



Enhancing food security through ancestral knowledge

Using the agroforestry system, *kuxur rum*, to support food and nutritional security in Guatemala

Guatemala

Size: 108,889 km²
Population: 15.47 million
Capital: Guatemala City

Incredible diversity not enough

Guatemala is considered a ‘megadiverse country’ for its plurality of ethnic groups, languages, beliefs, arts, social structures, land management and agricultural practices. Despite such richness, the country suffers from persistent food insecurity. This is particularly evident in the ‘dry corridor’ of the south-east, an area suffering from recurrent droughts and food shortages.

Identifying good practice

In 2000, the Food and Agricultural Organization of the United Nations (FAO) and partners launched a food security programme in the dry corridor province of Chiquimula. Aiming to identify good practices in reducing food insecurity, the project emphasised gender and ancestral knowledge, creating linkages between family farmers and national policies; and establishing an institutional framework to combat hunger and malnutrition. Sustainable agricultural practices were identified to build household and livelihood resilience while protecting natural resources.

Ancestral knowledge

An ancient and sustainable practice from the Ch’orti’ indigenous people already existed: the planting of dispersed trees with annual food crops. Based on this knowledge, the local indigenous people and technical professionals worked together to develop an approach that reforested the land and enhanced food security. The practice became known as *kuxur rum* – meaning ‘my humid land’ in Ch’orti’.

Photo: Jose Ramirez Maradiaga/FAO



Kuxur rum agroforestry

Gliricidia sepium, a medium-sized leguminous tree abundant throughout its native range in Mesoamerica, is traditionally interspersed between annual crops.

The trees stabilise the soil, preventing erosion, while leaves improve water retention by shading the crops and providing a ground cover of organic matter.

Domestication of *G. sepium* occurred over several millennia. The multitude of indigenous common names reveals the importance of this species to early occupants of the region.

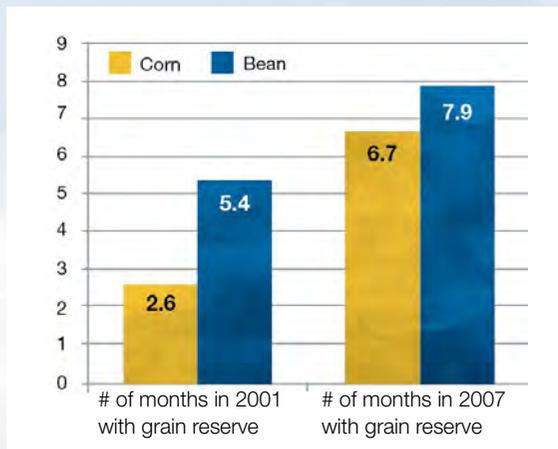
Trees are planted at 1 metre intervals, in rows 6 metres apart. Branches are pruned to provide sun and the trimmings left to compost. *G. sepium* also supplies fuelwood, timber and medicine.

Contributing to the four pillars of food security

Fifteen years after FAO and their partners began working with local farmers to identify and improve the ancient *kuxur rum* practice, results indicate that *kuxur rum* contributes to the four main pillars of food and nutrition security: stability, access, utilisation and availability.

Availability: Increasing staple crop productivity

Between 2001 and 2007, participating families reported, on average, a 50% increase in corn yields and 9% in bean yields. Over the seven years, grain reserves lengthened from 5.4 to 7.9 months for beans and from 2.6 to 6.7 months for corn. This can be attributed to the yield increase, strengthened by FAO training in post-harvest and storage techniques.



Access: Diversification of agricultural products and services

The *kuxur rum* practice allows families to diversify their diets, as the improvement in soil facilitates the production of a range of vegetables. The cultivation of basic grains combined with other vegetables, tubers and cucurbits, provide sources of energy, protein, vitamins and minerals.

Utilisation: Reduction in water deterioration and unsafe food

For food to be safe it has to be free from organic and inorganic contaminants. In addition to supporting the role of trees in purifying water, *kuxur rum* reduces the need for chemicals in fertilisers and pest control, thus reducing the risk of water contamination.

Stability: Reducing the risk of crop failure

Kuxur rum reduces crop failure by preventing deforestation which increases water availability, soil cover and fertility, and biodiversity.

Forest Landscape Restoration (FLR) and Food Security

FLR has the potential to re-establish ecological integrity and enhance human well-being in deforested or degraded forest landscapes. It involves people coming together to restore land through seven place-based interventions.

Food security exists when all people have ongoing physical, social and economic access to sufficient, safe and nutritious food. These seven FLR interventions contribute to the security of food resources by increasing agricultural productivity and diversification while reducing resource depletion and vulnerability.

This factsheet illustrates the benefits of agroforestry:



Planted forests



Natural regeneration



Silviculture



Agroforestry



Improved fallow



Mangrove restoration



Erosion control

This factsheet is excerpted from:

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