

CO-INNOVATION TO PROMOTE THE PULQUE TRADITION IN JIQUIPILCO, MEXICO



CONTEXT

Mexico is considered the geographic center of origin of the Agave genus. The "maguey pulquero" (*Agave mapisaga* and *A. salmiana*) is produced and used in central Mexico to make a traditional fermented beverage known as *pulque*, which has been made and consumed since pre-Hispanic times and is still a form of subsistence for rural families.

The *maguey* provides great ecological, cultural and nutritional benefits. In Jiquipilco, pulque production dates back to the settlement of the Otomí ethnic group (ñha-ñhú) in pre-Hispanic times. However, due to the discrediting of pulque and its marginal commercialization, few people seek the sustainable production and use of this crop.

This project began as a training project for a professional master's degree in 2013. It was not funded, but flourished from the conviction of contributing to transform the socioecosystem around the *maguey pulquero*, an initiative to which various actors joined voluntarily.

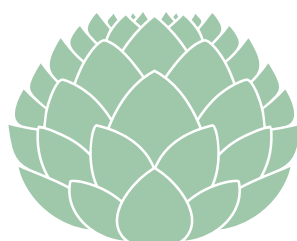


METHODOLOGICAL APPROACH

The goal of the project was to generate socioproductive innovations for the management and integral use of the *maguey pulquero* in Jiquipilco, Mexico. Moreover, due to the changes in the region that were leading to the collapse of the productive system and the ecosystem, the following specific objectives were established:

- Mitigate intensive deforestation and raise awareness of the importance of land restoration through reforestation with "maguey pulquero".
- Manage new market niches.
- Transfer technology and innovations to increase the shelf life of *pulque* derivatives.
- Value and dignify this tradition, in order to empower *pulque* producers to improve their status in the community.

The project used the PAR (Participatory Action Research) approach and tools of the Farmer-to-Farmer (FTF) methodology. A socio-productive diagnosis of the rural pulque agroindustry was carried out to document the environmental, social, economic and innovation situation in the territory, in order to implement a comprehensive action plan that considered the existing context and capacities.



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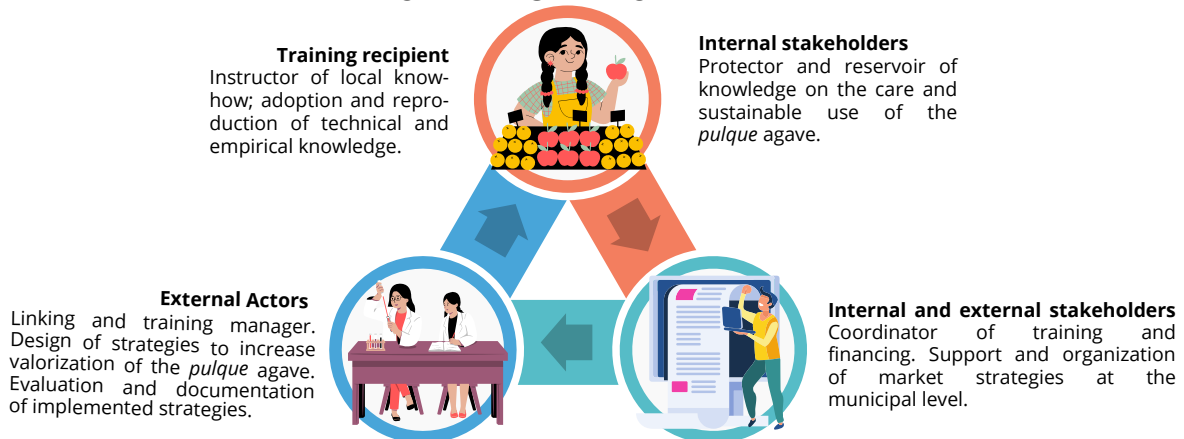
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STAKEHOLDERS AND TARGET AUDIENCE

The target audience were male (79%) and female producers (21%) of *maguery pulquero* of the municipality of Jiquipilco with an average age of 54 years, basic schooling and whose occupation is multiple agricultural related activities. The estimated number of producers was 100; however, 35 producers and their families actively participated in the project. Local and external stakeholders also participated in the project. Several autonomous, technological and polytechnic universities (7) participated, with students and researchers who contributed to improving processes, innovations and products, as well as research institutes (3) that provided specialized training in the area of agrifood production and technologies to improve the efficiency of the agrifood system. In addition, government authorities (5), from their positions, helped to link producers and encourage their participation.

STAKEHOLDERS MAP



RESULTS




The local population has adopted and replicated the annual reforestation of the crop and the planting of seedlings, with culturally acceptable quality standards. In addition, awareness has been raised about the importance of conserving native species, and a germplasm bank has been started in coordination with the National Institute of Forestry, Agriculture and Livestock Research (INIFAP, Spanish acronym). The project started in 2014 with 8,400 seedlings, and by 2021 there were 41,000 seedlings, which had a direct impact on the area planted with *maguery pulquero*.


From selling only *pulque* and "curados" (2 products), a range of more than 15 new products and services centered on the *maguery* have been developed and are now offered to the public. We replicated the production of pots made from the *maguery's* "quiotte" (stem), and various dishes and desserts using mead and syrup. We also worked to raise awareness about the ecological, nutritional and cultural relevance of the work of *pulque* producers. The collective organization, the management of an associative group, and the design of a logo and distinctive garments, increased confidence among the group of producers, recognizing them as knowledge bearers of national importance.


In turn, this has promoted empowerment, increased their negotiation power and recognition level, to address the power asymmetries in which they carried out their work. They now have political representation in the Maguery Council of the State of Mexico, with voice and vote as members, participate in and manage agri-food tourism activities and have signed cooperation agreements with 7 research institutions, which has given them access to new market scenarios and dissemination of the production system.




LESSONS LEARNED

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The conditions that contributed to the success of the innovation practices centered around the linkages and collaboration between various actors, the willingness of producers and management empathize and compromise, the design of flexible rules of participation and partnership, as well as the continuous work to strengthen governance.
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For practices to be replicated and adapted to other regions, it has been enough to maintain open, inclusive learning based on values of solidarity, allowing access to knowledge and respect for new ideas.
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Among the conditions required to replicate the practice on a larger scale, investment in time and material and monetary resources is required from producers, as well as institutional subsidies to incubate the processes and practices.
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Key elements to be implemented for the practice to be institutionally, socially, economically and environmentally sustainable are the use of local human, material and intellectual resources, co-learning and working from different backgrounds towards the same objective, collaborating among local actors and linking external agents, sensitization, informed awareness, empathetic communication, co-creation, the use of iterative methods, respect for traditional know-how, commitment and continuous follow-up, and the development of tailor-made solutions.



REPLICABILITY, SCALABILITY AND SUSTAINABILITY

This experience can be replicated in similar contexts to promote the preservation and continuity of agrifood systems and traditional production know-how. The PAR and FTF methodologies and approaches have proven to be relevant, enabling participation and the creation of solutions by the communities themselves.

The experience also proves to be sustainable, as it demonstrates that local resources and capacities can be used to initiate innovation to improve processes. In addition, it has been scalable, since the participants have become channels for disseminating and transferring what they have learned among family members, neighbors, and communities, in addition to the support of government institutions that manage subsidies for purchasing vegetative material for replanting.

RECOMENDATIONS



Promoting trust and teamwork, encouraging inter-institutional alliances, and maintaining communication and coordination among multiple stakeholders is highly recommended.



Creating links between actors requires time to achieve balance; consider this dynamic when programming activities and the establishment of achievable goals.



Use simple language and translation of knowledge in a friendly and ordinary format, in favor of maintaining an exchange of ideas as horizontal as possible.



Include specialists in conflict situations and social organization in the technical team, in order to avoid breaking trust among participants through inadequate management.



Constant communication among stakeholders is essential, as well as systematization and feedback on progress, challenges and needs for adjustment of the project and accompaniment, as well as the generation of community integration activities and the dissemination of results.



TESTIMONIES

The *maguey* is a wonderful plant of the Mexican territory, from which more than 100 products can be derived, so it is important to obtain derivatives of greater value in the market. In addition, the *maguey* serves as a living barrier to prevent soil erosion, which is a serious problem worldwide. We need to seek alliances with research institutions to give *maguey* its true value.

Pedro Maldonado Zamora

With the project we learned to make several products using *pulque*, mead and syrup, our products have become better known, even worldwide because we have uploaded videos and people have come to visit us and buy, they say that the products are very good.

Carlota Castillo



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The TAP-AIS project

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For more information, see:
www.fao.org/in-action/tap-ais
www.twitter.com/TAP_G20

Good Practice Note Series

The Food and Agriculture Organization (FAO) of the United Nations, the Tropical Agriculture Platform (TAP), and the DeSIRA (Development Smart Innovation through Research in Agriculture) initiative, together with the Inter-American Institute for Cooperation on Agriculture (IICA) and the Latin American Network of Rural Extension Services (RELASER), are committed to strengthening national agricultural innovation systems (AIS) for their transformation towards sustainable food systems in Latin America and the Caribbean.

In 2020, a Joint Rapid Assessment on Strengthening Agricultural Innovation Systems in Africa, Asia and Latin America was conducted to analyse the innovation environment to identify and document initiatives to strengthen AIS, in the context of the TAP-AIS project funded by the European Union through the DeSIRA initiative.

The report presents challenges and opportunities for innovation, especially through the improvement of functional capacities and the ways in which regional, global and national organisations can support the strengthening of AIS using the approaches and tools of the Tropical Agriculture Platform (TAP).

The publication of this series of Good Practice Notes is a contribution by RELASER and IICA to documenting cases that have contributed to the development of an effective AIS by addressing relevant challenges in Latin America.

The same effort was made in the Asia-Pacific region, whose good practice notes can be found [here](#).