

VOICES FROM THE PAST

TRADITIONAL YUNGA AGRICULTURE

JOSÉ SABOGAL-WIESSE

The Andes is considered one of the handful of genetic centres from which cultivated plants have spread throughout the world. Among the useful plants that originated in the Andes are the sieva and other beans, the peanut, Peruvian cotton, potatoes, maté, and squashes. And there remain many indigenous plants, such as the food grain quinoa, that have significant potential uses yet to be exploited in other parts of the world.

Yet there are fears that the wild precursors of many modern crops and the traditional farming methods that preserved them — and continue to preserve potentially valuable species and production systems — may disappear before agriculture is able to take full advantage of this heritage. Such concerns gave rise to a study of a tradition of agriculture in the Andes by Peruvian agronomist and economist Dr José Sabogal-Wiesse. Dr Sabogal-Wiesse studied 55 oasis communities along the Pacific coast of South America to record the traditional agricultural methods and crops of this unique area.

Begun with the help of IDRC in December 1981, the work was carried out mostly in Moche, a coastal town 548 km north of Lima, Peru. Here Dr Sabogal-Wiesse collected data on the wealth of knowledge possessed by the coastal, or Yunga, Indians who have farmed this inhospitable land for generations.

Don Leopold Fernandez Nique, an ex-schoolteacher from the town, provided invaluable help in the study because of his extensive knowledge of ancestral methods of farming and cultural lore. The Yunga people and agriculture were also documented by pen and ink sketches (some of which accompany this article) by José Segura, a painter likewise familiar with the coastal area of northern Peru.

Sadly, Dr Sabogal-Wiesse died before he was able to complete the study — the culmination of 10 years of observations and documentation. This article, originally drafted by Dr Sabogal-Wiesse, was completed by freelance editor and translator Elena Keen after his death.



Archaeological discoveries at Huaca Prieta in the Chicama Valley, 600 km north of Lima, Peru, indicate that agriculture first appeared in the alluvial oases of the northern coastal desert some six thousand years ago. In this narrow desert strip, which runs along the Pacific coast from southern Ecuador through the northern third of Chile, farming was made possible only by irrigation with water from the rivers that descend some 150 km to the Pacific Ocean from the western ranges of the Andes. In this way, 55 artificial oases were formed. They constitute approximately 700 000 hectares of Peru's total three million hectares of cultivated land, and have inherited the best physical infrastructure of any farmland in the Andes. All of this was created by highly advanced indigenous civilizations thousands of years ago.

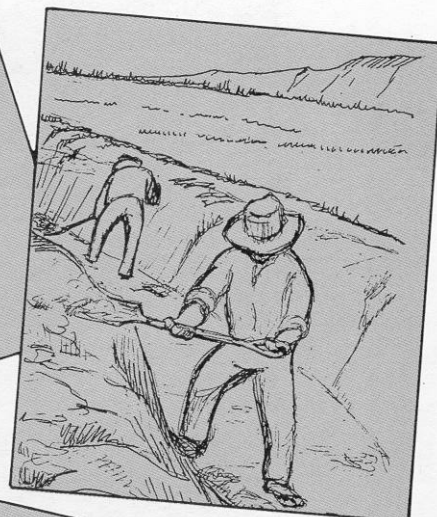
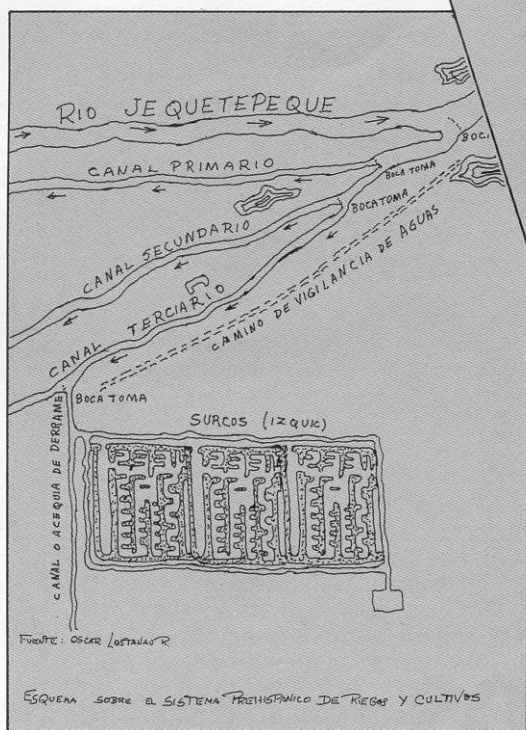
The challenge of existence in a desert environment that grew more arid with each passing century was more than met by indigenous cultures and civilizations in the desert plains of the Andes. The creativity of the *yunk'ino* (Yunga), the Quchua name by which the natives are still known, is enormous. The first

known evidence of this creativity dates from about 10 000 years ago and was found in the small alluvial oasis of Chilca, 70 km south of Lima.

The existing irrigation system there was built by 14th century Indian stonemasons. In their 15th century conquest, the Incas did much damage to this delicate and ingenious system, so much so, that today only one-third of the land once under cultivation is used. But many of the channels and sluices of this system are still in operation, having been reinforced over the ages, lately with concrete and steel.

As Don Leopold, Dr Sabogal-Wiesse's main informant, says, "water is life." The indigenous population is dependent on water, which is always scarce. It is not surprising therefore, that forecasting the arrival of water, as floods or rain, is of overriding interest to the native population. An indigenous weather forecasting system has evolved, which relies on eight or nine omens. The position of the new moon is observed — halos around the moon or the sun are important augurs of rain and weather. The way the constellations lie with respect to the mountains and the "River Jordan" (the Milky Way) is

(Opposite) Moche, a virtual oasis in the Peruvian coastal desert, created by native people. (This page, clockwise from top) Don Leopold Fernandez Nique, a voice of the past. Clearing a waterway — much of the system predates the Incas. Crops grown on mounds to take advantage of water in swampland near the Pacific beach. An early irrigation system (rectangular area at bottom is filled by crop rows).



another indicator. Closer at hand, the early flowering of the mango tree, and the flight of the pardela, a type of gull, are weather omens. If December fogs are late, people still say "It will be all right, this will be the summer of El Niño (an ocean current that brings with it rain and moderating climate)." Now largely ignored by the young, and viewed as "superstitions" by teachers and technocrats alike, some of these signs appeared to be amazingly accurate, interpreted the same way from one town to the next by knowledgeable elders. Indeed, in 1978, Dr Sabogal-Wiesse was able to verify that the forecast for the agricultural year in Socos (Huamanga), over 1000 km southeast of Moche, which was based on precisely these omens, was completely accurate, as was the one for Santiago de Cao, also some distance from Moche.

WATER IS LIFE

The list of indigenous practices centred on water is virtually unending. For example, another interesting technique is the procedure by which run-off waters are used in all these valleys, "like

they did in the old days," to expand the land available for cultivation.

The procedure is quite simple. The sand dunes are denuded of vegetation, mostly grass, and deep channels are cut through them. The run-off waters spill through the channels to the lower lying lands, carrying the sand along and in the process levelling the dunes. The water pools at lower levels and deposits silt mixed with the sand. The standing water is drained off, and the field thus created in the wake of the run-off is ready for cultivation. For the first three or four years crops are rotated to ensure proper build-up of nutrients.

Crops and diets reflected the primacy of water. Many of the elders referred to the traditional diet of their ancestors, which was based on local crops requiring much less water than modern crops. Indigenous plants were said to thrive on one or two "heavy" waterings. Native food supplies were more abundant then, it was reported, more in keeping with local tastes, and more varied.

Many of the various plants and skills developed in response to the harsh environment of the desert plains of the Andes are still in

existence today. But increasingly, land is being lost to the desert because of "modern" human activities. Deforestation of delicate semi-arid areas is accelerating, as the present preoccupations and needs of many new settlers override the sustainable practices of tradition.

The remedy for this, as in many other cases of ecological abuse, is perhaps to return to the traditional methods for conserving and restoring the land. The recording of the practical ancestral knowledge passed on by word of mouth by the elders of these communities is an important step towards this return. But the question remains: will anyone listen to the voices from the past? □

Agronomist by profession, Dr Sabogal-Wiesse was highly regarded for his social conscience as well as his professional skills, and for the inspiration he gave to a generation of social scientists. He was especially concerned with the coastal villages of Peru: the manners and customs of the people, their everyday life, and their handicrafts. He wrote a book on the handicrafts and ceramics of Catacaos, a coastal city of Peru.