Huacana, Michoacán, for the implementation of different food production methods that guarantee the food security of the community. Taking into account that a proportion of 30% of households were food secure; while 70% were classified in one of the three categories of food insecurity: 41.6% in mild insecurity, 17.7% in moderate insecurity and, 10.5% in severe insecurity.

The objective was: To apply the methodology of Participatory Action Research (PAR) in the municipality of La Huacana, Michoacán; For training in different production methods under the parameters of agriculture and food security, improvement actions have been implemented and that contribute to mitigating the problem, establishing backyard agriculture modules.

It was developed with a group of people from the municipality of La Huacana, who, based on a diagnosis of needs related to food security, implemented backyard agriculture actions to meet and solve the needs detected.

Keywords: Food Safety; Product Efficiency; Integrity; Backyard Farming

Introduction

Food safety is essential to ensure quality in every stage of the food chain. It starts from production to harvest; then processing, storage and distribution. At the end of the chain, preparation and consumption. Given the broadening of the scope to include a nutrition-focused approach, a report was produced by the United Nations on The State of Food Security and Nutrition in the World, and UNICEF and the World Health Organization (WHO) joined FAO's traditional partnership. IFAD and WFP for preparation. In order to provide better guidance on how to address the challenges of a changing world, the report was also expanded to include an in-depth thematic analysis of the underlying factors and causes driving observed food security and nutrition trends and to link progress towards improving food security and nutrition with other SDGs.

The landscape of food and nutrition security in Mexico is addressed through the based on the four pillars that compose it: availability, access and use of food security, and supply stability, as well as from the two sides of malnutrition in Mexico: obesity and malnutrition. Food security jumped to the front page of political agendas in the aftermath of the events that followed the of the 2008 financial, energy and food crisis. The impact of the crisis does not It was transmitted homogeneously to all countries.

The uncoordinated responses of large global producers amplified the negative impact at the international level and created great instability, price volatility and a general increase in the prices of basic grains.

The term food safety can be confusing from one point of view from a conceptual point of view. In accordance with the definition reached during the World Summit 1996 at the United Nations Food and Drug Administration for Food and Agriculture (FAO), "there is food security when All people have physical and economic access to sufficient physical and economic access at all times. safe and nutritious food to meet their dietary needs and food preferences in order to lead an active and healthy life".

Materials and Methods
Action Research

IPA is a process that encourages participation and empowerment of local communities, and also facilitates the integration of aspects of cultural and environmental issues. Transversal routes

Implementation of the IAP Methodology, for the Development of a Epistemic Community in the Different Production Methods Under the Parameters of Food Security, Municipality

03

and survey of plots and uses of land is generally recommended as participatory exercises introductory courses that give researchers an initial insight into the area and participants, and provide the opportunity to identify the issues that are important to them. According to Kemmis, Action Research is a form of research carried out by the practitioners on their own practices, such as a Community perspective, which cannot be carried out individually or isolated, it requires group involvement. Decision-making is made on the basis of in a joint way, thus forming self-critical communities with the sole purpose of lead to social transformation.

Elliot defines action research as a study of a situation in order to improve the quality of the action within it. The It is understood as a reflection on human actions and situations experienced by the teaching staff that aims to broaden the teachers' understanding of their practical problems.

In this sense, the community formed in the municipality of La Huacana, in the population was developed under the approach of action research, in such a way as to identified their needs, planned actions to solve them and developed the actions to overcome it, in order to solve their problems. food security issues through backyard farming.

Key Activities of the IAP

The process included the three fundamental activities of the IAPs such as research, education and action:

IPA is developed in multiple modalities, depending on the specific objectives that they pursue, even though they all have the purpose of solve problems, not just generate knowledge. In this sense, Carr and Kemmis presents three types. In this case, the= was of a technical nature, since the role of the researcher/facilitator was to be an expert guide in backyard farming, even though the detection of needs, and implementation of actions corresponding to the participants or practices.

The learning community (CA)

- The form of organization for the development of this process for the
- The backyard farming generation was the Learning Community.
- The Learning Community, made up of two words Community and Learning, referring to the definition of community, according to the Royal

Academia Española is a quality of commonality, that which belongs to or is extends to several and in a broad sense refers to a set of people of a people, region, or nation who are linked by common characteristics or interests. And the definition of learning, as

the action and effect of learning something. Art, craft, or something else, such as the action of acquiring knowledge of something by the medium of study or an experience. It is a disposition that leads us to change our behavior, because of the lived experience.

Learning Community (CA) is a phenomenon of groups, some individuals learning together. Groups that come together for a purpose purpose, a purpose that is shared, that they commit to learning interactions for the good not only at the individual level but also at the individual level.

Community, since among all the members there is a willingness to commitment, participation, collaboration, reciprocity and learning.

Methodological design of action research

The research process that has generally been used for institutions and/or companies, leads to the identification of problems, the determination of categories, collect data, analyze, test, verify or reject hypotheses, concluding the with the description of the object under investigation and a series of recommendations, leaving action aside. In this I-A process, what

What is required, then, is to put the organization into action, into motion, from forming a Learning Community, to providing the organization of their own capacity for change. There have been many approaches to carry out changes in organizations.

Figure 1

The methodological design of action research that is implemented through Starting from the formation of a learning community, it is developed in 5 phases, however, the process described in this thesis did not follow the process in each of its phases, but in the general lines that included an Entry or presentation to authorities and the community, a Diagnosis of the situation, the Response as the training plan and the actions for its implementation, the Disunity in which the problems and problems were assessed. results, and the Closing as a conclusion of the process. The process is described methodological methodology in phases below.

Implementation of the IAP Methodology, for the Development of a Epistemic Community in the Different Production Methods Under the Parameters of Food Security, Municipality

04

First phase: entry

Following the above methodological design, it is important first of all to start by contacting the direct managers of the organization and/or institution in the the process will be carried out, in order to make known the goodness of it and the objectives that are pursued when implementing it.

Second Phase: Diagnosis

The tasks to be carried out during this phase begin with clarification of expectations, those involved are now part of what we call. Learning Community (CA), is the time when each of the members of the CA express their thoughts on the intervention in their personal expectations and now as part of a Community, what is expected from the process that will be initiated, confront with the objectives that the Institution is considering, complement them and together determine the Reaches.

Awareness-raising and training

This is the stage in which, through some techniques, we move those involved to recognize the relevance of the intervention and the need for it for problem solving

Phase Three: Response

Determination of Immediate Solution (PSI) Problems: Once duplications have been eliminated, we move on to the determination of the (PSI). These are problems that those involved have to identify in the list that has been Been. Among the characteristics that these problems have is that they are problems that can be solved very easily because in the short term and in the short term. low cost, their feature is that they are not made up of other problems and that they are entirely in the CA Freedom Zone. Elaboration of PSI Action Plans: When they are located An action plan is developed for each ISP

Figure 2

Problem Identification

In this first step of the PSP, the problem list table is integrated without the ISPs. The problems that have remained retain the enumeration that has had it from the beginning. Among the techniques and tools we can use is brainstorming, Pareto analysis, voting weighted, consensus, hierarchy matrix, kite, nominal cards, interviews and surveys.

Hierarchy: By means of the Hierarchy Matrix, the This is a problem that the CA considers to be the most important and the one that requires analysis.

This technique consists, as its name suggests, of prioritizing problems. Taking into account the following criteria

- **Control Authority:** Depending on whether it is considered that the problem may be more in the area of control of those involved.
- **Time:** How long the CA would consider the problem to be resolved.
- **Cost:** How much $ would be required to fix the problem
- **Impact:** If the problem is solved, which is so conducive to the achievement of the problem. of the objectives set from the beginning.

From the hierarchy matrix, the problems that are of high quality are chosen. control, short time, low cost and high impact. These problems are integrated like a new list of problems.

Problem analysis

In this second step, the definition of the problem is carried out. To put it in situational terms, describing the benefits that the solving that problem, advantage, objectives, as well as identifying a list of situations in which the problem arises and what happens if it is resolved.

The definition of the problem should be brief and that all members of the AC understand. Once you have that definition, you get what we'll call "To break down the problem, which is the action of dividing the problem into sub-problems, approach the problem from different angles and list possible locations of the

from the individual, in the group and in the situation. Playing with the problem it requires creativity from the CA to move the problem from one place to another.

During this process, the facilitator reminds the group to keep the objective in mind that has been set out from the outset, the essential process and bearing in mind what that is in their zone of freedom.

Sometimes problems are expressed that are not found in the area of control of the AC, the challenge is to find the ways to attract
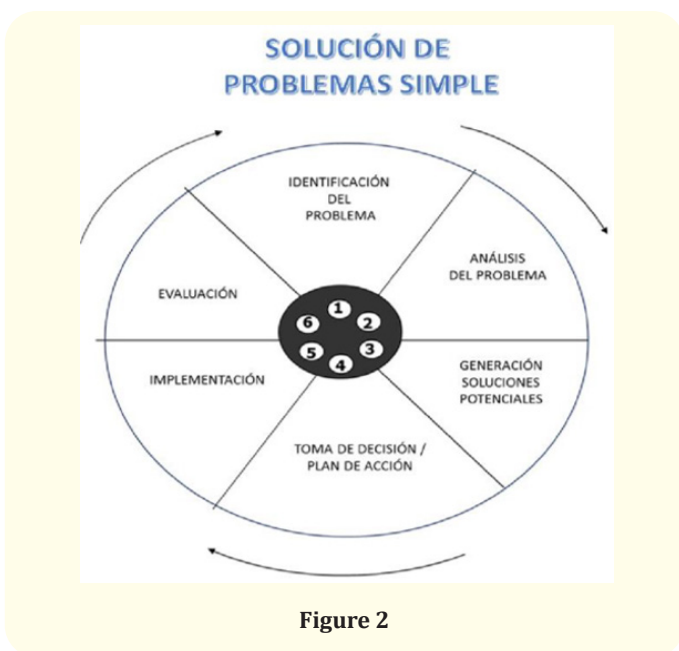
Implementation of the IAP Methodology, for the Development of a Epistemic Community in the Different Production Methods Under the Parameters of Food Security, Municipality

05

them, this is where it is important for the CA to develop its creativity. It is the facilitator's role to use various techniques to lead those involved to develop creative ideas. For this analysis process can be used by a number of tools, including which we can find: the cause-and-effect scheme

Generation of potential solutions

The CA takes up the definition of the problem and based on the analysis carried out, Brainstorm potential solutions. The Facilitator It must ensure that everyone participates and that the solutions that are proposed are are understood by all. When a number has been generated a considerable amount of potential solutions is passed to a situation of choice.

Decision-making and action plans

Once the potential solutions have been chosen, the action plans specifying the what, how, who, when, how much, and tracking.

Implementation

Action plans are implemented on the specified dates. Herself they can use Gantt or Pert charts to accompany the setting in the implementation of the action plans.

Evaluation

We can only talk about closing the circle of the Solution Process of Problems, if we evaluate the results. Problem solving is proposed with an open circle, which assumes that the actions put in place will resolve the problem, whereas, if we talk about problem solving

Results and Discussion

Systematization of the Action Research Process Throughout the chapter, the narrative of the process developed will be presented through action research in the learning community, making a reconstruction and recovery of the process, which will be contrasted in a theoretical-empirical, in the light of what has been exposed in the theoretical framework and the findings found in fieldwork. According to Jara (1994), "Systematization is that critical interpretation of one or more experiences that, based on their Ordering and Reconstruction uncovers or makes explicit the logic of the lived process in it: the factors that intervened, how they related to each other, and why they did it that way." Systematization generates social knowledge, which is one of the areas of action research, after learning processes and action. In this way, the process developed in the community will be presented. that has such characteristics.

Topics of the workshops taught

Workshops were held with the community, taking into account counts the chronological order of a production unit for the transfer of knowledge of the topics to be discussed, through the methodology of Research of Participatory Action, for classroom activities, in order to bring it to the Practice in the community garden and the twenty-six (26) gardens of the attendees who completed the training process, for which a notepad and pen for the purpose of supplying the material for the training process and were able to take the notes they needed. will be considered by the participants. Note.

Figure 3

Urban farming techniques

Three (3) techniques of interest agreed with the community, which can be used in the home garden, according to the spaces that the members of the group have. Organoponics: it is a practice compatible with organic farming or is a production system with mixed substrates, and in various structures or containers This technique does not require large spaces. It can be practiced at home, plots, terraces, gardens giving as In urban areas, this technique is less intensive than hydroponics Its development in small productions is feasible.

Organoponía: Utiliza desechos naturales y orgánicos	
Composta	Producto obtenido a partir de materiales orgánicos a través de un proceso biológico de fermentación.
Contenedores	Elaborados con materiales reutilizables, que adecuadamente presentan un buen servicio y resultan favorables para la huerta.
Germinación	Se colocan las semillas en bandejas de siembra plástica con la composta, dos semillas por cada cavidad a 5mm de profundidad.
Trasplante	Se realiza una vez la plántula tenga de 4 hojas reales, deben llevarse a los contenedores adecuados previamente.
Cuidado del cultivo	La planta debe nutrirse con productos orgánicos, de igual manera para tratar las plagas.
Cosecha	Según la especie, la cosecha se hace presente en un número aproximado de días.

Figure 4

Implementation of the IAP Methodology, for the Development of a Epistemic Community in the Different Production Methods Under the Parameters of Food Security, Municipality

06

This technique is used for large crops to make them homogeneous, In such a way that a previous preparation of the soil must be carried out, giving it benefit the seed so that it grows without space limits, this technique can be used for certain species, without the previous passage of the seedbed, e.g., maize, Beans as shown in Figure 11 direct seeding in soil.

Figure 5

Watering

It must be timely and in adequate amounts to maintain the humidity of the substrate. Why waste should be put to good use for the production of inputs and the optimization of water for irrigation [1-10].

This depends on the climate and the physiological requirements of the plants. A favorable option is rainwater, which should be collected as much as possible; and take into account its good use depending on the amount of water it requires the plant.

- **Thinning:** It consists of selecting the best developed plants and at the same time Control other types of vegetation that are not part of the crop.

- **Tutoring:** depending on the case of the planted plant, it requires support to keep the plant upright and prevent the fruits from touching the ground. Ejemplo (frijol, arse tomato)

- **Fertilization:** enrichment of the substrate by applying preferably organic substances with kitchen waste, periodically 7 or 15 days, not exceeding in quantity and uniform.

- **Garden check:** plants should be constantly checked to pests or diseases can be detected and prevent the spread of pests or diseases by taking measures that are required.

- **Crop association:** planting of different species in the same space, whether containers (pots) or direct seeding.

- **Crop rotation:** planting different species in the container or area from which the fruit has already been harvested, seeking the optimization of the Utilization of the nutrients in the substrate.

- **Harvest:** This is done when the plant reaches its developmental stage Suitable for consumption.

- **Post-harvest:** These are all the activities that must be carried out between the harvest and consumption period.

- **Composting:** The community was guided in the production of home composting and thus economize on fertilizers or chemical fertilizers, in addition to having good waste management.

Conclusion

Taking into account that the objective of this thesis was "To apply the methodology of Participatory Action Research (PAR) in the municipality of La Huacana, Michoacán; for training in different methods production under the parameters of agriculture and food security implemented improvement actions that contribute to mitigating the problem, establishing backyard agriculture modules" can be said to have been achieved, In accordance with what was shown in the previous chapter and the conclusions presented to continuation urban and backyard agriculture is a solution to promote Healthy environments and use of space for production and encourage agricultural practices with natural resources supporting savings for consumers and especially for families who implement these types of activities. In this way, the Participatory Action Research (PAR) methodology for the training in different production methods and whose ultimate goalis to achieve knowledge with a solid foundation that allows the creation of economically viable and at the same time sustainable productive units where the benefit to families is observed.

To achieve this, aspects related to the implementation of backyard modules across the various and training through workshops, while at the same time fostered the enrichment of interpersonal relationships under the backyard Agriculture Implementation Approach, through the learning community formed with inhabitants of Chauz.

Conflict of Interest

None.

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Implementation of the IAP Methodology, for the Development of a Epistemic Community in the Different Production Methods Under the Parameters of Food Security, Municipality

07

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