

Building on traditional gardening to improve household food security

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Whether they are known as home, mixed, backyard, kitchen, farmyard, compound or homestead gardens, family food production systems are found in most regions of most countries worldwide. They may be the oldest production system known and their very persistence is proof of their intrinsic economic and nutritional merit. Traditional tropical gardens typically exhibit a wide diversity of perennial and semi-perennial crops, trees and shrubs, well adapted to local microclimates and maintained with a minimum of purchased inputs (Figure 1). Studies on traditional mixed gardens have emphasized their ecologically sound and regenerative characteristics, by which they "recreate natural forest conditions" and minimize the need for crop management (UNICEF, 1982).

The dynamic role of home gardening in family nutrition and household welfare must be assessed in the context of the wider farming system and household economy. Usually the functions and output of the home garden complement field agriculture. Whereas field crops provide the bulk of energy

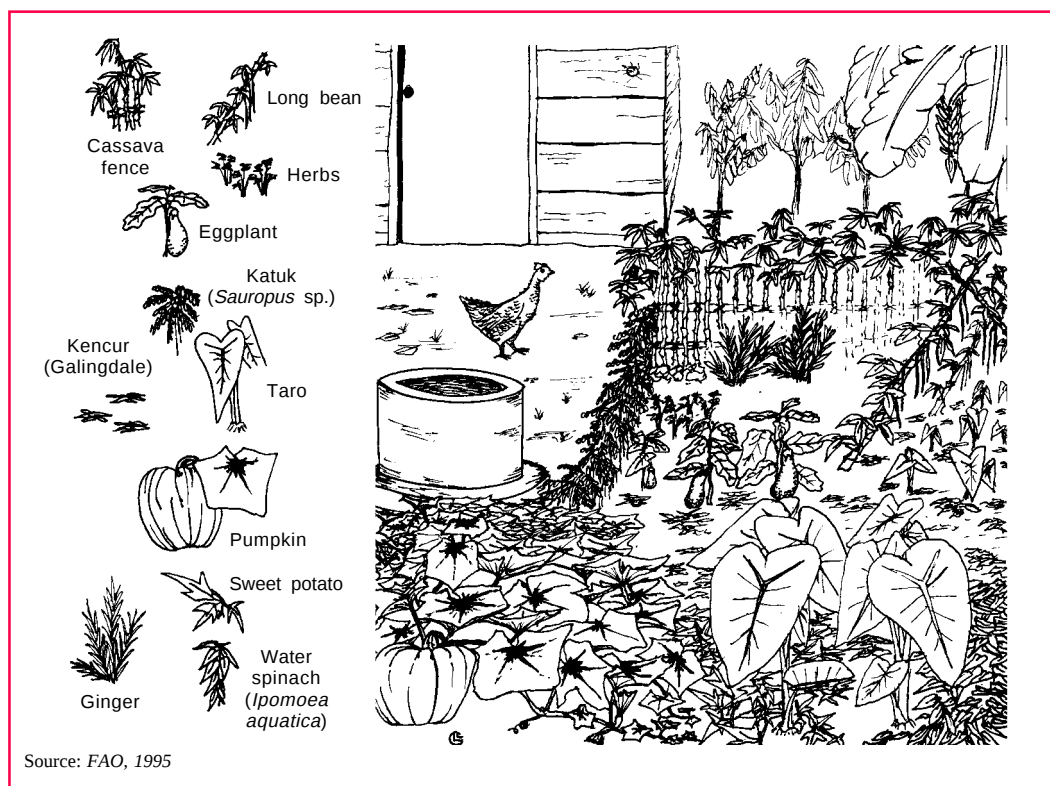
needed by the household, the garden supplements the diet with vitamin-rich vegetables and fruits, energy-rich vegetable staples, animal sources of protein and herbs and condiments.

DEVELOPMENT DEBATE

The multiple potential benefits of home gardening, of which the most important is increased direct access to nutritious foods by the food insecure, have spurred the sponsorship of numerous gardening projects by non-governmental organizations (NGOs), governments and United Nations agencies. Nevertheless, promotion of gardening as a nutrition or community development strategy is controversial, with strong advocates and opponents.

Critics point to poor project design, management and monitoring, unrealized expectations and lack of sustainability:

"... the frequent failure of garden projects to achieve significant, cost-effective, sustained and positive changes is due in large part to the familiar litany of development project errors. Foremost among



1
Typical home garden for food and income

**Animal shelter in
vegetable and
perennial home
garden, West Java,
Indonesia**



Center for Agricultural Socio-Economic Research (CASER)

them is a lack of understanding of and adaptation to local conditions, resulting in extension agents, demonstration gardens, planting materials and garden establishment and management strategies unsuited for local environmental, social and resource supply conditions" (Brownrigg, 1985).

Some studies indicate that gardening is not cost-effective as a nutrition intervention as compared with fortification, supplementation and targeted subsidies (Popkin *et al.*, 1980; Brownrigg, 1985). Another common criticism is that gardening is only feasible for households with access to land, water and technical assistance, leaving out many of the food insecure. Further, opponents claim that homestead production is often embraced as a panacea for food insecurity, when in fact it has proved unreliable as a steady source of food and income for poor households.

Advocates of gardening cite evidence that home gardening can be a sustainable strategy for improving food security and incomes when gardens are well adapted to local agronomic and resource conditions, cultural traditions and preferences (Midmore, Niñez and Venkataraman, 1991; IIRR, 1991). This type of gardening is accessible to the poorest people since it relies on low-cost, low-risk technology and may be adapted to hostile environments (e.g. dryland gardens, flooding gardens). Landless households also benefit from simple hydroponics, container gardening and community or school gardening.

Finally, proponents note that comparative cost-effectiveness studies tend to focus on narrow achievements, such as reduction in vitamin A deficiency, and fail to account for the full array of home gardening benefits. Were these benefits considered, the benefit/cost ratio of gardening projects would

be likely to compare more favourably with alternative interventions. Moreover, in terms of alleviating food insecurity, advocates claim that food production controlled by households is more reliable and sustainable than nutrition interventions that rely on government goodwill and financial support (Niñez, 1984; Von Braun *et al.*, 1993; Moskow, 1996).

Supporters of gardening do not refute the evidence on mismanagement of gardening projects. Many believe that mismanagement and lack of sustainability are largely results of failure to invest the necessary resources in understanding the existing garden system in the context of changing household objectives (Niñez, 1984; Brownrigg, 1985; UNICEF, 1982; Midmore, Niñez and Venkataraman, 1991). Therefore, "improved" gardens are planned and developed for which the effort and costs for the household often outweigh the benefits, leading to eventual abandonment of the gardens after the project subsidies terminate. Were the improved gardens to build on the characteristics and objectives of traditional gardens in the region, many resource constraint problems could be anticipated and avoided.

CONTRIBUTION TO FOOD SECURITY

Home gardening contributes to household food security by providing direct access to food that can be harvested, prepared and fed to family members, often on a daily basis. Even very poor, landless or near landless people practise gardening on small patches of homestead land, vacant lots, roadsides or edges of a field, or in containers. Gardening may be done with virtually no economic resources, using locally available planting materials, green manures, "live" fencing and



A Helen Keller International promoted vegetable home garden, Panchagaor, Bangladesh

indigenous methods of pest control. Thus, home gardening at some level is a production system that the poor can easily enter.

Gardening provides a diversity of fresh foods that improve the quantity and quality of nutrients available to the family. Households with gardens typically obtain from them more than 50 percent of their supply of vegetables and fruits (including such secondary staples as plantains, cassava, taro and sweet potato), medicinal plants and herbs; those households having garden systems that include animal-raising also obtain their primary and often only source of animal protein (Soleri, Cleveland and Frankenberger, 1991; Marsh and Talukder, 1994; UNDP, 1996). Very small mixed vegetable gardens can provide a significant percentage of the recommended dietary allowance for protein (10 to 20 percent), iron (20 percent), calcium (20 percent), vitamin A (80 percent) and vitamin C (100 percent) (Marsh and Talukder, 1994; AVRDC, 1983-1989).

Homestead production is also an important source of supplementary income for poor rural and urban households around the world. The combined value of garden production, including sale of surplus vegetable produce and animal products combined with savings in food and medical expenses, varies seasonally but constitutes a significant proportion of total income (upwards of 20 percent) for many households.

The garden may become the principal source of household food and income during periods of stress, e.g. the preharvest lean season, harvest failure, prolonged unemployment, health or other disabilities suffered by family members or agricultural and

economic disruption caused by war. For instance, in Kampala, Uganda, after the civil war, urban agriculture substantially fed the city in non-cereal foods (UNDP, 1996). Also, in Baghdad, Iraq and Sarajevo, Bosnia and Herzegovina, in the 1990s, residents have relied on gardening to provide for many of their nutritional needs (UNDP, 1996).

HOME GARDENING IN BANGLADESH: AN EXAMPLE OF SUCCESSFUL GARDEN PROMOTION

As part of its global effort to eliminate vitamin A deficiency and nutritional blindness, the NGO Helen Keller International (HKI) implemented a home gardening and nutrition education project in Bangladesh (Marsh and Talukder, 1994; Marsh, 1998; Talukder and Bloem, 1993; HKI/AVRDC, 1993). Between 1990 and 1993, a pilot project in Panchagaor District, northwestern Bangladesh, tested whether promotion of low-cost vegetable gardens combined with nutrition education might be a viable strategy for improving the nutritional levels of near-landless, at-risk populations, particularly women and young children.

The project selected 1 000 families from 81 villages. An additional 200 families were selected from other villages as a control group. There was also an "interaction" group of 100 households that resided in target villages but did not receive direct project assistance.

Community involvement is crucial for sustainability of home gardening activities, and the project developed a two-way information flow to disseminate knowledge among extension workers, group leaders and women gardeners and their families. In each village groups were formed of 10 to 20 women, who chose among themselves a leader to organize

technical assistance and seed distribution for the project and to motivate mothers for home gardening. The extension staff were trained in the cultivation of primarily indigenous vitamin-rich vegetables using low-cost, low-risk methods. They also learned processing and cooking methods that optimize the nutritional value of foods. "Nursery" women were selected to grow vegetable seeds into seedlings for project-wide distribution with subsidies covering about 30 percent of the price.

When the pilot project began, 50 percent of the target households reported having a home garden of mean size 61 m² with an average of 3.1 varieties of vegetables; after two years with the HKI project, 100 percent of the households had gardens of mean size 138 m² with the average number of varieties increased dramatically to 17. Among the households selling garden produce (54 percent), average monthly income earned from sales was 85 taka (about US\$2.15), equal to 14.8 percent of total average monthly income, which is spent primarily on food, especially rice. The income value increased to 25 percent when savings on purchased fruits and vegetables were considered.

Women in target households were more than twice as likely as control households to make the decisions about distribution of garden produce for home consumption or sale (making 65 and 25 percent of the decisions, respectively). Also, women in the target group were more than twice as likely as those in the control group to receive income and to exercise control over funds earned from garden sales (67 compared with 31 percent).

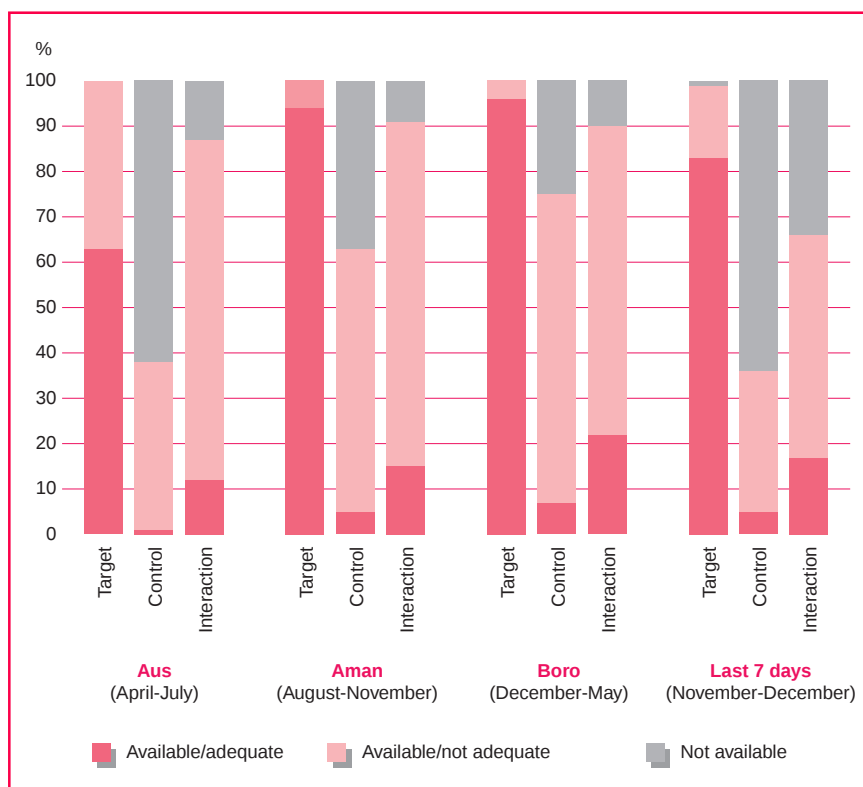
Year-round vegetable availability for family consumption is one of the clear positive impacts of the HKI project, as shown in Figure 2.

Average weekly per caput vegetable consumption for target households increased from 5.8 to 7.5 kg (compared with a slight increase from 5.1 to 5.4 kg for the control group). This equals nearly 200 g per person per day, the FAO recommended minimum intake of vegetables. Intrahousehold consumption data indicate a highly positive impact on vegetable consumption by infants and very young children (Figure 3). Medical evaluation showed that night blindness in children, a symptom of vitamin A deficiency, declined from 2.3 to 1.2 percent in the target group, although prevalence beyond 1 percent is still considered of public health significance.

After the pilot project, HKI developed a cost-effective strategy to work through 14 local NGOs to reach nearly a million households throughout rural Bangladesh. The NGO Gardening and Nutrition Education Surveillance Project (NGNESP) 1993-1998 was recently completed.

KEYS TO SUCCESSFUL PROMOTION OF HOME GARDENING

Based on a critical review of the literature on traditional and promoted home gardening around the world, a few key lessons can be identified. Incorporating these lessons into the design of future garden projects should greatly increase their chances of long-term success in terms of cost-effectiveness and contribution to household food security needs.



2
Seasonal vegetable availability reported by Helen Keller International project in Bangladesh

3
Daily vegetable consumption by small children in HKI Bangladesh project



CRITERIA FOR SUCCESSFUL GARDEN PROMOTION

- Work in areas where households have some experience with home gardening; build on traditional methods to enhance household food security.
- Use a group approach and village leaders for technical training.
- Integrate nutrition awareness and education into garden planning.
- Involve whole families in garden planning and management, and especially involve women in the distribution of garden harvests and income generated.
- Be flexible with respect to choice of species and cropping patterns, encouraging diversity and use of locally adapted varieties.
- Encourage reliance on local materials for soil, water and pest management and on household or community seed production; minimize “giveaways”.
- Monitor the project for regular feedback and fine-tuning of training and other needs.

Build on indigenous knowledge

Understanding the traditional gardening system is vital. Even in communities that have not traditionally gardened, exploration of nearby communities that do garden can give a more thorough understanding of the constraints that have inhibited gardening in the past. If these constraints – whether climatic, economic or cultural – are overwhelming, they may signal the need to abandon the idea of a household garden promotion project.

Once a good understanding of current gardening practices, constraints and objectives is established, project promoters and households can design appropriate improvements. These may include, for example, introducing a wider diversity of plants, initiating more effective management practices or opening up new space for a special type of garden (vegetable, spice, herb or medicinal). It is essential to build on the indigenous gardening skills within the family, especially in regard to cultivation and use of native and wild plants, experience with mixed cropping and intercropping and traditional methods of conserving water and combating pests.

Minimize biophysical, agronomic and economic constraints

Participatory appraisal techniques can be used to assess agronomic and economic constraints. Appropriate technical solutions to these constraints may be known to the project or obtained through contact with regional, national and international horticulture, agroforestry and gardening research organizations. It is important to demonstrate that these solutions will work in a specific microclimate, using resources within the economic means of target households. For larger garden projects, it may be advisable to invest in an experimental garden site for varietal trials. Local varieties of indigenous species for which gardeners have experience with the reproduction, use and exchange of vegetative or seed materials should be provided. The distribution of seeds that must be purchased should be minimized, unless low-cost,

URBAN GARDENING FOR VEGETABLES AND INCOME

Urban home, school, community and commercial gardening contributes an important percentage of total non-grain urban food supply in many developing countries, adding significantly to urban food self-sufficiency (UNDP, 1996). The more intensive urban and peri-urban gardens also create jobs. Risks from urban horticulture include environmental contamination of the water supply from agrochemicals and animal manures, and contamination of foods from air pollution. At the same time urban gardening offers potential positive opportunities for recycling city garbage for productive purposes (e.g. fertilizer, land fill).

Urban horticulture varies from a few household plants in the poorest homes to large agribusinesses. It is found around houses (front, back and side yards, rooftops, balconies, patios, walls and fences) and wherever temporarily unoccupied land is available: in community spaces, on abandoned public and private lands, along roads and railways, at airports and on otherwise uninhabitable floodplains, wetlands and steep slopes. Urban gardeners are often forced on to very marginal land because of land speculation and antagonistic city planners and governments that discourage agriculture as an urban land use. Where governments have been more tolerant and even supportive of urban agriculture, it has tended to thrive.

Latin America and the Caribbean

Since 1985, a cooperative of 100 poor women in Bogotá, Colombia has grown vegetables with hydroponic cultivation on the women's rooftops for city supermarkets; unmarketable crops are consumed by the families and chickens. In Lima, Peru, during the past two decades the Ministry of Agriculture, FAO and the United Nations Children's Fund (UNICEF) have promoted household and community kitchen gardens to avert widespread hunger. The Centre for Education and Technology in Santiago, Chile promotes 20-m² gardens, plant containers stacked in pyramids and the use of walls for vines to double available space for horticulture.

In Havana, Cuba an estimated 26 000 home and vacant lot gardens are cultivated in addition to State and private urban farms, communal gardens run by organizations and workplaces, and organic non-soil medium gardens (*organopónicos*). The Ministry of Agriculture aims to utilize 25 percent of Havana's land for food production by helping gardeners to obtain land, water, tools and technical assistance. Most gardeners also raise small animals. On average, a garden provides 60 percent of the household's consumption of tubers, fruits and vegetables (Moskow, 1996).

Asia

In China, 18 major cities satisfy 80 percent of their vegetable demand and a significant percentage of total chicken and fish demand through urban agriculture. In China's Hong Kong Special Administrative Region it is estimated that two-thirds of the poultry, one-sixth of the pigs and close to half the vegetables are produced within the city limits. Urban and peri-urban gardens are the principal source of vegetables for major urban markets of Hanoi and Ho Chi Minh City, Viet Nam.

Africa

In Zambia, a 1980 survey found that 40 percent of low-income households in Lusaka cultivated a home garden plot. In Kinshasa, Democratic Republic of the Congo, 70 percent of the women practised urban agriculture in the early 1980s, and the practice has expanded

even further as a result of the economic and civil crisis in the country. In Dar-es-Salaam, United Republic of Tanzania, the proportion of families farming grew from 18 percent in 1967 to 67 percent in 1991 in response to food shortages, inflation and increased rural-to-urban migration (UNDP, 1996).

Europe

Urban agriculture is growing in importance throughout the Russian Federation and to a lesser extent in other countries of Eastern Europe, both because of food shortages and because of the new freedom to engage in private production and marketing. For example, the number of families engaged in food production in Moscow increased from 20 percent in 1970 to 65 percent in 1990 (UNDP, 1996). Urban and peri-urban gardens are the most reliable suppliers of urban markets and a vital source of income for many households.

Harvesting amaranthus from an urban garden, Dar-es-Salaam, United Republic of Tanzania



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accessible supplies are available for direct purchase by gardeners.

Various techniques have been developed for effective gardening in areas with overabundant or scarce water supply. Flooding gardens use raised beds, drainage canals, water-loving plants and plastic coverings, while dry gardens make use of mulching, ground cover and other water-conserving horticultural practices, planting of drought-tolerant plants, household wastewater for irrigation and seasonal gardening. Where gardening competes directly with basic household water needs it may be inadvisable to pursue vegetable gardening. A few perennial plants could be maintained, however.

Many gardeners may face limitations of poor soil fertility or lack of cultivable soil. Applied research has led to the development of low-cost methods of improving soil fertility, such as building up soil with compost, planting leguminous trees and cover crops and terracing. Container, trellis and hydroponic gardening and participation in community and school gardens are options for families with no access to homestead land.

Promotion projects need to address the common problem of animal interference with horticultural gardening. The decision of whether to enclose the livestock (e.g. chickens, pigs, goats) or to fence the garden depends on fencing costs and the relative importance of livestock versus plants, as well as family preferences. Live fencing of the garden is an option to keep costs down and obtain benefits from the fence plants.

In general, home gardens are more sustainable if input and labour requirements are low and somewhat flexible. A few days to set up the garden and an hour a day for maintenance are reasonable. More time and money will be invested if the gardens produce a regular marketable surplus. Projects cannot take for granted abundant family labour or a low or zero opportunity cost of family labour.

Integrate nutrition education and social marketing

Nutrition education is essential for ensuring effective linkages between garden food availability and consumption and between consumption and bio-availability or absorption by the body. However, nutrition communication must be two-way to be effective. Knowledge of the traditional diet, seasonal food shortages, food storage and cooking practices, intrahousehold food distribution and prevailing food taboos will provide invaluable information for planning an appropriate nutrition communication strategy.

The most successful gardening projects train their extension workers and village promoters in both gardening techniques and nutrition education. This ensures that gardens are planned to provide a year-round supply of nutrient-rich foods that are

compatible with local taste preferences. Recipe development and cooking demonstrations can be incorporated into an overall social marketing plan to promote a particular food or group of foods. In addition, families need to know what factors promote or inhibit bio-availability of nutrients. Communication of these messages involves a creative process which evolves from participatory project design and implementation in each local context.

Promote the economic benefits of gardening

A criticism of past nutrition-oriented garden projects has been their insistence on production exclusively for home consumption and their discouragement of gardening for income generation. Traditionally, gardeners would feed their families first and then sell, barter or give away surplus garden foods. In certain contexts, however, income generation may become the primary objective of the home garden. In any case, it is counterproductive to impose the nutrition objective to the exclusion of the income generation objective, since in most gardening contexts they are linked and compatible.

The potential economic benefits of home gardening, which should be considered in designing garden projects and included in project evaluations, include the following:

- returns to land and labour are often higher than those from field agriculture;
- gardening gives dual benefits of food provision and income generation;
- gardens provide fodder for household animals and supplies for other household needs (handicrafts, fuelwood, furniture, baskets, etc.);
- household processing of garden fruits and vegetables (drying, canning) increases their market value and ensures year-round supply;
- low-input, low-cost gardening has few "barriers to entry";
- marketing of garden produce and animals is often the only source of independent income for women.

Understand the roles of women and children

Although it is often assumed that women are the principal home gardeners, the role of women in gardening varies by region and culture. Gardening is typically a family activity involving women, men, children and the elderly, with some tasks carried out separately and others jointly. Men generally participate in the heavier tasks (bed establishment, fence building, well digging and tree harvesting), while women manage the day-to-day maintenance tasks. Women and children typically care for small livestock. The elderly have a special role in passing down traditional gardening knowledge to the next generations, especially their understanding of the care and use of indigenous plants.

Accordingly, it is important to involve the whole family in

A home garden providing children with ready access to vegetables, Honduras



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gardening promotion projects. This is especially true in cultures where women are not generally exposed to outsiders and will hesitate to get involved in new activities without the approval of their husbands. In addition, women may have limited time available for gardening, especially when they are employed in own-farm or off-farm field production as well as time-consuming domestic tasks such as gathering fuel and water and preparing food.

Marketing of garden produce can be an important source of independent income for women. This aspect is particularly critical in female-headed households, where men migrate for long periods or in cultures where women traditionally feed the family through their own work. Where females cannot leave the home to sell in markets, garden food can be sold from the garden or by male children in the markets. In parts of Africa, there is evidence that as gardens become more profitable, men intervene to take over the management and marketing functions. Projects need to be aware of this and to assist women in preserving the gains they achieve through gardening.

Work towards an integrated food security strategy

The most successful home gardening activities involve both the nutrition and health and the agriculture sectors in an integrated approach. Too often these two sectors work separately and even competitively. Equally important is the participation of both private and non-governmental organizations and government ministries, even when

government is only involved in a facilitative role. For small, isolated gardening projects to develop into effective regional and national programmes, governments must provide basic policy support, e.g. through appropriate research and extension services, provision of basic access to land and water and supportive land use regulations, especially in urban areas.

Furthermore, home gardening is only one of the possible interventions for enhancing food security for the poor, and it should be considered in the context of a broader national food security strategy. Indeed, the complex synergies of food availability, access, consumption and nutritional status with poverty, health, mental ability, productivity and economic development demand an integrated approach to solving food insecurity in the long term. Home gardening has a special role in this strategy, in providing direct access to food through self-reliance rather than dependence on externally supported programmes such as food-for-work, targeted subsidies and supplementation and fortification schemes, none of which can be counted on for sustained support.

"The basic concept of home gardening as a strategy to help resolve the food crisis is the opposite of a relief food grant approach. It requires participation, and that people work for themselves. But it also demands as a precondition that people have access to certain productive resources; that they not be denied access to a piece of land, or water, or advice from government extension agents, or be forbidden to trellis beans from the balcony of their housing project homes" (Brownrigg, 1985). ♦

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Building on traditional gardening to improve household food security

Family food production systems are found in most regions of most countries worldwide. Traditional tropical gardens have a great diversity of crops, are well adapted to local microclimates and require a minimum of purchased inputs. Field crops provide the bulk of energy needed by the household, while the garden supplements the diet with vitamin-rich vegetables and fruits, energy-rich vegetable staples, animal sources of protein and herbs and condiments.

The many potential benefits of home gardening have led to numerous gardening projects sponsored by non-governmental organizations, governments and United Nations agencies. Nevertheless, promotion of gardening as a nutrition or community development strategy is controversial. Many believe that disappointing results of gardening projects stem from a failure to understand the existing garden system in the context of changing household objectives. If improved gardens could build upon the characteristics and objectives of traditional gardens, many problems could be avoided.

Home gardening contributes to household food security and nutrition by providing direct access to diverse foods that can be harvested, prepared and fed to family members, often on a daily basis. Even very poor and landless people can practice gardening since it may be done with virtually no economic resources. Homestead production is also an important source of supplementary income for poor rural and urban households around the world. The garden may become the principal source of household food and income during periods of stress.

Experiences of gardening projects around the world illustrate the importance of building on indigenous knowledge; reducing biophysical, agronomic and economic constraints; integrating nutrition education and social marketing in gardening projects; promoting the economic benefits of gardening; understanding the roles of women and children; and working towards an integrated food security strategy.

Améliorer la sécurité alimentaire des ménages grâce au jardinage traditionnel

On trouve les systèmes familiaux de production vivrière un peu partout dans le monde. Les jardins tropicaux traditionnels regorgent de cultures diverses, sont bien adaptés aux microclimats locaux et nécessitent un achat minimal d'intrants. Les cultures de plein champ fournissent la majeure partie de l'énergie nécessaire au ménage, tandis que le potager complète le régime alimentaire avec des fruits et des légumes riches en vitamines, des végétaux de base énergétiques, des sources animales de protéines et des herbes aromatiques et condiments.

Le potentiel important des jardins familiaux a donné lieu à de nombreux projets de jardinage parrainés par les organisations non gouvernementales (ONG), les gouvernements et les organismes des Nations Unies. Néanmoins, la promotion du jardinage en tant que stratégie de nutrition ou de développement communautaire est controversée. Nombreux sont ceux qui estiment que les résultats décevants des projets de jardinage sont dus à l'incapacité de comprendre le système existant dans un contexte d'objectifs des ménages en pleine évolution. Si les jardins améliorés renforceront les caractéristiques et les objectifs des jardins traditionnels, de nombreux problèmes pourront être évités.

Les jardins familiaux contribuent à la sécurité alimentaire et à la nutrition des ménages en leur offrant un accès direct à des aliments variés pouvant être récoltés et préparés pour les membres de la famille, souvent tous les jours. Même les personnes dénuées de ressources et de terres peuvent pratiquer le jardinage qui ne nécessite pratiquement aucune ressource économique. La production familiale est également une source importante de revenus supplémentaires pour les ménages urbains et ruraux pauvres du monde entier. Le jardin peut devenir la source principale de nourriture et de revenus du ménage durant les périodes difficiles.

Les expériences concernant des projets de potagers dans le monde entier mettent en évidence l'importance de: tirer parti des connaissances des autochtones; réduire les obstacles biophysiques, agronomiques et économiques; regrouper l'éducation nutritionnelle et le marketing social dans les projets de jardinage; promouvoir les avantages économiques de celui-ci; comprendre le rôle des femmes et des enfants; et viser une stratégie intégrée de sécurité alimentaire.

La horticultura tradicional como base para mejorar la seguridad alimentaria de los hogares

En casi todas las regiones de la mayor parte de los países del mundo existen sistemas de producción familiar de alimentos. Los huertos tropicales tradicionales poseen una gran diversidad de cultivos, se adaptan perfectamente a los microclimas locales, y quienes los cultivan necesitan comprar poquísimos insumos. Los cultivos extensivos aportan el grueso de la energía que requiere el hogar, mientras que el huerto complementa el régimen alimenticio con hortalizas y frutas ricas en vitaminas, productos hortícolas abundantes en energía, fuentes animales de proteínas, así como hierbas y condimentos.

Los muchos beneficios que en potencia puede producir la horticultura doméstica han dado lugar a proyectos de horticultura patrocinados por organizaciones no gubernamentales, gobiernos y organismos de las Naciones Unidas. Sin embargo, se presta a discusión el fomento de la horticultura como estrategia de desarrollo nutricional o comunitario. Los resultados decepcionantes de los proyectos en este sector se deben a no integrar el actual sistema de horticultura en el marco de objetivos domésticos variables. Si en la mejora de los huertos se aprovecharan las características y los objetivos de los huertos tradicionales, podrían evitarse muchos problemas.

La horticultura doméstica contribuye a la seguridad alimentaria familiar y a la nutrición al proporcionar acceso directo a una variedad de alimentos que pueden recolectarse, prepararse y servirse a los miembros de la familia, muchas veces a diario. Incluso la gente menesterosa y sin tierras puede practicar la horticultura ya que puede hacerse casi sin necesidad de recursos económicos. La producción hortícola constituye también una fuente importante de ingresos complementarios para los campesinos pobres y los hogares urbanos de todo el mundo. El huerto puede convertirse en la fuente principal de alimentos e ingresos para la familia en épocas de apuros.

Las experiencias hortícolas de todo el mundo ilustran la importancia que revisten los conocimientos autóctonos al reducir las limitaciones de orden biofísico, agronómico y económico; integrar la educación nutricional y la comercialización social; fomentar los beneficios económicos de la horticultura; comprender las funciones de la mujer y de los niños; y trabajar por una estrategia integrada de la seguridad alimentaria. ♦