

Poverty Reduction and Urban Renewal Through Urban Agriculture and Microfinance: A Case Study of Dhaka, Bangladesh*

by

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Introduction

Urban agriculture is a concept that evokes contradictory images. Our stock responses position agriculture in rural settings, not urban. As a result, it has been common for development researchers, policy makers in developing countries, and technical professionals in assistance agencies to overlook the vast numbers of urban poor who generate at least a portion of their livelihood from agricultural production. In very recent years some recognition has been given to food production by urban residents, typically in the context of research on sustainable habitats, (eg., Deelstra, Tjeerd and Herbert Girardet, 2000), or the contribution to nutritional status of food produced within city boundaries, (eg., Maxwell, Daniel, et. al., 2000 and 1999, Ruel, Marie T, et. al., 1999, and Koc, Mustafa, et. al., 1999). However, as urbanisation overtakes demographic trends in developing countries, it is critical that policy makers in developing countries and urban planners in particular heighten their awareness and appreciation of the important contribution that urban food and non-food production is making to the diversity of livelihood activities of the urban poor and the quality of life in urban centres in developing countries. (See Remenyi, 1999, and UNDP, 1996)

This paper is a report on research being undertaken in Dhaka city, Bangladesh, by the author, a colleague from Deakin, Ms Kanta Ahmed, and researchers from the University of Dhaka, Department of Geography, Professor Mohammad A Baqee, Ms Nusha Choudhury, and Jamal Khan. Data collection has been assisted by the active cooperation of graduate students in the Department.

Our goal has been to attempt to assess the contribution that Urban Agriculture is making to the livelihoods of the poor in Dhaka, and to explore the unrealised potential that Urban Agriculture offers as a source of self-help based poverty alleviation intervention. The work in progress has also sought to determine the key constraints that are limiting the extent to which the income and employment generation potential in Urban Agriculture is realised. A core hypothesis explored has been that lack of access by the urban poor to microfinance services, especially credit for working capital, is an important constraint on greater, more varied and more innovative forms of participation in urban agriculture on a wage employment or a self-employed basis. Subsidiary hypotheses explore the role of urban agriculture as a source of new industries in Dhaka, and urban agriculture as a generator of public goods associated with urban sanitation, environmental management, the creation of preferred street-scapes and neighbourhood beautification. We have also sought to document the extent to which Urban Agriculture as practiced by the poor is 'women's work'. We begin here by briefly noting recent trends in the incidence of poverty in Dhaka, Bangladesh, though it is important to note that the key results thus far achieved shows the scarcity of land for urban agriculture is the most important constraint preventing the urban poor from exploiting their skills as agriculturalists.

Poverty in Dhaka

In its 1998 study of poverty in Bangladesh, the World Bank noted that poverty had declined since the start of the 1990s. Nonetheless, the percent of the population below the poverty line remained above 50%, while the percent of the population classed as 'very poor' was still well in excess of one third. The number of 'very poor' in Dhaka city, however, had improved to around 15%, despite 'guess-timates' by local government officials of the annual growth rate of the number of people resident in greater Dhaka of between 6 and 20% per annum.

In 2000 the population of greater Dhaka is estimated at around 9 million. By 2005 it is expected to reach almost 13 million. If the ratio of very poor in the population does not improve, the lower growth rate of 6% implies that the city will be home to almost 2 million 'very poor' residents in 2005. Twice that number of people will be below the poverty line of income at one dollar per day per person. Given that research has found that health conditions in Bangladesh's urban slums are estimated to be 38% worse than in the rural areas, (see Harpham and Tanner, 1995), the importance of exploring all options to improve the income and food security status of the urban poor in Bangladesh is urgent. Urban Agriculture may have an important role to play in ensuring that the quality of life at the bottom of the poverty pyramid in Dhaka is improved. If it is not

improved then the prevalence of malnutrition among children aged five years or less will remain at the unacceptably high rate of 56%, (see World Bank, 1998).

Urban Agriculture and Poverty in Dhaka

The literature on urban agriculture as a catapult out of poverty is scant at best. Even in respected published works dedicated to the study of large cities (Ahmed 1986; Siddiqui et al. 1990; Schubert 1996), urban agriculture as more than mere 'subsistence food production' is not given the attention it deserves. In characterising the occupations of the urban poor in Dhaka, Bangladesh, Nazrul Islam and Amanatullah Khan (1996), do not even list agricultural activities in their otherwise comprehensive taxonomy. Similarly, Ullah, Rahman and Murshed's insightful study in 1999 of the realities of life in the slums of Dhaka, which is well written and makes compelling reading, does not even mention Urban Agriculture. This result is not the consequence of the lack of agricultural activity by slum dwellers, but the inability of slum dwellers to more fully exploit opportunities in food and non-food production for income generation and employment. As a result, for many slum dwellers Urban Agriculture rarely rises to be more than a sideline subsistence activity. This finding is not unique to Dhaka. Similar results are reported in IFPRI's studies of food security in Accra, Ghana (see Maxwell, Daniel, et.al., 2000), Kampala, Uganda, (see Ruel, Marie T, 1999), and in several studies summarised in Nugent, 2000, covering cities in Mexico, Cuba, Indonesia and Zimbabwe. It may well be that it is among the 'exceptions', those urban farmers for whom Urban Agriculture has become a lifeline to a standard of living above the poverty line, that we must look to define the potential in Urban Agriculture yet to be exploited as a strategy of poverty alleviation.

Dhaka and regional urban centres are ideal places in which to confront conventional wisdom about the economics of poverty and the contribution that agricultural employment does and can make to self-help-based poverty alleviation in urban centres. As the momentum of urban growth gathers pace in developing countries, so too will the importance of Urban Agriculture as a source of livelihood activities in poor households. In recent years the resident population of the area administered by the Dhaka City Corporation is said by government officials to be growing at an annual rate of at least 15%. Rural – urban migration is the principal source of this growth. Urban Agriculture, both in the city proper and in the peri-urban fringe, offers these migrants into the urban poverty economy of Dhaka the opportunity to productively use the agricultural skills they bring with them from the village.

A range of writers on poverty in Bangladesh offer at least anecdotal evidence that Urban Agriculture is important as a source of employment and cash income for women and children from poor households, (see Moloney, 1988; Osmani 1989; Govt of Bangladesh Task Force, 1991; Quasem 1991; Lovell, 1992; Shah, et.al., 1998; Todd, 1996; and Remenyi & Quinones, 2000). Nonetheless, a widely and strongly held perception persists that it is only the rural poor who depend on agriculture for subsistence, employment and cash income (Bhattacharya 1995). The urban poor are perceived as having turned their back on agriculture in order to build an alternative life-style, based on employment in urban industries and services (Islam & Kahn 1996; Moloney 1988). These perceptions accord urban agriculture no role at all in the societal and economic changes that are integral to the urban growth trends that are dominating demographic patterns at the dawn of the new millennium.

Urban Agriculture, What is Myth, What is Reality?

The definition of Urban Agriculture is not a trivial question. Nor is the concept of Urban Agriculture a contradiction in terms, despite the popular belief that the essence of an urban environment is the absence of rural pursuits and lifestyle. The preconceptions attached to the terms 'agriculture' and 'rural' go to the heart of why policy makers and development professionals committed to assisting the urban poor have typically been blind to Urban Agriculture as a steppingstone out of poverty.

The conventional wisdom is that the urban poor survive by selling their labour to employers engaged in 'manufacturing' or services enterprises, including domestic service, transport and construction. This conventional wisdom is reinforced by the typical urban landscape dominated by retail establishments, central business districts and industrial zones, both in developed and developing economies. Yet, when one visits the burgeoning slum communities of urban centres in developing countries, one cannot but observe the prevalence of women, children and men engaged in horticulture, animal husbandry, fisheries, forestry, and a variety of other agricultural activities that utilise skills learnt from childhood in rural settings. Similarly, in the bedroom suburbs of these same cities, where the economically better off households can be found, gardens proliferate. If one looks carefully, one will also notice the army of invisible poor that cut grass on the verges, search for salad herbs and greens among the weed dominated plots of vacant and untended land, tend the trees to gather fruit, fuel or leaf material used in cooking and handicrafts, graze their goat, sheep or cow on open areas or among the street refuse dumps, or herd their ducks, geese and chickens from feed source to feed source. In the higher income neighbourhoods, such as Gulshan, Dhanmondi, Lalmatia and Farmgate in Dhaka, these activities contribute to waste management and neighbourhood beautification.

Urban agriculture is defined here as including production for domestic consumption or sale of food grains, tree crops, fish, horticultural produce and animal products within an urban area. This definition casts a very wide net. It captures conventional cropping of food grains, plus kitchen vegetable and herb gardening, nursery activity, dairy production, all forms of poultry rearing, (especially chickens, ducks, geese and pigeons), tree-crop fruit and nut growing, honey harvesting, flower and shrub growing, fish raising, the production of 'soil' through composting, mushroom raising and the gathering of plant material for use in handicrafts, cooking or as a fuel source. In Dhaka city an important source of cooking fuel in slum households is dried coconut husks. Some poor households at the upper reaches of the poverty pyramid also lease land outside the city limits in order to share-crop for subsistence or sale of surplus output. Other poor households build on their links to village agriculture by retailing agricultural output sourced from their home village or villages surrounding greater Dhaka city. This latter aspect of commercial agriculture is at the interface between rural and Urban Agriculture, where poor people garnish benefits from employment and income generation that boosts labour productivity in both the rural and the urban sectors.

Typically Urban Agriculture involves the application of intensive production methods. This is consistent with agriculture pursued in an environment in which land is a scarce resource. It is also consistent with an industry in which economics will dictate land use in favour of the activity with the highest 'marginal value'. Hence the ubiquitousness of leisure based horticulture, (ie., flowers, shade trees and manicured lawns), kitchen gardening, dairying, small ruminant, and poultry production across almost every economic layer of the urban domain. In some instances, however, the situation of the available land and the production risks involved are such that traditional cereal grain production is the best use to which a particular expanse of open urban land can be put. Land that falls into this category is the exception, but even in the middle of the busy Central Business District in Dhaka such areas are not difficult to find. Typically, however, the choice of commodity to produce in inner city Urban Agriculture is a high valued product able to bear the opportunity cost of the land available. As a result, inner city Urban Agriculture favours production activities that require a minimum of land and a maximum of the most readily available resource, labour. It does not come as a surprise, therefore, that in the heart of residential and business district Dhaka, where land has its highest opportunity cost, Urban Agriculture tends to be synonymous with opportunistic planting of trees or annuals, plants that use little or no land such as vines and hanging cucurbits grown from roof gardens or hanging pots, various branches of high valued horticulture, including vegetables, flowers, herbs and potted shrubs, economically useful tree varieties that provide fruit, nuts, flowers, borders and shade, and small scale livestock production built on exploitation of 'free' organic waste and/or forage gathered using cut and carry methods common amongst the landless in rural village situations. In the peri-urban 'lower rent zones', where open cropland abuts outer suburban residential development, broad-acre cropping is more common. The pattern of production discernible in Urban Agriculture is consistent with the received wisdom inherited from von Thunen's 1826 classic, *The Isolated State*.

A characteristic of Urban Agriculture that makes it especially relevant to the situation of poor people is the use and re-use of urban waste in the technology of production. A good deal of Urban Agriculture is based on the recycling of organic materials, the supply of which is rooted in the nature of urban living. Vacant land that suddenly or even temporarily becomes available is quickly exploited, if only for cut and carry of forage. Cut and carry based animal husbandry is common in Dhaka, as it probably is in most developing country capital cities. In Dhaka it is common-place to see scavengers sift through accumulated household and industrial waste for textiles, plastics, metal, glass and other solids that can be sold. What is left behind by the scavengers contains edible materials that locally owned goats, sheep, chickens, cattle and draught animals are left to pick over. After the animals and human scavengers have recovered what they can, what is left is a rich base for composting. In Dhaka our research uncovered no composting enterprises, though several nursery operators indicated their interest in accessing compost on a commercial scale.

One can muse on why composting has not found favour with Urban Agriculture producers in Dhaka. Is it because compost production is not profitable enough? Or, is it because the market for compost is undeveloped? Or, is the lack of a composting 'tradition' in Bangla rural culture the reason? Whatever the answer, the question is important if urban planners are to ensure that Waste Management and Urban Agriculture for poverty reduction are ever to be complementary activities. The foundations of complementarity between Urban Waste management and Urban Agriculture are the skills that are needed for success in Urban Agriculture production. These skills are the very skills that are ubiquitous even among the landless poor who migrate from rural areas to settle in the low income areas of developing country urban centres. Dhaka is no exception to this observation.

Discovering Urban Agriculture in Dhaka

The literature on Urban Agriculture is thin at best, no matter which country one chooses to examine. The data on the extent and value of output generated by Urban Agriculture is even harder to find. Bangladesh is no exception. Official statistics are essentially silent on the matter, while the research supported by the United Nations on Urban Agriculture, (UNDP, 1996),

that one report described as ‘the most comprehensive global research on urban food production’, (Mayeed and Choudhury, 1996a, p. 3), is silent on Urban Agriculture in Dhaka. The only published piece that has come to light thus far is based on a limited survey of urban food production by some 400 producers in six defined areas of the city. In this study Mayeed and Choudhury, 1996b, found that the least amount of food production is done in Gulshan, the wealthy ‘diplomatic’ quarter of the city, and the most in Ramna, an area where there is a significant population of ‘lower class’ households. In the latter vegetables are the major food crop grown, while in the other four higher income though still poor areas surveyed, dairying was the most common agricultural pursuit. Mayeed and Choudhury also found that it was not uncommon to find that a given respondent was involved in more than one agricultural activity at the same time. Nonetheless, among those surveyed food production was rarely a full time engagement.

Mayeed and Choudhury estimated that the 400 respondents to their survey of urban food production generated an annual output valued at not less than 30 million Taka. If this estimate is taken as a true measure, it implies that the per capita gross output of the average urban food producer is somewhere in the vicinity of \$US2,000 per annum. Assuming a gross margin of 30% above costs, this implies that Dhaka’s urban food producers are earning a net per person income of not less than \$US500 from their urban food production activities, well above the poverty line of \$US1 per person per day.

Mayeed and Choudhury’s findings are impressive and remarkable. It identifies urban food production as far more important as a source of livelihood and household capacity for saving than any official statistics or report on poverty in Bangladesh would indicate. How much more important, therefore, is Urban Agriculture, which goes well beyond food production, to the economy of Dhaka city? The progress of Dhaka’s nursery industry is relevant to this question. Though evidence is largely anecdotal, impressionistic or based on a survey of only 168 nurseries in Dhaka undertaken as part of this study and reported on in greater detail below, it can be said that twenty years ago there was virtually no commercial nursery industry in Dhaka. Today the Dhaka nursery industry is booming and evident on many street corners, on the banks of waterways, or taking over what were once broad footpaths. The nursery industry is an important new ‘industry’ in Dhaka, providing employment to a growing army of ‘waged’ poor people lucky enough to find their way into the nursery industry workforce. Nurseries have also been an avenue to profitable self-employment for a significant number of poor people in Dhaka and to regular wage employment for an even greater number.

This study of Urban Agriculture in Dhaka began with extensive travel through the environs of the city. In the course of these transects significant agricultural activity was identified in all areas visited. A photographic record of examples of Urban Agriculture activity in Dhaka was taken, but these must remain anecdotal rather than a comprehensive record.

Research Methods

The method chosen to gather data on Urban Agriculture in Dhaka has not included formal survey processes. The reason for this decision are as follows: (i) The budget needed for a formal survey is beyond the resources available to the study. (ii) The study sought not to gather statistics, but information on the actual and potential involvement of the poor in Urban Agriculture. (iii) The most important ‘quality’ source of the information sought is not aggregated data based on ‘recall’ responses to a survey questionnaire, but the opinions of selected groups of people involved in Urban Agriculture or knowledgeable about the areas in which Urban Agriculture is practiced.

The information reported in this paper has been gathered during direct discussions with people engaged in Urban Agriculture in Dhaka, and Group-based discussions with groups of slum dwellers, groups of people drawn from regular client meetings of local non government organizations active in urban poverty alleviation projects, such as BRAC, and groups of microfinance users associated with the Association for Social Advancement, (commonly known in Bangladesh by its acronym ASA, which in Bangla is the word for ‘hope’), or SafeSave.

In April and May, 2000, discussions were held with almost 160 persons (60% female) and eight groups (85% female), representing a respondent pool of significant size and intimate knowledge of the Urban Agriculture sector in the mega city of Dhaka, Bangladesh. Individuals consulted included not only slum dwellers, but also individuals undertaking Urban Agriculture in open urban expanses and on roadsides. An important respondent set consisted of more than twenty public sector officials from the Ministries of Agriculture, Livestock, Local Government and the Agricultural Research Council. The groups consulted were accessed primarily through local NGOs, including BRAC, ASA, and SafeSave, and the University of Dhaka’s Department of Geography. All groups consulted originated from different slum areas in Dhaka. In keeping with the heterogeneity of residents in Dhaka slums, not all respondents who attended group meetings were poor. A small minority were sufficiently well off to proudly parade their wealth and report accumulated savings with local microfinance providers in the millions of Taka. In the main, however, at least 85% of respondents were judged to earn no more than Tk50 (= \$US1) per day from their Urban Agriculture activities. Key characteristics of the respondent set are summarised in Table 1.

Table 1 below summarises the primary findings from individual and Group meetings with respect to Urban Agriculture.

Table 1: Urban Agriculture Involvements of the Respondent Set, Dhaka, Bangladesh

Data gathered April – May, 2000	Number	% of Total
Number of individual respondents	160	n.a
Percent of individual respondents who are female	n.a	60
Estimated % of individual respondents below the poverty line	134	85
Number of individual respondents involved in kitchen gardening	104	65
Number of individual respondents with fruit trees	9	6
Number of individual respondents with poultry	90	56
Number of individual respondents with ruminants	26	16
Number of individuals reporting loans for Urban Agriculture projects	14	9**
Number of individual respondents who lease village land for agriculture	17	11
Number of Group meetings	8	n.a
Estimated Average number of respondents at a Group meeting	25	n.a
Percent of Group meeting attendees who are female	n.a	85
Estimated % of Group meeting attendees below the poverty line	n.a	75
% of Group members reporting cash earnings from agriculture		<2
% of Group members reporting involvement in kitchen gardening		>20
% of Group members who own livestock or poultry		<10
Estimated average gross earnings/day from agriculture (Tk 75 =)	\$US1.50	21*
Average Nursery Sales/day (Tk28,250 =)	\$US565	n.a

* Average based on 33 responses from the 160 individual respondents.

** Average loan Tk5,000 (= \$US100)

From Table 1 above it is possible to conclude that, excepting those few poor people fortunate enough to find employment in a nursery or in an established urban agriculture venture, Urban Agriculture is more important to the poor as a source of subsistence food, especially from kitchen gardening and eggs from poultry, than as a source of cash income. Typically dairying is restricted to those slum dwellers who are no longer poor. Milk sales are lucrative in gross terms, but it is not clear that a full costing would show dairying to also be highly profitable. Gross receipts from Urban Agriculture averages only \$US1.50 per day, leaving a net profit that is rarely able to compete with the wages paid to unskilled workers in textiles or on construction sites. Urban Agriculture is an important occupation for the unemployed and the under-employed. Typically it competes with alternative sources of employment that also offer returns with a low opportunity cost. Take home pay in construction and other common sources of waged work in Dhaka is rarely less than \$US1 per day, and can be as high as \$US3 per day.

Most poor urban agriculturalists are restricted to activities that exploit household resources with the least opportunity costs. This is in marked contrast to the fortunate few that have been able to accumulate the finance needed to access land for share-cropping, or exploit the high valued and lucrative markets for nursery products, purchase animals for dairy produce, egg production, fish rearing, or invest in tree crops. Finance is crucial to such strategic expenditures, as is expertise and opportunity. It is in the experience of those people who are the 'exceptions', the successful urban agriculturalists, that we find some measure of the potential that does exist in urban agriculture for levels of employment and income generation sufficient to breach the poverty line. This potential is well in excess of the valuable and important contribution that Urban Agriculture already makes to the survival strategies of Dhaka's poor households.

The scarcity of land is a key constraint on the effectiveness with which poor people in Dhaka have been able to utilise their village honed skills in agriculture for an improved livelihood. However, in this observation we may also find a new strategy of poverty alleviation that also has valuable 'public' benefits. Consider, for example, the expanses of land that cities like Dhaka devote to parks, gardens and verges. Maintenance of these areas is forever in arrears because of the lack of resources for the necessary tending and pruning in the budgets of local government, highway departments and other public sector land-owning sectors. What if the maintenance and economic utilisation of these areas were tendered out to groups able to organise the poor to do such work? An experiment to explore options along these lines would be a useful future development of the research reported in this paper.

In summary, the research done appears to justify the following preliminary observations on Urban Agriculture in Dhaka:

1. Urban Agriculture is an important source of income and employment to a minority of poor people who are long term residents of slums in Dhaka. However, few poor households have no involvement in some form of urban agriculture.
2. Vegetable production by the urban poor is typically for 'self-consumption'. For most poor households kitchen gardening and foraging for herbs and greens are important contributors to subsistence consumption.
3. Dairying is the preserve of the 'less' poor, 'near' poor and 'not' poor residents in Dhaka city. Milk is normally sold to regular customers, generating an expected cash flow of Tk1,000 (approximately \$US20), per cow per month, when the animal is in milk. Typically dairying is the preserve of men, though women will be allowed to assist with the milking.
4. Poultry production is not an attractive investment for the poorest of the poor in Dhaka's slums because of the ease with which the chicken or the egg can be stolen. Nonetheless, there is strong interest in poultry rearing, especially for eggs, and considerable frustration at the lack of solutions to the problem of theft.
5. Self-employed nursery operators, who typically source their supplies from villages outside greater Dhaka, are an increasingly important source of employment and income for the urban poor. The larger nurseries also generate wage employment that is an attractive option for recent migrants into urban slum communities.
6. Vegetable production and kitchen gardening is the primary preserve of women and children.
7. Access to land for urban agriculture is not random or serendipitous. Often 'squatters' are permitted by owners, through the vehicle of informal share-cropping arrangements, to work vacant, unused or abandoned land as a way of ensuring that the owner retains control of both title and use rights to the land.
8. Among established slum dwellers there is little or no demand for finance for Urban Agriculture. This is directly an outcome of the belief that there is no locally accessible land to be had for purchase or rent for Urban Agriculture. Indirectly it is also the result of a lack of awareness of the investment opportunities that are available in Urban Agriculture, including the leasing or purchase of village land for share-cropping.

A Survey of Nurseries in Dhaka City

The horticulture 'industry' in Dhaka is nowhere more vibrant than in the many hundreds of plant and flower nurseries that have been established since 1980. These nurseries represent a 'new industry' that would not have arisen in the absence of urban growth. As part of the research undertaken for this project, therefore, a survey of nurseries located in the area administered by the Dhaka City Corporation was undertaken. In all 168 nurseries were identified, 83% of which specialised in the sale of flowering plants, shrubs and fruit trees. Alas, we cannot say to what extent this accounts for the full number of nurseries active in Dhaka, but the rapid growth of the industry is reflected in the fact that in 1980 only three of the 168 were in existence.

Nurseries in Dhaka are a quintessential example of the opportunism that surrounds so much of what is done in Urban Agriculture. More than half of the 168 nurseries surveyed operate from locations that occupy less than 100 square meters. Almost 40% of operate from footpath locations, occupied on a squatting basis, access to which is typically sustained as a result of regular payments to local police or illegal and extortionate protection 'mastans'. Even so, only 16% of nursery owners identified payments to extortionists as a 'primary' problem facing the management and sustainability of their nursery. This is consistent with the fact that 12 % of nurseries operate from low lying waste land that is subject to sudden flooding, or from open spaces in urban neighbourhoods where the owner has been able to arrange security of tenure through a formal lease arrangement or some sort of informal agreement with owners. In some instances these agreements are share cropping arrangements or based on deliberate strategic decisions by owners to avoid the occupation of their land by people over whom they have little or no control. The distribution of nurseries surveyed is shown in Diagram 1, A Map of Nurseries Surveyed in Dhaka.

Insert here map of nurseries surveyed

Almost one half of the nurseries surveyed had been established within the last 6 years, and 20% in the last three years. One quarter of nurseries had been in continuous operation for 12 years or more, including three government nurseries and the largest of the nurseries surveyed. These figures indicate that the number of nurseries in Dhaka is growing at more than 5% per annum. Given that all operators indicated that their annual sales are increasing, it is possible to presume that total nursery sales is growing at significantly more than 5% per annum.

Comprehensive data on the economics of nursery activity is not available from the survey results, but the following important findings have come to light.

- 26% of nurseries were established with an initial investment of Tk10,000 (\$US200) or less.

- 56% of nurseries were established with an initial investment of Tk 10,001 – 80,000 (\$US200 – 1,600).
- Only 18% of nurseries were established with an initial investment of more than Tk80,000.
- 97% of owners indicated that they funded the establishment of their nurseries from personal savings, including contributions from the extended family.
- Two-thirds of nurseries need a working capital budget of Tk20,000 - 60,000, (\$US400 – 1,200)
- Average daily sales of nurseries surveyed exceeded Tk6,500 (US130), though a quarter of nurseries average daily sales of Tk3,000 or less. The biggest and most successful one-third of nurseries, however, have average daily sales in excess of Tk9,500 (\$US190).
- The 168 nurseries surveyed provide direct full time employment for some 400 people, including 55 owner operators. The remaining 133 nurseries employ 200 full time employees in addition to their owners. The indirect employment effects are not known, though there is anecdotal evidence to suggest that the multiplier effect may be well in excess of one. Nursery operators employ part-time casual labour for nursery maintenance, security, and transport. In addition, nurseries generate employment for the enterprises that supply them with stock, pots, compost, packaging materials, labels and pest management supplies.
- Apart from the cost of seedlings and mature stock for sale, 40% of nursery operators indicated that their primary operating problem is access to a secure source of water. 30% complained of the shortage of land, and 10% access to electric power.
- Nursery locations reflect the fact that the markets served draw heavily from sales to Dhaka's better-off households. It is not surprising, therefore, to find that a majority of nurseries identified for survey are located in or adjacent to the high income suburbs of Gulshan, Banani, Dhanmondi, Farmgate, Lalmatia, Newmarket, Mirpur and Uttara.
- Nursery activity is an important entrepreneurial outlet for poor people. 14% of nursery owners surveyed indicated that they are illiterate, while another 54% indicated that they had not done any secondary education. The 32% of nursery owners who indicated that they had either completed secondary school (20%) or were university graduates (12%), were employers of poor people in their nurseries.
- While poor young unmarried people are employed in nurseries, 98% of nursery owners are married or widowed with children. 78% of nursery owners indicated that the management of their nursery is their only employment.

Urban Agriculture and Microfinance

It is only relatively recently that microfinance providers in Bangladesh have begun to target the needs of the urban poor for financial services. The Grameen Bank restricts itself rigorously to rural areas. Despite the fact that its head office is in Dhaka, it does not have an urban program. Moreover, we encountered no evidence that Grameen Bank loans or savings services are being accessed via relatives in rural areas or otherwise to finance Urban Agriculture or share cropping in partnership with urban residents. BRAC, on the other hand, initiated an urban credit program for slum dwellers in 1997. It is still in its infancy. Total loans outstanding in April 2000 amounted to Taka 230 million (= \$US4.6 million), savings on deposit are half this amount and disbursements are growing at Taka 10 million per week, with average loan size less than \$US100. In a city of two million people below the poverty line, this represents an outreach by BRAC of only 2,5% of the poor, at best. Nonetheless, BRAC's experience is indicative and paralleled by what was observed among groups visited with ASA and SafeSave.

BRAC's urban credit program is targeted at women slum dwellers, especially recent arrivals. It is these recent arrivals who have least knowledge of where land might be available for planting or animal production, and with the least opportunities to use their rural production skills. Upon arrival in the city the recent arrivals are still living on the street and desperate for money. They do not have the knowledge to turn to agriculture, so they turn to the one occupation that is ubiquitous throughout Bangladesh, totally unskilled work, but with a guarantee of cash in hand at the end of each day; brick-breaking at up to Taka 3 per square foot. Typically the women and the children are set to this employment while the men and older boys seek day labouring. The pattern of this existence is extended into the slum once a situation vacant has been found and occupied. In time some kitchen garden activity may be initiated, but it may take a year or more before the recent arrival is sufficiently familiar with surroundings and the socio-cultural do's and don'ts of slum life that a serious foray into Urban Agriculture is attempted. This scenario is similar in the case of ASA and SafeSave.

Both ASA and SafeSave also target women. However, neither attempts to rule or direct how clients use their savings or their loans. In the case of ASA several group members indicated that they had used their first loans to buy a cow or some chickens, but subsequently loans they applied to the purchase of a rickshaw or a sewing machine or similar. They found that the latter loans generated more employment opportunities within the household for fathers, husbands or children. However, one ASA group member commented that when her father died, she sold the rickshaw that she had brought for him with her first loan, (she made a capital gain on the sale of 100% on the initial purchase price of Taka 3,000) and used the sale proceeds of Taka 6,000 to acquire 2.1 decimals of land for vegetable growing. She indicated that from the sale of vegetables she is able to feed her family well, easily repay her 'working capital' loan from ASA and hopes to be able to continue her vegetable gardening 'forever'. Her fortune, she said, was gaining access to the land. A small number of SafeSave clients

indicated that they had invested in sharecropping ventures back in their home village, but the SafeSave workers indicated that this was atypical because most clients 'do not think that way'. The slum environment does not encourage them to do so. It is little wonder that each of the microfinance providers from which we obtained cooperation reported less than 2 percent of their loans used to support Urban Agriculture.

In addition to BRAC, ASA and SafeSave, willing cooperation was forthcoming from the Credit and Development Forum (CDF) in Bangladesh. CDF is an umbrella body representing microfinance and microenterprise development programs and NGOs in Bangladesh. It is electronically networked by email to all 850 member institutions. Established in 1992 on the basis that microfinance institutions in Bangladesh need a common platform from which to share lessons, information, experiences and innovations, it seems ideal to send out a call for information on microfinance activity involving Urban Agriculture through the CDF conduit. CDF willingly obliged and a message was distributed with all enthusiasm by Zakir Hussain, Executive Director of CDF, on 245 April, 2000. Alas, despite our awareness that the topic is likely to be marginal to most microfinance providers, our worst expectations were realised. Not a single response was forthcoming. It is difficult to avoid the conclusion that microfinance providers are not being bowled over by demand for loans to fund Urban Agriculture!

Some Tentative Conclusions

It would be foolhardy, however, to conclude from this experience that the preset level of microfinance activity devoted to Urban Agriculture is optimal or even about right. Though there is still a great deal more research to be done, what has come to light so far suggests that less investment in Urban Agriculture for poverty alleviation is being undertaken than would be the case if key constraints were lifted. Even at this early stage in our research, however, it is clear that the market for Urban Agriculture is burdened by some serious shortcomings.

First, there is a reservoir of agricultural skills among the urban poor that is seriously under-utilised;

Second, decisions about investment in Urban Agriculture are negatively influenced by a paucity of information on available opportunities;

Third, local government authorities and public sector officials in Dhaka are unaware of the policy reforms and employment creating initiatives that they could promote to facilitate poverty alleviation through Urban Agriculture;

Forth, the agriculture extension agencies responsible for technical advice on sustainable kitchen gardens, back-yard livestock production, horticulture and tree crop production are devoid of appropriate technologies or expertise in extending assistance designed to facilitate the involvement of poor households in Urban Agriculture; and

Fifth, little or no consideration has been given to the important contribution that could be made to urban sanitation, public space maintenance and general beautification of the city through innovations in Urban Agriculture that are commercially viable but also employment generating for unemployed people drawn from the poorest households.

It is the above issues that further research will address. Our enthusiasm for the task is built on our belief that the research already done confirms the view that there is significant potential in Urban Agriculture for productive and profitable employment of poor people. Moreover, it is our intention to test the hypothesis that Urban Agriculture will remain under-utilised so long as microfinance institutions, agricultural research bodies and information extension services eschew a proactive involvement with the promotion and support of Urban Agriculture for and by the poor. Until this reform is achieved, Urban Agriculture production and productivity in Dhaka will continue to be held back by:

(i) inadequate public sector investment in infrastructure to service Urban Agriculture production and marketing;

(ii) public sector policies that fail to legalise urban agriculture initiatives utilising public lands, neglected and under-utilised areas, or recycled and resurrected inputs; and

(iii) the persistence of a finance constraint fuelled by ignorance and lack of awareness, limiting the availability of working capital and finance for investment in Urban Agriculture production by the poor.

In order to realise the potential that Urban Agriculture does offer the poor for sustainable improvements in their life-style and the productivity of their self-help employments, significant shifts in conventional thinking on urban poverty reduction through Urban Agriculture will be essential. The most radical and difficult shift will be to see public sector officials actively integrating their thinking on urban planning with an approach to poverty alleviation that enables public sector resources and private sector self interest to combine. Unless this shift occurs, there will not arise the sort of innovative policies on infrastructure investment planning, and management of public places and urban space that can result in an improved quality of life for all, but especially the poor.

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End Notes:

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