Household gardens as a response to change

Daniela Soleri and David Cleveland

Household gardens are one way for people to rebuild part of their former environment after moving to a new place. This not only adds flavour to life, it also enriches the family diet with flavour, vitamins and nutrients. As Daniela Soleri and David Cleveland argue: household gardens all over the world are a tribute to people's ability to adapt to changing environments.

The number of people moving to new environments is increasing, for example, migrants to cities and to marginal rural areas, participants in large-scale irrigation schemes and refugees fleeing across borders to temporary camps. Rising population densities, environmental degradation, water scarcity, and rapid social and cultural change mean new conditions even for those who do not move. Without any outside encouragement, many of these people are growing gardens as part of their survival strategy.

We have studied household gardens in numerous dryland areas of the world over the past ten years. We define household gardens as food production which is secondary to the main source of household food and/or income, and may include both annual and perennial crops. We and others researching gardens have found that, while often overlooked or neglected by outsiders, including development workers, gardens can be a valuable household asset and can make special contributions in the face of changing sociocultural, biological and physical environments.

Widowed Mexican woman (holding pomegranate) in her mixed garden. Rural people who have migrated to urban areas have spontaneously started gardening there, for their own nutrition and health as well as to generate some income. Photo and drawings: Daniela Soleri.

Unknown gardens

Gardens contribute a great deal to the nutritional, economic and social well-being of households, and they have the potential to contribute much more. But why don't more people have gardens, or bigger gardens, and why do so many garden projects fail (see Brownrigg 1985)? In many cases, the answer is because the gardens people are familiar with may not be the most appropriate for their new, more difficult situation.

Also, many projects start out by establishing a model garden and trying to convince local people to adopt the model without first understanding existing local gardens, resources and knowledge. People do not need to be told how to garden, but they do need assistance as they work to develop gardens appropriate for these new circumstances, based on indigenous knowledge and incorporating new techniques judiciously.

Gardens as a response

Why are household gardens part of a response to changing environments? One reason is that gardens can be a source of cultural and social continuity in the form of important foods, condiments, medicines or flowers, as we found among low-income ethnic households in Tucson, Arizona. Not only does garden layout and management style differ between ethnic groups, the species and/or crop varieties are frequently unique to each cultural group. These crops, ingredients for distinctive traditional foods, may be propagated from seeds or cuttings "brought from home" a few months or several generations before. Below are other examples of how gardens are a response to changing environments.

Using small spaces

Gardens are often small-scale enterprises, even as small as a few containers near a doorway or on a rooftop. Because of this, gardens can be established in new areas fairly easily and quickly, and existing gardens can be adjusted or adapted to changing needs and demands. For example, gardens may be one of the first activities of refugees, as they were among Afghan refugees in camps in Northern Pakistan.

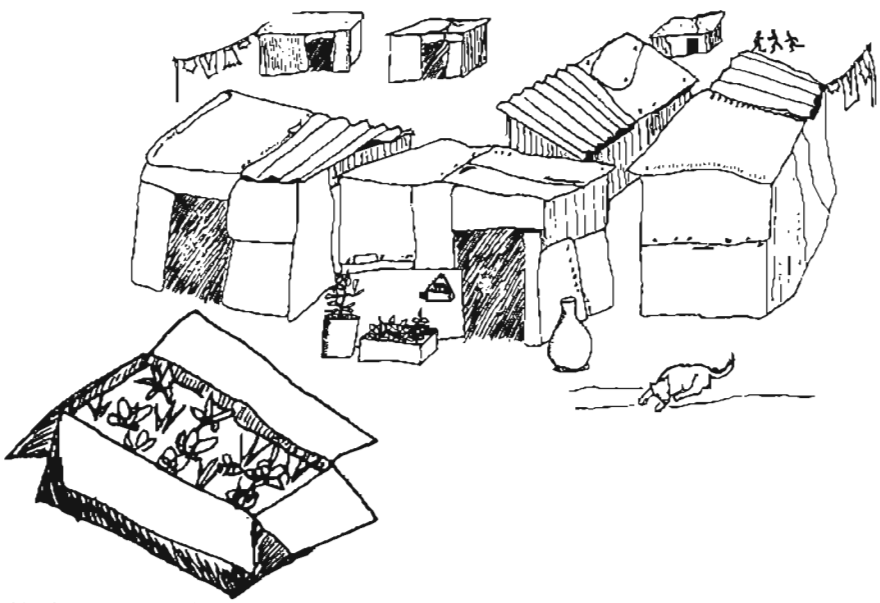
Also because of their small scale, gardens can be maintained without large investments of time, money or energy, yet can still provide the household with savings or income. A garden near the home can receive a few minutes of a woman's time each day, next to other tasks such as child care or food preparation.

Urban gardens

It is therefore not surprising that gardens emerge spontaneously among rural-to-urban migrants, having been documented in cities like Lusaka, Zambia; Bangui, Central African Republic; Buenos Aires, Argentina; Lima, Peru; Ibadan, Nigeria; Freetown, Sierra Leone; and in a squatters' settlement we visited in Mexico City.

In the raw, new squatters' settlement on the outskirts of Mexico City, the soil is barren and grey. Low areas are sat-

urated with water, and high ones are white with salt accumulation. People cluster near water trucks to fill their containers, and the refuse piles up in several huge heaps between the dirt roads running through the settlement. Although a dismal sight to most outsiders' eyes, the people living here are busy: they are adjusting to their recent move to the city, they are seeking work and services, they are organising and educating themselves about health, nutrition, politics and work. They are also gardening.



Herbs, vegetables, medicinals and even fruit trees can be found growing in containers of all shapes and sizes salvaged from the garbage heaps. Gardeners have collected soil and manure from other areas, avoiding the infertile, saline soil on which their new homes are built. Stacks of old tires hold the soil for young fruit trees. Discarded shampoo bottles and packing crates are planted with herbs and vegetables. Fences made from old bedsprings, car doors and scraps of sheet metal define household garden areas and protect them from roving chickens.

Gardens for better nutrition

Gardens are often a major source of vitamins and minerals in the household diet, and can also supply protein and energy, especially when staple foods are in short supply and for special needs such as weaning foods. One of the most important nutrients supplied by gardens is vitamin A, which is essential not only for healthy eyes but for protection against infectious diseases like measles (Soleri et al. 1991).

Gardens are a source of good-quality food. Even when households have access to commercially grown fruits and vegetables, as on the Hopi Indian Reservation in northern Arizona, many of those gardeners told us that they prefer produce from their own gardens because it is fresh, flavourful and not contaminated with agrochemicals.

Ecological degradation can have a negative nutritional impact when traditional sources of wild gathered foods are destroyed. This may also occur when industrial-style agriculture encroaches on traditional farming areas, such as in Swaziland (Ogle & Grivetti 1985). Because of the use of herbicides to kill "weeds" in the fields, an important source of wild greens is eliminated. In areas where environmental destruction has eliminated all of the traditionally gathered foods, gardens may provide good substitutes, although many of the garden species promoted by conventional garden projects are relatively poor in nutrients.

Encouraging cultivation of garden crops people like to eat, and the use of local vegetables such as leaf amaranth (277 retinol equivalents vitamin A per 100 g cooked) instead of introductions such as cabbage (9 retinol equivalents vitamin A per 100 g cooked) is a way to avoid this.

The increasing dominance of "modern" food can also affect nutrition negatively. For example, in northern Brazil people are growing and eating fewer of the easily grown indigenous fruits and vegetables rich in vitamin A, and are using more of the less nutritious fruits and vegetables from southern Brazil because these species have become more culturally desirable (Shrimpton 1989).

New importance of gardens

As physical, biological and social environments change, gardens take on new importance. In savanna Africa, years of drought and increasing population have led many farmers to concentrate resources in garden production for sale and home consumption.

In an irrigation district in northern Pakistan, poor farmers cope with the disruption of a major irrigation rehabilitation project by retaining their gardens. Because the many species of trees for fruit, building materials and fuel that farmers have planted along canals are not included in the standard economic calculations of agricultural productivity, they are cut down when canals are lined. For farmers, however, they may be as important, or more important, than the main crops of sugar beets, wheat and sugarcane. The farmers encourage tree regrowth after the rehabilitation projects are completed.

Gardens as a development tool

Gardens are no panacea for the tremendous problems facing all of us as our social, cultural and physical environments are degraded by overconsumption, inequity and shortsightedness. However, they can be a valuable part of a household or community response to these problems. Most importantly, gardens can provide immediate benefits while contributing to the solution of these larger problems.

However, for gardens to be effective tools for coping with changing environments while responding to larger problems, they must strive for environmental sustainability: they must have a direct and realistic link to their local resource base. Gardens must also be socially sustainable: they must promote equity, address the conditions of those most in need and be controlled by the gardeners themselves.

Such gardens are sprouting up in many communities in both the Third World and the industrialised world. Documentation and recognition of the value of these gardens is an essential first step in supporting this meaningful local response to changing environments. ■

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