

Resettle and survive

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In the Philippines, one response to the urban boom has been government sponsored resettlement. Squatters on government-owned land are brought to areas outside of the city. While this can ease some pressure, people are still confronted with the huge challenge of finding work and food. Such was the case in Dasmarinas Bagong Bayan, one of the oldest and largest resettlement projects in the Philippines. Located 28 km south of Metro Manila, the resettlement covered 652 hectares and accommodated about 14,361 families or 93,050 people shortly after it was established in 1973. The Philippine government provided infrastructure but could not provide work for the settlers. Unemployment, and eventually lack of food, became serious problems.

To face this challenge, the Dasmarinas semi-commercial gardening project was started in 1986 by the Philippine Countryside Development Center (PCDC) and the National Housing Authority (NHA), with technical assistance from the International Institute of Rural Reconstruction (IIRR). Today, 50 families tend gardens of 120 to 300 m² on 2.5 hectares loaned by the National Power Corporation.

Building up the soil

The soil in Dasmarinas is very hard, silty clay. It has extremely poor, stony, physical conditions. The tropical skies dump 2000 mm of rain annually. Typhoons and downpours are frequent, particularly from June to November. The mean annual temperature is 27°C. Climate and poor landuse practices have resulted in serious soil degradation. The Dasmarinas gardeners therefore faced a real challenge - how to turn a stony patch of land covered in cogon grass (*Imperata cylindrica*) into a nourishing, productive garden.

A lot of organic matter was needed if the soil was to be fit for vegetables. However, unlike their rural cousins with ready supplies of manure, rice straw and other plant refuse, the urban settlers had little to throw on their plots. Nor had they cash to obtain organic matter from elsewhere. IIRR helped out with loans of cow dung, chicken manure and coffee hulls. Seeds of multipurpose tree species, which are excellent nitrogen producers, were also supplied.

After the initial assistance and repayment of their loans, the gardeners began finding their own organic fertilisers through their emerging organisation. From nearby villages they bought cow dung at 5 P and chicken manure at 15 P per bag (1 P = US\$

Urban populations in developing countries are growing fast. It's expected that by 2025, urban centres in the developing world will be home to some four billion people, a figure equal to the world's total population in 1975 (World Resources 1994).

Rapid population growth and urbanisation are straining resources. Shelter, sewerage, clean water and even the most basic of amenities, food, are at a premium and malnutrition is endemic.

0.040). At least a third of the garden is planted in legumes to replenish nitrogen and plants are rotated each cropping to prevent degradation. These practices, along with deep digging of the garden beds, promote microbial activity which in turn improves soil quality. After three years the soil became more porous and easier to handle. Its water absorption and water-holding capacity also improved.

A smelly challenge

According to Philippine statistics, an average family (four members) produces 0.5 kg waste per day. Of this, 50% can be composted and 30% can be recycled. To achieve this, Dasmarinas gardeners separate their wastes right at home into compostable, non-biodegradable and recyclable materials. In the compost heap, kitchen refuse is mixed with grass clippings, yard sweepings, leaves of multipurpose trees and sometimes animal manure.

Germania Colinares, a widow with seven children, has branched out into livestock, creating a successful, urban-style "integrated farming system." But with houses built so close together, raising pigs posed

a smelly challenge. "My garden and my pig project help each other," says Aling Miniang. "I am using the manure to fertilise my garden and, in return, my garden feeds my pigs with nutritious indigenous vegetables and reduces my expenses for feeds by 40%. At the same time, I don't need to worry where to put the pig manure."

High quality and price

The Dasmarinas gardeners now grow about 18 different types of vegetables each year. Although most vegetables are consumed at home, surpluses are easily sold in the neighbourhood. Almost 60% are indigenous and about 80% can be propagated by the gardeners themselves. Local cultivars are preferred as they are available year-round and pests are less of a problem. Integrated pest management is practised and botanical concoctions are prepared from pesticidal plants growing around the garden. Together these practices enable the gardeners to have their products qualify as organically grown products. This has important consequences. Very recently, a group of NGOs organised an open market in Manila for organically grown farm products. The Dasmarinas gardeners joined this market and sell their produce at a price up to twice as much as they used to.

The BIG Association

In 1992, IIRR and NHA announced they would be leaving the garden project. Encouraged by success - their gardens gave them fresh food and extra income - the gardeners decided to continue the project. On 30 July 1992 they registered as the Bio-Intensive Gardening Association (BIGA). With the help of IIRR, BIGA secured a grant from the German Development Service in August 1993 for buying and installing seven deep-well handpumps. They now produce high value vegetables even in the dry season. The gardeners of Dasmarinas are now flourishing on their own.

Note: All quotations are translated by the author from the local language.

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Photo: Norm Ignacio