

# Fact sheet on Urban Agriculture,

## PRESENCE AND OUTPUT OF URBAN AGRICULTURE

The scale of urban agricultural production in the world is far above common perceptions. It has been estimated (Smit et.al, 1996) that, in 1993, 15-20% of the world's food was produced in urban areas, and that this percentage is on the increase. They further estimated that 800 million people are engaged in urban agriculture worldwide. Of these, 200 million are considered to be producing for the market, employing 150 million people full time.

Smit et.al, 1996, present the following overview of data regarding the participation of urban households in agriculture (including part timers):

### Percentage of urban families is involved in urban agriculture

Ouagadougou: 36 %; Yaounde: 35 %; Maputo: 37%; Lusaka: 45%; Kampala: 35%; Dar es Salaam: 37%; Lusaka: 45%. The large majority of the urban farmers in these cities are women (65% in average).

In **Cairo**, Egypt 16% of households (30% in slums) keep small animals (Gertel and Samir, 2000).

In **Amman**, Jordan, 22 % of the surveyed households practice agriculture, both livestock and horticulture, (Department of Statistics, 2002).

Agriculture occupies about 16% of the total urban areas of **Santiago de los Caballeros** in the Dominican Republic, and is the third most important soil use after residential and vacant land use (Acevedo Abinader, 2001).

The gardens of **Havana**, Cuba, produce a vast array of fruits, vegetables and tuber crops, using methods similar to organic farming. Approximately 18,000 individuals are involved and produced 25,000 tonnes of food in 1999 (Gonzalez, 1999).

In **Dar Es Salaam**, Tanzania, urban agriculture is the largest land user (23 percent of city region; 34,000 hectares under crops) and the second largest employer (20 percent of those employed), with an estimated annual gross output (1991) of 27.4 million USD. The individual urban

farmer's annual average profit was estimated at 1.6 the annual minimum salary (Sawio, 1998). In 1985, 3318 heads of cattle were counted within the city boundaries in 1985, 7105 in 1988 and 9081 in 1993 (Jacobi et al. 2000). Urban fresh milk production in 1993 was worth an estimated at USD 7 million (Mougeot, 1994). More than 90 percent of leafy vegetables coming to the markets have their origin in the urban open spaces and home gardens (Stevenson et al., 1996).

In **Accra**, Ghana, 90% of the city's fresh vegetable consumption is from production within the city (Cencosad, 1994). Nearly 30% of low-income households in informal housing, had livestock worth on average nearly a full month of income (GTZ, 2000).

The Niayes zone around **Dakar**, Senegal, which constitutes 3% of Senegal's land surface produces nearly 80% of vegetables in Senegal, whilst poultry production amounts to over 65 % of the national demand (Mbaye and Moustier, 2000).

In **Nairobi**, Kenya 50% total food consumption of low-income households, produced within the city (Foeken and Mwangi, 2000). Urban agriculture provides the highest self-employment earnings in small-scale enterprises and the third highest earnings in all of urban Kenya (House et al., 1993).

In **Lomé**, Togo, the mean monthly income of a market gardener was found to equal ten minimum salaries or that of a senior public servant. Cost-benefit analysis of market-oriented productions, such as vegetable crops, have shown net incomes to largely depend on low-input practices and low-overhead cost (Abutiati, 1995); profit margins are high where sales are less middle-manned.

In **Harare**, Zimbabwe, between 1990 and 1994, the open space cultivation doubled its area, to some 16% of the city's area. More than 20,000 farmers in the city of Harare have harvested good yields, and will not be affected by the lack of maize in the city, due to the current economic problems in Zimbabwe (Mbiba, 2000). Savings accruing to small-scale urban farmers are equivalent on average was ZW\$264, or slightly more than one-half

month salary. Farmers sold only a small amount of their output (5 percent in 1994 and 9 percent in 1995).

In **Lusaka**, Zambia various surveys show a high increase of maize and vegetable production in the city of Lusaka. Drescher found in 1994 that of the sample of 648, nearly 50% of the women and about 35% of the men had rain season gardens where they planted maize (staple food).

In **Shanghai**, China, 60% of vegetables, more than half pork and poultry, and more than 90% of milk and eggs originate from urban and peri-urban areas." (Yi-Zhang and Zhangen, 2000).

**Hong Kong**, China, the densest large city in the world, produces within its boundaries 45% of fresh vegetables, 68% of live poultry, 15% of the pigs and 45% of the vegetable consumed by its citizens. (Smit et.al, 1996).



# Food Security and Nutrition

**Singapore** is fully self-reliant in meat. It further produces 25% of its vegetables it consumes. Singapore licenses many farmers, some of which high-tech farmers, but houses many more unlicensed small-scale producers (Smit et al., 1996)

In **Jakarta**, Indonesia, 10% of vegetables, 16% of fruit and 2% of the total need of rice in the city is produced between its city limits (Purnomohadi, 2000).

In **Hanoi**, Vietnam it is estimated that 80% of fresh vegetables, 50% of pork, poultry and fresh water fish, as well as 40% of eggs, originate from urban and peri-urban areas. (GTZ, 2000)

In **Kathmandu**, Nepal, 37% of households raise horticulture crops and 11% raise animals; urban farming provides 30% of vegetable consumption (Smit et al., 1996)

**Karachi**, Pakistan urban farming provides 50% (Smit et al., 1996).

In **La Paz**, Bolivia, on a total of 2950 ha of land, more than 30% of the consumption of "easily perishable crops" (vegetables) is grown (Kreinecker, 2000).

In **Mexico City**, 54 percent of the owners of agricultural land *within the city* produce food for their own consumption; while 28 percent produce food to sell in the market, and the remainder do not actively produce anything on their land. Nonetheless, the quantity of food produced on any of these plots is not sufficient to cover basic requirements for a family (GTZ, 2000). Conversely the commercial agriculture in Mexico City's *peri-urban* area contributes substantially to the local economy.

## IMPACTS ON NUTRITIONAL STATUS

The above indicates quite clearly that presence and output of urban agriculture is substantial, but what evidence is available that the urban produce food improves the nutritional status of the urban poor?

Few rigorous analyses are available on the nutritional impacts of urban agriculture on self-producing households; However, findings from these studies are encouraging: all found that self-producing households achieved greater food security, particularly with regards to nutritional status measured by caloric and protein intake and anthropometric measurements (stunting, wasting) as compared to non-farming urban households.

Self-production represents anywhere from 18 percent (East Jakarta) to 60 percent (Harare) of total food consumption in low-income households, with sample percentages depending solely on self-production reaching 50 percent (Nairobi).

In **Harare** households involved in urban farming had more nutritious breakfasts and consumed more protein-rich food over longer periods of the year than non-farming households (ENDA, 1997). Urban agriculture provides poor households in Harare with staple meal lasting up to four months in a year (Mbiba, 1993). Sixty percent of food consumed by (a quarter of) the low-income group was self-produced (Bowyer-Bower and Drakakis-Smith, 1996).

In **Kampala**, Uganda, children aged five years or less in low-income farming households were found to be significantly better off nutritionally (less stunted) than

counterparts in non-farming households (Maxwell, 1999). Urban producers obtained 40 to 60 percent or more of their household food needs from their own urban garden.

In **Nairobi** it was found that average energy and protein intake was higher in the farming groups than in non-farming group and percentages of malnourished, wasted and stunted children were much lower. The farming households produce between 20 percent and 25 percent of their food requirements, and are significantly less dependent on gifts and transfers (Foeken and Mwangi, 2000)

In **Lusaka**, low-income households in the period 1986/87 obtained one-third of their total food consumption from urban gardening (Mbiba, 1993).

In 1998, the urban farmers of **St. Petersburg**, Russia, produced more apples, pears and plums, vegetables, strawberries and cut flowers than all the agricultural farms of the Leningrad Region (Maydachenko, 1999).

In **Ouagadougou**, Burkina Faso, Gerstl et al. (2002) came to the conclusion that at least for half of the year, quantity, quality and type of food is improved for especially the lower socio-economic classes at no to little cost.

In **Jakarta**, 18% of total food consumption of low-income households is produced within the city (Purnomohadi, 2000).

In **Cagayan de Oro**, The Philippines, urban farmers eat generally more vegetables than non-urban farmers of the same wealth class and also more than consumers from a higher wealth-class (who consume more meat) (Potutan et al., 1999)

In **Addis Ababa**, Ethiopia, Getachew gives the following data to give the potential of urban agriculture in Addis Ababa: 70% of the city solid waste is household organic waste; 60,000 cows produce 44M litres of milk per year (satisfying only 5% of demand), while 70% of the 12 million kg. Of vegetables and fruits is produced within the city (Getachew 2002).



See references on page 5