

# THE MILPA SOLAR SYSTEMS OF MEXICO TOWARDS A SUSTAINABLE FUTURE OF AGRICULTURE

One of the ingenious systems of the traditional agriculture, which are part of the [GIAHS initiative](#) promoted by FAO, is the [Milpa Solar System of México](#).

The GIAHS Initiative works to recognize and ensure a dynamic conservation of all agricultural heritage systems that can guarantee food security for today and future generations.

The Milpa system is recognized as a system to ensure a high production of rich, balanced and fully diverse food crops. Through hundreds of generations of farmers in Mexico and Central America seeds have been selected and exchanged, improving or creating new intercropped varieties.

Protection as well as reintroduction of the Milpa system is of great importance, particularly because Mexico is the world's reservoir of maize genes including Teosinte, the ancient relative of maize. México has got the greatest quantity in the world of maize species and the Milpa system have managed to preserve through centuries this heritage of incredible value, which can provide a global service. Preservation of Milpa Solar System ensures that future maize improved programs in countries where maize is a staple food can take advantage of this precious reservoir of genes.

In México and other Centro American countries the Milpa System includes a combination of maize and legumes (kidney bean, beans, and haricots) with squash (zapallo). Corn grows quickly and provides support for legumes, which in turn, fixing nitrogen in the soil, deliver nitrogen to corn. Pumpkins cover the ground preventing the development of weeds.

Ancient agriculture had already discovered the importance of mixed farming and another famous example of Mexico are the [floating gardens chinampas](#) implemented by the Aztecs in lakes and currently used for aquaculture and for intercropping including corn, beans, pepper, fruits and edible herbs.

The Milpa system can provide food and also different products as medicinal plants, seasonings, fuels, dyes, fibres, resins, wood, fodder for farm animals, flowers,



which represent an additional source of income. Domestic animals or poultry are raised, that are an excellent food supplement.

Milpa system can reduce water consumption by adopting an innovative irrigation system (*puntas de riego*) before planting that ensures high yields. It also helps to restore the soil through nitrogen fixation by the use of various species of legumes and livestock manure. Monoculture practices of the last recent years have led to soil acidification, and impoverishment of organic humus and the Milpa system has the capability to revert this process in a sustainable and eco-friendly manner.

Also the use of weeds as fodder for livestock reduces the use of herbicides, transforming products of low value into good quality proteins. The manure produced by livestock is used as organic conditioning of the ground, providing nutrients to soils and reducing the use of chemical fertilizers.

In Milpa home-gardens fruit, timber, ornamental trees are grown, and other useful plants for household consumption. Currently, it is estimated that [more than two hundred plant species are handled in Mesoamerican gardens](#), of which many are edible, medicinal and timber, and other more are dyes and textiles. The Milpa are reserves of cultivated plants that allow to conserve plant species, contributing to the protection of biodiversity.

Like many traditional farming systems, the Milpa Solar System is in danger of disappearing due to the use of inadequate agricultural approaches and to the abandon of rural areas, among other causes. However, the agricultural knowledge heritage included in this cropping system is an important basis for all new evolutionary trends in sustainable and environmentally friendly agriculture.

A lot of academic, institutional, associative and economic actors are working in Mexico to rescue this knowledge in view of responding to current and future demand for a quality development.

### To know more

[Milpa solar in GIAHS FAO](#)

[Article in academia.edu](#)

[Article in bibliotecadigital.ilce.edu.mx](#)

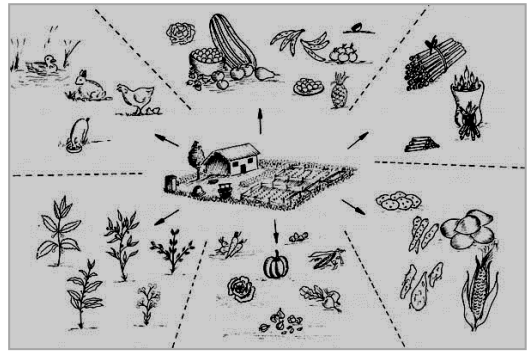
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