Much of the developing countries’ rapidly growing population, forms part of the economy that lies outside the regulatory framework of governments, in what is known as the informal sector. Although the definitions vary according to the country context, it is generally agreed that the informal sector, whether rural or urban, comprises small and micro-enterprises producing and distributing basic goods and services in unregulated, but competitive markets. Micro-enterprises provide income and employment for significant proportions of workers in rural and urban areas. In the developing member countries of the Asian Development Bank (ADB), they account for more than 60 percent of all enterprises and up to 50 percent of paid employment (ADB 1997).

**Appropriate Methods for Micro-enterprise Development in Urban Agriculture**

As per the ADB’s definition, micro-enterprises refer to enterprises employing less than ten workers, including the owner-operator and family workers. Professionals or groups of professional service providers and high technology firms are not included. There is, thus, an implicit income and asset limit by the term micro-enterprise. It is widely understood that micro-enterprises are enterprises of the poor. Micro-enterprise development, hence, can serve four major development objectives: (1) poverty reduction, (2) the empowerment of women, (3) employment generation, and (4) enterprise development as an end in itself.

**BUSINESS OPPORTUNITIES IN URBAN AGRICULTURE**

Business opportunities in urban agriculture abound (i.e. Boncodin et al. 2000, FAO 1999, Holmer 1999, Lee-Smith & Lambda 1991, Marulanda 2000, Mbiba 1994, and Tegegne et al. 2000). The emerging enterprises can be classified into four major categories: production enterprises (i.e. production of vegetables, fruits, ornamentals, livestock as well as aquaculture and forestry); processing enterprises (i.e. food preparation, packaging, milling, drying and others); input delivery enterprises (i.e. agricultural supplies such as fertilisers, compost, soil media, seeds, pesticides, water, tools, feeds); and service delivery enterprises (i.e. special labour services such as milking or seedling production, agricultural advisory, animal health assistance, accounting, bookkeeping and others).

The emphasis here is on micro-enterprises. The larger enterprises are already well established, but are also important actors in urban agriculture, particularly in terms of technology development (i.e. seed companies breeding appropriate varieties for urban conditions, irrigation companies developing specific irrigation devices such as bucket irrigation systems, and others).

**METHODS FOR MICRO-ENTERPRISE DEVELOPMENT**

It is necessary to distinguish between
1) analytical methods and
2) methods for intervention.

They may interrelate and be combined to a different extent, depending on the type of enterprise they apply to. Table 1 lists some examples of analytical and intervention methods for micro-enterprise development in urban agriculture.

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**Figure 1: Conceptual framework of socio-economic interactions of periurban vegetable production, marketing and consumption in Southeast Asia**

<table>
<thead>
<tr>
<th>Social factors</th>
<th><strong>Consumption practices</strong></th>
<th><strong>Marketing systems</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>❖ Food habits</td>
<td>❖ Method</td>
</tr>
<tr>
<td>Migration pattern</td>
<td>❖ Food consumption pattern</td>
<td>❖ Types of vegetables sold</td>
</tr>
<tr>
<td>Health status</td>
<td>❖ Vegetable</td>
<td>❖ Source of supply</td>
</tr>
<tr>
<td>Gender relations</td>
<td>❖ Preparation</td>
<td>❖ Quality criteria</td>
</tr>
<tr>
<td></td>
<td>❖ Quality criteria</td>
<td>❖ Problems encountered</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vegetable farming practice</th>
<th><strong>Social factors</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>❖ Motivation</td>
<td><strong>Consumption practices</strong></td>
</tr>
<tr>
<td>❖ Fertiliser use</td>
<td>❖ Food habits</td>
</tr>
<tr>
<td>❖ Crop rotation</td>
<td>❖ Food consumption pattern</td>
</tr>
<tr>
<td>❖ Integrated Pest Management (IPM)</td>
<td>❖ Vegetable</td>
</tr>
<tr>
<td>❖ Varieties grown</td>
<td>❖ Pesticide use</td>
</tr>
</tbody>
</table>

Acknowledgement: The author would like to acknowledge the valuable contributions to this topic paper rendered by the participants of the workshop in Nairobi, particularly Amelia Agbayani, Safietou Fall, Will Frost, Dai Peters, Charles Quansah and Henk de Zeeuw.
The USAID Office of Micro-enterprise Development suggests the following criteria for evaluating micro-enterprise service programmes (Edgcomb 1996). Ideally, these should lead to increases or improvements in:
1. at the individual level:
   - control of resources (especially on the part of women clients);
   - paid employment; and
   - self-esteem;
2. at the household level:
   - income;
   - assets; and
   - welfare
3. at the business level:
   - net worth;
   - net cash flow; and
   - differentiation between the micro-enterprise and the household;
4. at the community level:
   - paid employment by the client.

Examples for analytical methods

1. Identification of present practices of urban food production
   Surveys to determine the economic, sociological, and anthropological situation of urban and peri-urban food production in three Southeast Asian cities were conducted by the European Union funded Peri-urban Vegetable Project (PUVeP see www.puvep.com) in 1998. The surveys were aimed at evaluating and prioritising the different socio-economic and anthropological constraints for urban vegetable production and its impact on community, farm enterprises and city administration (figure 1).

Specifically, the surveys sought to (1) describe the socio-demographic and economic characteristics of the vegetable growers, vendors and consumers in the three cities, including loans and savings, health status and gender relations; (2) determine the vegetable consumption pattern, quality criteria and household waste disposal practices; (3) identify the vegetable production practices such as pesticide and fertiliser use, integrated pest management, crop rotation, irrigation and labour inputs; and (4) describe vegetable marketing systems including methods of marketing, types of vegetable sold, source of supply, quality criteria and common problems encountered by vendors (Potutan et al. 2000; Schnitzler et al. 1999).

Table 1: Examples of analytical and intervention methods for micro-enterprise development in urban agriculture

<table>
<thead>
<tr>
<th>Analytical methods</th>
<th>Intervention methods (based on the needs identified by analytical methods)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explanatory study/Situation analysis</td>
<td>Human resources development</td>
</tr>
<tr>
<td>Inventory of main types of UPA entrepreneurial activities</td>
<td>Enterprise management training</td>
</tr>
<tr>
<td>Feasibility Study</td>
<td>Group and cooperative management</td>
</tr>
<tr>
<td>Identification of demand for specific product or service</td>
<td>Start-up assistance (initial enterprise plan) and Strengthening assistance (for further enterprise improvement)</td>
</tr>
<tr>
<td>Identification of potential markets (quality and quantity requirements)</td>
<td>Removal of constraints as identified in feasibility study</td>
</tr>
<tr>
<td>Identification of technical needs</td>
<td>Attraction of capital</td>
</tr>
<tr>
<td>Competitiveness</td>
<td>Starting up of business</td>
</tr>
<tr>
<td>Profitability</td>
<td>Development of linkages</td>
</tr>
<tr>
<td>Risk analysis</td>
<td></td>
</tr>
<tr>
<td>Availability of inputs</td>
<td></td>
</tr>
<tr>
<td>Identification of human resources</td>
<td></td>
</tr>
<tr>
<td>Forecasting of above-mentioned items</td>
<td></td>
</tr>
<tr>
<td>Financing</td>
<td></td>
</tr>
</tbody>
</table>

Market/Network/Cluster analysis

- Who are the actors involved?
- What relations do already exist?
- How do these networks work?
- What are the gaps

Influencing conditions/platform advocacy

- Favourable policies
- Institutions involved (access to credit, land tenure, etc.)
- Market infrastructure
- Training programmes
- Trading support

Business clusters

‘Clusters’ are groups of similar micro- and small-scale enterprises, which are commonly found in concentrated geographical areas of many developing countries, especially in Asia. Working with clusters of enterprises and their associated support services, rather than with individual enterprises, can be both efficient in using scarce resources and effective in facilitating change in a wide number of enterprises, through a small intervention leveraged across the cluster. Cooperation between enterprises within a cluster can also be a means to overcome scale disadvantages while maintaining flexibility, creativity and agility in an uncertain commercial environment (Wheatley 2001).

Ferewde (2001) uses a similar approach in identifying the present horticultural production and marketing systems in the urban and peri-urban areas of Addis Ababa, Ethiopia. A study to identify the quality and quantity requirements for vegetables of private households, traders and institutional users in Cagayan de Oro, Philippines, is described by Agbayani (this issue). Wheatley (2001) analyses root crop starch clusters in Vietnam in order to understand how this type of urban agriculture and agro-processing are linked to the urban poor and what opportunities exist for enhancing its contribution to sustainable development.

Examples of intervention methods

2. Human resources development
   Important elements of human resources development in urban agriculture encompass entrepreneurship training such as the CEFE methodology (Paje 2001), continuous updating and improvement of the curricula of agricultural universities and colleges, improved group and cooperative management, a sensitive bureaucracy, responsive local governments, and - last but not least - good programme and project management.

The lessons learned in a case study linking small potato growers in the Philippines with the formal market (the agro-industrial processing industry) are summarised by Ansaldo (2001) as follows:

- Poverty alleviation is one of the greatest concerns of governments in developing countries.
One key intervention to alleviate poverty is human development.

An important component of the human development strategy is enterprise development to allow people to provide goods and services and thus earn income.

This can be done most effectively through cooperatives to address the largest number of people, particularly small farmers in urban and rural areas who remain marginalised notwithstanding globalisation and liberalised trade.

One example of a successfully implemented strategy to enhance micro-enterprise development in urban agriculture is the Brazilian initiative PROVE, which stands for Small Agricultural Production Promotion Program (De Carvalho, this issue). PROVE is a programme designed to promote and sustain small agricultural production, processing and trade involving several urban and peri-urban agricultural systems such as vegetable gardening, fruit production and livestock systems with low-income groups as the principal beneficiaries.

CONCLUSION

Urban agriculture micro-enterprises play an important role in providing food, income, employment and ecological services in cities of developing countries. Despite the tremendous opportunities that they offer for the well-being of current and future generations and the environment, their potential is only poorly exploited.

A variety of methods and tools are available that are relevant for micro-enterprise development in urban agriculture. However, there are certain limitations of the methods described earlier. Regarding the analytical methods, major constraints of feasibility studies are the costs involved and the qualification needed to carry them out. It is also difficult to find the right balance of either being overly broad or too narrow, i.e. where to start and where to end. As regards the intervention methods, many projects by NGOs failed due to lack of qualified personnel. Technical people are needed to come up with appropriate and applicable solutions, and more research efforts are necessary on appropriate technology development. The lack of audience with policy-makers and institutions where urban agriculture is not recognised as a legal activity is a further major limitation in those countries.

The methods described here (and discussed at the workshop) show some insufficiencies in forecasting supply and demand (modelling) as well as in combining and integrating technical, social and ecological concerns (micro-macro linkage). Further gaps are appropriate tools on how to identify the aptitude of somebody to be a potential entrepreneur and, particularly, on how to ensure proper integration of already existing gender tools or development of more appropriate ones into micro-enterprise development programmes.

Additionally, the following is needed to further enhance micro-enterprise development in urban agriculture:

- publication of relevant materials;
- training of urban agriculture actors to attain greater sensitivity to gender issues in micro-enterprise development;
- incorporation of models (forecasting prices, etc.) and dissemination of the outputs;
- more research on identifying existing urban agriculture systems to increase market transparency for micro entrepreneurs, investors and other actors in urban agriculture; and
- awareness creation and better linkage of urban agriculture to existing micro-enterprise development programmes.

Moreover, this must be encompassed under an “enterprise paradigm” acceptable to the government, business and civil society sectors, which shows that urban agriculture is a force on its own to benefit cities and its residents.

REFERENCES

- The CEFE Training Methodology, which stands for Competency-based Economies, Formation of Enterprise, is a comprehensive training methodology developed by GTZ, which is designed to evoke enterprising behaviour and competence in a wide variety of situations. The fundamental assumption is that people with a clearer vision of their goals and equipped with the skills to achieve them are far more likely to become productive individuals in society. It develops and enhances the business management and personal competencies of entrepreneurs and the personnel or enterprise support and regulatory institutions. A full CEFE course covers a period of three to five weeks (Paje 2000).

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