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Illustrated by Ricardo Figueroa**

The Milpa

Sowing the Future

Mexico's first peoples have been careful, creative, observant inhabitants of the biodiversity surrounding them. They have created our countryside's rich agro-diversity, mainly through the *milpa*.

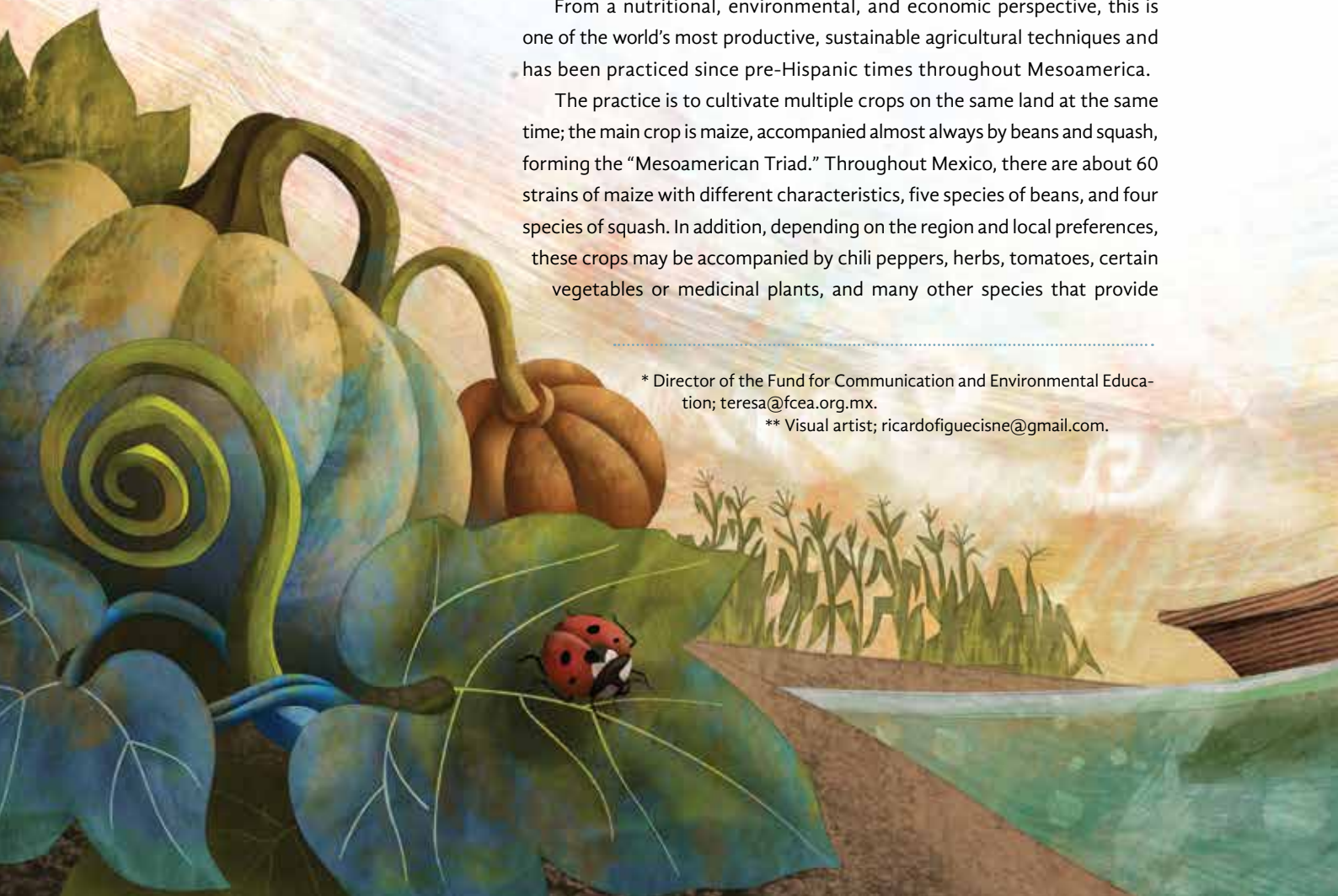
The word "*milpa*" is derived from the Náhuatl "*milpan*," the combination of "*milli*," a parcel of cultivated land, and "*pan*," meaning "on top of." It is also known as *milpan*, *chinamilpan*, and *huamilpa* in Náhuatl; in Mixtec, *itzzu*; *cue* in Zapotec; in Purépecha, *tarheta*; in Mayan, *kool*; in Otomí, *huähi*; in Mazahua, *tjöö*; in Tzotzil, *yaxcol*; and in Tarahumara, *ichírari*.

From a nutritional, environmental, and economic perspective, this is one of the world's most productive, sustainable agricultural techniques and has been practiced since pre-Hispanic times throughout Mesoamerica.

The practice is to cultivate multiple crops on the same land at the same time; the main crop is maize, accompanied almost always by beans and squash, forming the "Mesoamerican Triad." Throughout Mexico, there are about 60 strains of maize with different characteristics, five species of beans, and four species of squash. In addition, depending on the region and local preferences, these crops may be accompanied by chili peppers, herbs, tomatoes, certain vegetables or medicinal plants, and many other species that provide

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shade, forage, and edible fruit. The interaction of this great diversity of species in the milpa turns it all into an ecosystem in and of itself.

In the *milpa*, all the elements of the system, such as nutrients, water, soil, and light, are used complementing each other, boosting ecological processes like the biological control of pests, fertility, and pollination. The interaction among the elements in the *milpa* is very beneficial: the beans fix nitrogen in the soil; the corn and other species provide support and avert pests and diseases; and the squash prevents erosion and covers and protects the soil from the climate.

Many studies confirm that the *milpa* is much more productive than simple monoculture farming of corn.

The *milpa* offers benefits not only to the species that co-exist in it, but also to the peasants who work it; their products provide balanced, varied nutrition that in many places, particularly in rural areas, continues to be the basis for their diet.

In addition, given this abundance, different birds, insects, and mammals, including domestic animals, also obtain their food from it.

All the space is used in the *milpa*: along the ground grow the squash vines, whose horizontal leaves preserve humidity and control some insect pests. *Quelites*, or edible herbs, grow there spontaneously. What elsewhere may be considered weeds are used here, contributing flavors and nutrients to Mexican dishes, such as seep weed, pigweed, mallows, and purslane, some of them even with commercial value. Often other vegetables and chili peppers are also included that not only contribute vitamins, color, and flavor to dishes, but also discourage pests.

Something else commonly found





in the *milpa* is the delicious fungus that occasionally infests maize called *huitlacoche*, or corn smut, which is also edible and has a high sale value.

Prickly pear cacti, maguey cacti, *ahuejote* willow trees, or fruit trees to retain the soil are usually planted around the edges of the *milpa*.

Thus, every region has its own version of the *milpa*, interspersing different crops with local native species that the first peoples have selected, managed, and replicated for thousands of years. One notable variant of the *milpa* is the *chinampa* (known as “floating gardens”), where up to three corn crops can be harvested a year. In semi-arid environments, we see the *huamil*, *Polaskia chichipe*, columnar cacti, and mesquite *milpas*.

We owe the first peoples/peasants the enormous diversity of species or their variants to be found in the *milpa*, since it has been they who, through processes like seed conservation, experimentation with new crops and variants, and selection of the kinds they preferred, have brought it about.

This process continues through the exchange of fruit and seeds both within and across their communities. Since these crops were originally domesticated in Mexico, they may be similar to the original species, with which they are related, and it may be possible to continue the genetic exchange, thus allowing for even greater diversity and adaptation.

Another important benefit of the *milpa* is that it can be cultivated all year round: when recently planted, the first squash flowers and vines begin to bud and you can later enjoy the squash itself; the bean stalks emerge and later the new beans can be consumed; and then, the ears of corn and the seed beans.

The *milpa* undoubtedly has many more benefits than the monoculture farming of corn that has proliferated over the last 30 years. In contrast with the *milpa*, single-crop cultivation of corn degrades soil productivity, wearing out the soil, and cancelling out the diversity of species that spontaneously grow amid the stalks. This spurs the disappearance of pollinators like honeybees and bumblebees by erasing the diversity of the species they feed on and reducing the possibilities of balanced nutrition for those who consume what they produce.

The *milpa* has promoted and strengthened the identity of first peoples and local knowl-

edge and has been the basis for their economy. It is a powerful alternative in the face of the economic crisis, adapting to each territory and its very specific environmental and social characteristics. Usually, this multi-crop farming does not generate products for sale on a large scale, but rather for consumption by the family unit that produces them. The different varieties of *milpa* are a reflection of the knowledge and technology used to obtain from human labor and the land the products required to satisfy the peasants' food needs, with the great environmental benefits we have already mentioned here.

Climate change is a huge challenge for agriculture, particularly for peasants who farm the *milpas* on nonirrigated land, since they depend on climate stability or the planting and harvesting cycles for their products. Climate change alters rainfall and brings prolonged drought or huge flooding that also affect them.

The *milpas* are an immensely valuable cultural and biological heritage. They maintain a rich agro-biodiversity that preserves the knowledge of many generations of first peoples who have enriched our marvelous Mexican cuisine and the environment that gave rise to it. **MM**

Further Reading

Comisión Nacional para el Conocimiento y Uso de la Biodiversidad, *La milpa*, <https://www.biodiversidad.gob.mx/ usos/ alimentacion/ milpa.html>.

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Santillán, María Luisa, "La milpa, tradición milenaria de agricultura familiar," June 4, 2014, http://ciencia.unam.mx/ leer/ 356/ La_ milpa_ tradicion_ milenaria_ de_ agricultura_ familiar.

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