

**DRAFT**

CITYNET



**Food and Agriculture Organization of the United Nations**

“Food Supply and Distribution to Cities” Programme

## *Feeding Asian Cities*

Proceedings of the regional seminar

organized by:

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## **Abbreviations and Acronyms**

AFMA – Association of Food Marketing Agencies in Asia and the Pacific

AMO – Agricultural Marketing Organization

BSE – Bovine spongiform encephalopathy

CityNet – Regional Network of Local Authorities for the Management of Human Settlements

CLA(s) – City/cities and local authority/authorities

CSO(s) – Civil society organization(s)

DTCs – Developing and transitional countries

FAO – Food and Agriculture Organization of the United Nations

FLFP – Female labour force participation

FSD – Food supply and distribution

FSDS(s) – Food supply and distribution system(s)

GIS – Geographic Information System(s)

ICLEI – International Council for Local Environmental Initiatives

IDWG – Interdepartmental working group

IFS – Informal food sector

IULA - International Union of Local Authorities

MSME(s) – Micro, small and medium enterprise(s)

NGO(s) – Non-governmental organization(s)

TCCT – Technical cooperation among countries in transition

TCDC – Technical cooperation among developing countries

UNCHS – United Nations Centre for Human Settlements

UNDP – United Nations Development Programme

UTO – United Towns Organization

WUWM – World Union of Wholesale Markets

## **Profile of the author**

Gisèle Yasmeen received a Ph.D. from the University of British Columbia in 1996. Her dissertation, entitled *Bangkok's Foodscape*, focused on prepared food distribution systems in Bangkok with references to other Asian cities. She has worked as a lecturer, researcher and consultant for the past seven years on urban food supply and distribution systems including two years on a CIDA-funded project studying the impact of the economic crisis on small-scale food retailing in Thailand and the Philippines. Gisèle Yasmeen recently completed a report for the International Development Research Centre's South Asia Regional Office on urban agriculture in India. As an associate of Leadership for Environment and Development (LEAD), Gisèle Yasmeen has created a website on "Sustainable Urban Food systems in North and South" ([www.sdri.ubc.ca/gisele](http://www.sdri.ubc.ca/gisele)).

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# 1 FOREWORD

This report summarizes the discussions, conclusions and recommendations of a regional seminar on “Feeding Asian Cities” held in Bangkok from 27 to 30 November 2000. The seminar, organized by the Regional Network of Local Authorities for the Management of Human Settlements (CityNet) and the Association of Food Marketing Agencies in Asia and the Pacific (AFMA) was convened with the technical support of the Food and Agriculture Organization of the United Nations (FAO).

The seminar had three objectives:

1. to identify major food security challenges in feeding Asian cities and the role that city and local authorities (CLAs) can play in meeting those challenges;<sup>1</sup>
2. to prepare an action plan for the next ten years to strengthen the capacity of CLAs in enhancing urban food security;
3. to facilitate North-South and South-South collaboration and technical assistance partnerships among CLAs to address specific food supply and distribution constraints.

Approximately 100 participants from 27 countries attended the seminar. Most were Asian nationals, with strong representation from mayors and municipal officials. Other participants included representatives from government at various levels, international organizations, civil society and academia. The format of the seminar consisted of a limited number of keynote addresses and plenary sessions with emphasis on smaller group discussions taking place in workshops addressing specific issues. The seminar was directed specifically at CLAs and the role they can play in reducing urban food insecurity.

## 1.1 *Need for the seminar*

Asian cities are growing rapidly. Many, including Bangkok, Delhi, Jakarta and Shanghai, can be classified as “mega-urban” regions with populations in excess of 10 million inhabitants. The growth of these large cities is accompanied by an increase in the number of urban households living in poverty. In megacities such as Mumbai, it is estimated that 50 percent of the population lives in slums due to the growing incidence of urban poverty and the high cost of living.

Though the necessities of life such as housing and transportation have a firm place in the local policy agenda in Asian cities, food issues have yet to be emphasised. The inhabitants of Asia’s growing cities need to have access to good quality and affordable food. The extent of urban food insecurity and possible interventions to alleviate it is not sufficiently appreciated by central and local government institutions or by the international community. There is a need, addressed in part by this regional seminar, to raise awareness among urban decision makers.<sup>2</sup>

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<sup>1</sup> “Food security depends upon available income, consumers’ food habits and the costs faced by urban consumers in accessing food in hygienic conditions” (Argenti, 2000).

<sup>2</sup> A similar event for Francophone African cities was organized by FAO and the Senegalese Institute of Agricultural Research (ISRA) in Dakar in 1997 (Cf. Argenti, 1998; Wilhelm, 1997).

City and local authorities have an increasing range of responsibilities related to food supply and distribution (FSD). Examples of FSD responsibilities at the municipal level include: formulation of policies related to food trading; the levying of taxes and fees; the planning, construction and management of public markets, slaughterhouses and other infrastructure and the regulation of the urban land market. There are a number of constraints faced by CLAs in the execution of these responsibilities. Problems include lack of awareness, information and technical skills as well as financial resources. These problems often lead to bad investment decisions, clashes with central government policies and confrontations with the private sector. The increasing global nature of commerce and communications presents opportunities for highly needed cooperation between cities on FSD. Technical and financial cooperation between cities on FSD sets the stage for a sharing of information, resources and solutions by cities of the North and South as well as among Asian cities themselves and on a South-South basis. International cooperation in the area of FSD should also incorporate the agendas of other stakeholders. Although CLAs play a key part in food supply and distribution systems (FSDs), they must also collaborate with central government agencies, the private sector and civil society to accomplish mutually agreed upon goals.

The importance of this seminar is clear. What is of utmost urgency is the need for follow-up to disseminate the results of the seminar and spur the establishment of effective policies and practices at the local level. There is also a need to establish more firmly North-South and South-South cooperation among CLAs and between these authorities and various international agencies. The opportunities to share experiences and expertise on an international level may be considered one of the potential benefits associated with living in a globalized world.

## **1.2 Structure of the document**

These proceedings consist primarily of a narrative summary of the seminar papers and workshop reports presented in Bangkok. The Bangkok declaration by mayors, city executives, planners and municipal officers and the related agenda for action are the concrete outcomes of the seminar and represent a successful galvanizing of leadership by the participants from CLAs. The technical overview that follows is based on the seminar papers listed in the annexes.

The document then presents the seminar's four key papers and subsequently moves onto the seminar conclusion and recommendations, as well as a statement on North-South and South-South cooperation. The annexes contain supplementary documents or summaries thereof.

## **Bibliography**

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- Wilhelm, L. 1997. *Food supply and distribution to Francophone African cities*. (DT/31-97E) Rome: FAO.

## 2 SEMINAR DECLARATION

*We, the mayors, city managers, planners and representatives of city and local authorities, participating in the regional seminar on “Feeding Asian Cities” organized by the Regional Network of Local Authorities for the Management of Human Settlements (CityNet), the Association of Food Marketing Agencies in Asia and the Pacific (AFMA) and the Food and Agriculture Organization of the United Nations (FAO), held on 27 to 30 November 2000 in Bangkok, Thailand*

### **recognise that:**

- access to healthy and nutritious food will be an increasingly important issue in Asian cities as they continue to rapidly urbanize and increase in population, especially to address the needs of the urban poor;
- City and local authorities (CLAs) can play a key role in enhancing access to food especially in the context of continuing urbanization and decentralization;
- cities need sound food supply and distribution (FSD) policies, strategies and programmes, spanning urban, periurban and rural areas, formulated in collaboration with all concerned stakeholders;
- the traditional focus of CLAs on ensuring safe food and provision of market infrastructure is too narrow and often ad-hoc;
- there is a lack of awareness at the municipal level of food security issues for formulating appropriate municipal policies and programmes;
- FSD involves many actors but responsibilities are fragmented and uncoordinated among the various national, state/provincial and local public and private organizations concerned;
- many Asian CLAs lack the necessary autonomy, mandates, legal frameworks and competence to effectively address FSD issues including their interface with other priority urban concerns; and
- the value of partnerships and networking with and among stakeholders at the national, regional and international levels offer significant potential to improve information flow and technology transfer.

### **We further acknowledge the need to:**

- develop better awareness, understanding and appreciation among municipal, state, provincial and national decision makers to integrate urban food security with sustainable social, economic and environmental development;

- take advantage of forthcoming international conferences such as Istanbul +5 and Rio +10<sup>3</sup> to promote integration of FSD issues into national and local plans of action;
- expand the mandates, functions and responsibilities of CLAs to more effectively perform their role in enhancing food security;
- establish and strengthen information sharing, exchange and dissemination mechanisms on urban food security, using information technology where possible and ensuring that such information reaches Asian CLAs;
- rationalize institutional arrangements between levels as well as sectors in local governments in order to achieve more effective coordination of food-related policies and programmes;
- foster partnerships between government, the business sector and civil society organizations to improve the effectiveness and efficiency of FSD;
- seek access for Asian CLAs to technical assistance and financial support in order to enhance their ability to effectively address the issues of urban food insecurity;
- develop, intensify and broaden the exchange and dissemination of information, knowledge and experience among CLAs, regional and international networks and external support agencies, academic and research institutes and other partners;
- promote stronger and more meaningful North-South and South-South cooperation for accessing knowledge, capacity building services, technology and financing based on equality and mutual benefit; and
- prepare an action plan to achieve the goals and objectives of this declaration.

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<sup>3</sup> Istanbul +5, is a follow-up to the UNCHS Habitat II forum, which took place in Istanbul in 1996. It is scheduled for June 2001 in New York City. Rio +10 refers to the World Summit on Sustainable Development that will take place in September 2002 (Johannesburg), ten years after the United Nations Conference on Environment and Development, which took place in Rio de Janeiro in 1992.

### **3 AGENDA FOR ACTION**

#### **1. Preamble**

Given the rapid rate of urbanization in Asia, the importance of efficient food supply and distribution systems (FSDSs) should be recognised by all stakeholders as a means of adequately feeding cities and an important determinant of food security for the urban poor.

Furthermore, the pressure put on land and water by the urbanization process puts urban and periurban food production increasingly at risk. This situation requires increased attention to maintain suitable land for food production.

#### **2. Actions by central governments**

Central governments should:

- clarify the role of the various levels of government, including overcoming their sectoral interests (agriculture, trade, environment and local government). Recognise their interdependence with other concerned sectors and their respective FSD role;
- ensure that legal, regulatory and policy frameworks include food control and environmental standards<sup>4</sup>;
- build capacity of city and local authorities (CLAs) through technical and financial support, including providing access to and facilities for the dissemination of information and provide means for close coordination between the various stakeholders.

#### **3. Actions by CLAs**

CLAs should:

- formulate and implement sound urban FSD policies and programmes spanning urban, periurban and rural areas;
- ensure that urban planning, management and policy instruments show the importance of FSDS activities (such as reserving production areas, facilitating water management systems, identifying land for major infrastructure and solid waste sanitary landfill sites);
- carry out or make sure that appropriate studies and surveys are available to obtain a better understanding of the existing functioning of FSDSs;

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<sup>4</sup> Financial instruments must also be established to support local government in fulfilling their role and responsibilities related to FSDS development.

- ensure full participation of all stakeholders (producers, traders, transporters and consumers) in the planning, implementation and management of FSDS activities;
- recognise the role and facilitate the operation of FSDS stakeholder organizations;
- recognise the potential for private sector involvement and financing in the provision of FSDS infrastructure and services (such as market construction, management, cleaning, etc.) by encouraging public and private partnerships;
- recognise the importance of the informal sector (such as street food vendors and night markets) within FSDSs and accept the sector's social, cultural and economic importance, particularly for the urban poor;
- establish a coordinating mechanism (focal point, committee or unit) to comprehensively address FSDS issues, especially those affecting the urban poor;
- ensure that management and financial autonomy and responsibility are given to the various FSDS facility operators (such as wholesale market management boards) especially for the maintenance of facilities;
- make provision for and enforce food safety, environmental and hygiene regulations.

#### **4. Actions by the private sector**

The private sector should:

- create appropriate stakeholder associations (street vendors, market traders, urban producers, truckers, consumers, women's groups, etc.), chambers of commerce and NGOs to enable an effective dialogue with government and CLAs;
- consider entering into partnerships with local authorities for facilitating investments in required infrastructure and services for FSDSs;
- take responsibility for the environmental costs of their operations.

#### **5. The role of international organizations and donor agencies**

International organizations and donor agencies should:

- recognise the growing importance of FSDSs in urban areas and recognise the systems as deserving priority support and funding;
- recognise that FSDSs are cross cutting activities that increasingly require an inter-sectoral perspective to address food for cities and urban planning issues;
- provide support to enhance international information diffusion and technical assistance on good FSDS practices.

## 4 TECHNICAL OVERVIEW: THE CHALLENGE OF FEEDING ASIAN CITIES

Why is feeding cities – particularly Asian cities – an urgent issue? This technical overview will provide background information on urbanization trends, with particular reference to the Asian region, and their importance to urban food supply and distribution systems (FSDSs). It will then outline the impact of rapid urban development in Asia on food consumption patterns in cities. Following this is an exposé on specific issues related to FSDSs, from periurban food production to wholesale markets. The final sections concentrate on food-related waste management, the need for food supply and distribution (FSD) policies and programmes in Asian cities and North-South, South-South technical cooperation among various city and local authorities (CLAs).

### 4.1 Context

It is clear that feeding the world's growing urban population, particularly in the South, is a matter of utmost urgency. There are no simple solutions. Policy and implementation measures to deal with feeding city dwellers have to touch on concerns ranging from agricultural productivity through post-harvest technologies, marketing and distribution to food safety and the adequacy of consumer incomes. These concerns go beyond the geographical jurisdictions of CLAs to the national level and, ultimately, the global scale. FSD concerns are also closely related to larger socio-economic, political and cultural spheres and therefore ought to be thought of in tandem with policy making in a variety of areas. There are many challenges. There are also many opportunities for stakeholders to work together to feed the world's cities efficiently and equitably.

There are three main reasons why FSDSs and food security for the poor ought to be viewed through the urban lens.

**The world is urbanizing at a rapid pace.** The United Nations estimates that by 2005, more than half the earth's population will live in areas defined as "urban" though definitions of what is "urban" vary from country to country. Some urban growth can be explained by natural increase but much of it stems from rural-urban migration due to the lack of viable livelihoods in the countryside and more available opportunities in cities. City dwellers need water, food and a means of disposing food-related waste in addition to the traditionally recognised needs of housing, jobs, transportation and education.

**Poverty in cities is rapidly expanding.** Many of the world's poor are migrating to cities in search of income-earning opportunities. The urban poor often suffer from malnutrition, mostly due to lack of purchasing power and high food prices. Urban poverty and the related issue of urban food security are therefore of prime concern to local authorities and other stakeholders.

**The loss of agricultural land is a direct consequence of urbanization.** Cities tend to be located in agriculturally productive regions. Hence, urban sprawl leads to gradual encroachment on periurban farmland. At the same time, the growth of cities makes demands on the remaining agricultural land in more distant rural areas. This

demand may be difficult to fill due to poor productivity, transportation and storage problems and the fact that farming is becoming a less economically viable occupation in many parts of the world.

Rapid urbanization, rising urban poverty, and associated food insecurity, and the loss of agriculturally productive land are therefore of particular concern in Asian cities. Asia is the world's most populated region. It is the home of more than half of humanity. By 2015, it is estimated that 16 of the world's 26 cities with populations of 10 million or more inhabitants will be in Asia. East, Southeast and South Asia are already the homes of some of the world's largest urban agglomerations. The Asian urban population is growing at a rapid rate. The number of urbanites in China increases by 15 million annually whereas India contributes approximately half this figure (FAO, 2000b). As indicated in Figure 4.1, Dhaka, Delhi, Karachi, Seoul and Beijing all have populations in excess of 10 million inhabitants, and Shanghai exceeds 15 million.

**Figure 4.1: Population growth in Asian cities**



Source: UNCHS, 1996.

However, Asian cities also exhibit highly different socio-economic, geographical and political features and have very diverse concerns and experiences. The political, economic and cultural make-up of West Asian cities such as Amman is quite distinct from that of, for example, Manila or Seoul. There are, however, similarities in the FSDSs in ostensibly different Asian cities that can be compared and contrasted for the sake of technical cooperation.

Twenty to forty percent of the urban population in Asia is defined as poor (FAO, 2000b). At the same time, rapid economic growth in some Asian cities has led to the formation of a new middle class, which drives up the cost of living in the metropolis. The increased cost of living exists even after the devastation of the 1997 Asian economic crisis. Examples of the gap between rich and poor are easily found in

Bangalore and Bangkok where the differences between income groups are stark. This disparity affects the price of food and consumption patterns as shall be explained in the next section.

In all aspects of food supply, distribution, consumption and management of food waste, food safety and environmental health are overarching concerns. The risks of food contamination are even more evident in hot and humid climatic zones such as those of monsoon Asia, which make ideal breeding grounds for water and food-borne bacteria.

## **4.2 Food consumption**

Rapid urbanization naturally results in an increased demand for food and for certain types of food in particular. This section will outline the dynamic nature of urban food consumption patterns, specifically with reference to Asian cities.

### **4.2.1 General food demand issues**

Figure 4.2 provides estimates of increases in food required to feed Asian cities in the next ten years.<sup>5</sup> The FAO estimates that the demand for cereals will increase by more than 11 million tonnes in the next ten years which represents almost half (49 percent) of the total increase for raw foodstuffs. The figure for cereals is followed by a combined increase of almost 8 million tonnes of fruits and vegetables with the remaining food demand being attributable to roots and tubers (2.2 million tonnes) followed by meats (1.9 million tonnes). Altogether, this represents a total increase of more than 23 million tonnes of food. This food must be grown, stored, processed and distributed to intermediate and final consumers. Infrastructure in most Asian cities, particularly the poorer economies, is seriously lacking in the ability to cope with the increased demand.

**Figure 4.2: Food demand increase in Asian cities: 2000 - 2010**



Source: FAO, 2000a.

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<sup>5</sup> These figures are aggregates for various cities in East, Southeast and South Asia (excluding West Asia).

Likewise, as Table 4.1 indicates below, Asians eat more fish per capita than the world's average. Current estimates are that 17.2 kilograms per person per year are consumed in the region. This rate of consumption is predicted to increase, and the decline in the world's wild fish stocks is certain to present a challenge when attempting to meet this demand. Future consumption will likely be met largely through aquaculture.

Animal products that will be required to a greater extent in the next ten years include meat, eggs and dairy products. In Asian cities, the demand for animal products is steadily increasing. Eggs are in high demand in all Asian cities whereas the consumption of other animal products varies by region with South Asia leading the way as far as dairy products are concerned and meat and fish becoming more sought after in East and Southeast Asia.<sup>6</sup> Other Asian intra-regional food consumption differences include less fresh fruit and vegetable consumption in South Asia compared to East and Southeast Asia as well the greater predisposition, or lack thereof, to consume certain types of meat such as pork and beef (see Inoue and Titapiwatanakun, 2000).

**Table 4.1: Selected Asian cities and fish consumption**

City	Percent of city population in national total	National animal protein consumption per capita			National per capita consumption of fish (kgs/year)
		total grams/day	thereof fish grams/day	percent of fish in total	
Bangkok	10	22.9	9.6	41.9	32.5
Beijing	1	23.1	5.4	23.1	22.2
Colombo	3	11.9	6.1	51.6	18.1
Dhaka	5	5.9	2.8	48.0	9.5
Jakarta	4	11.5	5.9	51.4	17.4
New Delhi	0.3	9.7	1.3	13.7	4.3
Kuala Lumpur	6	43.1	15.3	35.4	55.0
Manila	12	25.2	12.5	49.4	33.4
Seoul	100	56.3	9.3	16.6	31.9
Singapore	9	55.2	26.0	47.1	70.9
Tokyo	24	35.2	15.8	44.9	51.1
<b>Asia</b>		<b>18.8</b>	<b>4.9</b>	<b>26.2</b>	<b>17.2</b>
<b>World</b>		<b>26.4</b>	<b>4.3</b>	<b>16.4</b>	<b>16.3</b>

Source: Ruckes, 2000: pp. 1-2.

#### 4.2.2 Urban-rural consumption contrasts

Urban food consumption habits themselves are complex and varied (see Aragrande and Argenti, 2001: Chapter Two). With the exception of farmers on the periurban fringe, most city dwellers do not consume food that they have grown or raised themselves. In other words, notwithstanding the importance of urban and periurban food production, most urbanites must obtain the food they need through a transaction,

<sup>6</sup> Due to the lack of a pastoral tradition, much of the population in East and Southeast Asia is traditionally lactose intolerant. Nevertheless, many large food multinationals are aggressively marketing and distributing dairy products in the cities of these two regions.

usually involving cash. There are several factors associated with urban household food consumption patterns that distinguish themselves from the patterns generally found in rural areas. “According to FAO estimates, these households spend 60 to 80 percent of their budget on food, 30 percent more than rural households” (Argenti, 2000: p. ii).

Food security for the urban poor is closely related to their purchasing power, or their ability to earn an adequate income for themselves and their families. Hence, viable livelihoods for the urban poor ought to be seen as a food security issue.

The vulnerable urban groups are: the unemployed, new migrants, single mothers with dependent children, pensioners, disabled or old people lacking family support, indigenous people, ethnic minorities, formal sector workers with declining or unstable incomes and those dependent on “crowded” informal sector activities (Argenti, 2000: p. 5).

A fundamental issue that ties into the food security of the urban poor is access to clean, safe water. This aspect of food security is often taken for granted by the middle class.

#### 4.2.3 The diversity of urban food purchasing habits

Cities are the homes of a variety of food types and purchasing habits that involve a myriad of retail institutions. Distinctive types of consumer behaviours are related to factors such as disposable income, commuting patterns, female participation in remunerative activities outside the home, political factors, access to land for food production and cultural habits to name a few. These factors are described in detail below.

**Disposable income** is one of the most decisive factors when it comes to explaining food-purchasing habits. The availability of disposable income increases the options available to consumers. Wealthy Asian urbanites can better afford to frequent Western-style supermarkets, shopping centres and the recently established “box stores” that sell food and other household items in bulk in cities such as Bangkok and Manila. The middle and upper classes, and/or their domestic employees, also patronise traditional markets and street stalls. The urban poor are limited in their choice of locations to purchase food. The poor spend more of their income on food, often because they cannot afford to buy in large quantities, and they also spend more time and energy procuring foodstuffs. The restricted incomes of poor city dwellers partially explain the appearance of institutions such as the Filipino *sari-sari* store, which sells dry goods, including foodstuffs, in very small quantities, often on credit.

**Commuting patterns** also condition consumers’ eating habits. More and more Asian urbanites are now earning their incomes far from home. The distance between home and workplace affects urbanites’ ability to eat at home, particularly at lunch, thereby stimulating demand for inexpensive food for the noontime meal. Traffic congestion also complicates eating supper at home. Vehicular traffic issues combined with women’s changing role fuel the demand for take-out and convenience foods as well as restaurants and other retailing establishments such as street foods.

**Female labour-force participation** (FLFP) directly affects the nature of food consumption. As women tend to be responsible for much food-related work at the household level, including shopping, cooking and cleaning, their participation in remunerated activities stimulates the demand for value-added foodstuffs that save labour. Southeast Asia, where most countries exhibit high levels of FLFP even during women's childbearing years, is the home of well-developed "traditional fast foods" such as take-out, catering enterprises and street foods.

**Political factors** such as government schemes like food-subsidies and other food-related social welfare initiatives, affect the purchasing ability of poorer consumers. Subsidies are more typical of socialist economies such as Vietnam and China. Food subsidies are likely to diminish in the future due to the liberalization of most centrally planned economies.

#### **Box 4.1: "Fair price shops" in Delhi, India**

The majority of Delhi's population gets monthly supplies of wheat, rice and sugar through Fair Price Shops run under the supervision of the local administration. These Fair Price Shops, numbering tens of thousands, are supplied by the warehouses of the Delhi State Food and Civil Supplies Corporation, which in turn obtains its supplies from three or four big warehouses of the Food Corporation of India. These shops sell to more than 2.5 million cardholders at fixed, subsidised prices. Because of bureaucratic controls in procurement and distribution of these commodities, the standard of service, quality maintenance and consumer satisfaction levels remain low. Since prices are lower than the market prices, these Fair Price Shops are thronged by urban poor, low salaried staff, etc. (edited version of Jakhanwal, 2000: p. 3).

**Access to land** for periurban agriculture and urban gardening affects the extent to which households can produce their own food, be it fruits and vegetables, eggs and dairy-products or meat from livestock. Urban agglomerations of the South are characterized by the presence of a variety of food production activities.

Finally, **cultural habits** have an overarching influence on many of the factors already discussed here and also condition the types of foodstuffs consumed, in what context and by whom. Examples of the cultural dimension of food consumption habits include the eating habits of urban middle-class youth and the appeal for western fast food and foreign foodways. All of these examples are disproportionately found in urban areas where cultural innovations are highly visible compared to those found in rural areas.

#### **Box 4.2: Food consumption in Hanoi, Vietnam**

Food consumption patterns have changed in Hanoi over the last decades. The past diet based on staple food (rice, corn and tubers), vegetable and beans has shifted to a diet with more meat, fish, eggs, milk, fats/oil, sweets and soft drinks as well as canned and processed food. Home-prepared meals have been gradually replaced by restaurant and street foods. Even in some meals served at home, processed foods such

as sausages, instant noodles and rice noodles are commonly used. Food habits have also recently incorporated industrial processed foods. The increasing demand for high quality cooked food in Hanoi has favoured the growth of “super markets” serving full meals though even these are insufficient to meet market demand (Quang and Argenti, 1999: p. 1).

#### 4.2.4 Problems and prospects facing the Asian urban food consumer

There are three broad concerns facing the Asian urban consumer. The first relates to the rising cost of food, particularly for the urban poor. The second involves food safety and nutrition, and the third deals with the need for a greater variety and quality of processed or value-added products to fill the demand for labour-saving foodstuffs. Well-organized consumers’ associations can play an important role in bringing all three of these concerns to the attention of government and the private sector.

The **rising cost of food** in Asian cities is directly related to inefficient food supply and distribution mechanisms and related inadequacies in distribution infrastructure. Poor linkages between rural areas and cities result in a high rate of food spoilage, resulting in a constricted food supply and higher food costs. Improvements in distribution and the introduction of post-harvest technologies can contribute to a significant reduction in food prices in the opinion of many experts.

**Food safety and nutrition** concerns revolve around the hygiene of raw and processed foods whether these are sold in public markets, on the street or in restaurants. Threats to consumer health include lack of clean water for the washing of fruits and vegetables, contamination of foodstuffs by dust and airborne pollutants, poor hygiene, improper storage, deteriorating urban environments and, finally, the threat of communicable diseases being spread via the food system (e.g. typhoid).

Finally, there is a need for good quality and affordable **convenience and labour-saving processed foods** given the presence of both women and men in the paid labour force.

### 4.3 *Food supply and distribution to cities*

Food supply and distribution systems (FSDSs) to cities are complex combinations of activities, functions and relations (production, handling, storage, transport, processing, packaging, wholesaling, retailing, etc.) enabling cities to meet their food requirements. These are performed by a variety of economic agents. These players include: producers, assemblers, importers, distributors, wholesalers, retailers, processors, shopkeepers, street vendors, service providers (e.g. credit, storage, portorage, information and extension services). Indirectly related agents include packaging suppliers, public institutions (e.g. city and local governments, public food marketing boards, Ministries of Agriculture and Transport) and private associations (e.g. traders, transporters, shopkeepers and consumers) (Aragrande and Argenti, 2001: p. 7).

#### 4.3.1 Important general issues: resources, health and environment

There are a number of general, yet important, issues related to FSDSs to cities, some of which could not easily be slotted into the topics discussed in individual workshops during the seminar. First, the rapid deterioration of urban environments in the cities of the South, including many Asian urban areas is a growing concern. Worsening air quality, for example, can result in the contamination with heavy metals and other chemical residues of food grown and distributed in and around cities.

Second, the resources needed for the production of food and for human nourishment more generally, particularly water, are becoming scarcer both in terms of availability and in terms of quality. Water is needed for agricultural production, industrial activities related to food processing as well as for cooking, drinking water and sanitation. Fortunately monsoon Asia, the area stretching from Southeast Asia to southern India and Sri Lanka, receives sufficient rainfall most of the time. However, certain parts of this region, such as Mindanao, have experienced drought, and sustainable watershed management is emerging as a key challenge to many urban areas, particularly in light of global climate change.<sup>7</sup> General access to potable water and basic sanitation is still a concern for most of Asia's urbanites. Other resources important to urban food security are land, labour and energy.

There are several environmental and health problems associated with the improper use of agricultural inputs, particularly chemical fertilisers and pesticides. Food and agricultural workers are particularly susceptible to poisoning due to prolonged exposure to these chemicals. Asian urban consumers also show an increasing concern for the impacts such chemicals may have on their health.

On a more general level, there are numerous external factors that influence the FSDS in a given region. These include the economic, social and political landscape of the jurisdiction concerned; legal, institutional and regulatory frameworks and other location specific characteristics. These factors must be taken into consideration when analysing the FSDS to any given urban region as they have direct or indirect impacts on the functioning of the city.

#### 4.3.2 Food supply to cities

The "food supply to cities" subsystem includes all the activities that are required to produce food and bring it to cities. The discussion can be conveniently divided into domestic production of food (including urban food production) imports from abroad as well as rural- and periurban-urban linkages (processing, storage, assembly, handling, packaging, transport, etc.) (Aragrande and Argenti, 2001: p. 7).

Growing quantities of food must be produced and transported to cities to meet increasing demand. Asian urbanites require cereals as a staple (normally rice or wheat), supplemented by other culturally and nutritionally prescribed food items such as vegetables, pulses, fruit, meat, fish, eggs and dairy products. Much of the food that supplies cities must be produced in urban and periurban areas as well as strictly rural

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<sup>7</sup> Bangalore, Bangkok and Cebu are prominent examples of Asian cities experiencing difficulties supplying sufficient water for their populations. See the Inter-governmental Panel on Climate Change working group documentation for information on global warming and food security.

environments to meet the swelling demand of Asia's growing share of urbanites. Producing, processing and marketing domestically grown food require efficient rural-urban linkages in the form of infrastructure, handling, packaging and storage. These linkages will be discussed with respect to the various sub-aspects of food supply to cities outlined in the paragraphs that follow as well as the subsequent section on food processing.

Some food required to feed Asia's growing number of urbanites is imported from abroad depending on the local and national availability of foodstuffs and pricing issues. Food importing, if it is to be done efficiently, requires state of the art logistics, associated services and infrastructure such as ports, storage facilities and transport infrastructure, specifically rail, water and road transport as well as appropriately enforced regulations. Among Asian cities, the city-state of Singapore is the classic example of an "entrepôt economy" that imports and distributes products from around the world in a highly effective manner.

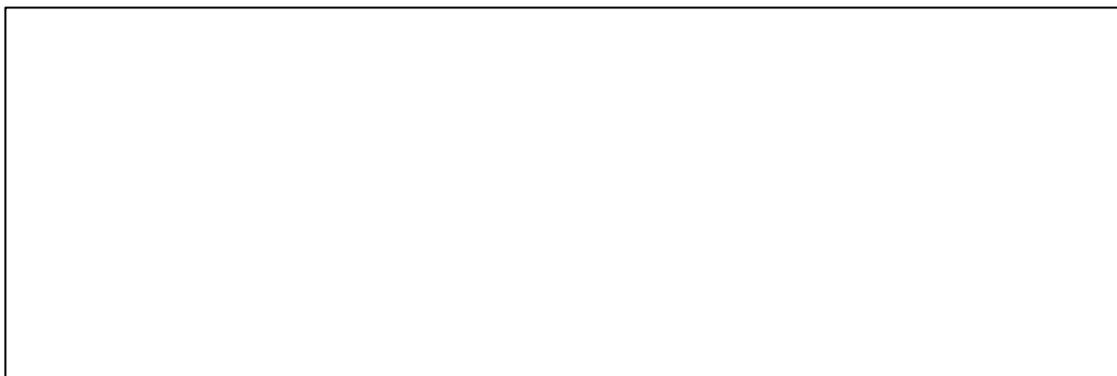
The following sections profile the challenge of supplying Asian cities with food and highlight some of the concerns surrounding various sub-issues.

#### **4.3.2.1 Rural, periurban and urban food production**

Most of the food required to feed Asia's growing cities will be produced in what is defined as "rural" areas. In light of the preceding discussion of the rise in food consumption predicted for Asian cities in the next ten years, rural areas and the world's compromised oceans will be expected to produce more food. Access to resources required for an increase in production is sorely lacking. These resources include land, water, credit, technology and other inputs. Food production in rural Asia is predicted to decline over the next decade if entitlements such as land, expertise and resources are not equitably distributed, especially to Asia's farmers and fishing communities.

Food production also takes place in and around Asian cities and consists of horticulture, animal husbandry and aquaculture. Horticulture often takes the form of market gardens on the urban periphery, which grow highly perishable fruits and vegetables such as tomatoes. Urbanites also cultivate food in kitchen gardens and in unused plots of land. This informal type of agriculture is particularly important for the food security of the urban poor. Animal husbandry takes many different forms in Asian urban agglomerations ranging from the widespread presence of cattle in Indian cities to "pig fattening" as an important livelihood for women in the urban Philippines. Aquaculture is an extremely well established practice in parts of Asia where fish is a mainstay of the diet [for example, Southeast Asia, Bangladesh and the Indian states of West Bengal and Orissa].

#### **Photos 4.1 and 4.2: Livestock production in Asian cities**



All of the activities named above can be grouped under the general rubric of “urban and periurban food production”. Food produced as a result of these activities accounts for a significant proportion of the food supply to Asian cities.

In Hanoi, it is estimated that 80 percent of fresh vegetables, 50 percent of pork, poultry and fresh water fish, as well as 40 percent of eggs, originate from urban and periurban areas. In Shanghai, 60 percent of vegetables, more than half of the pork and poultry, and more than 90 percent of milk and eggs originate from urban and periurban areas. In Bangkok, cabbage and onions originate from the Chiang Mai area, located more than 200 kilometres away, while the leafy vegetables like Chinese mustard, spinach or lettuce, originate from periurban areas (Moustier, 2000).

Numerous horticultural and aquacultural methods can and do make use of wastewater and recycled municipal solid waste, often in the form of compost. Promoting these activities can not only improve urban food supply but also contribute to urban waste management.

#### 4.3.3 Rural-urban linkages

A number of intermediary steps need to be considered when attempting to maximise efficiency in the transportation of food produced in rural areas to reach retailing points in cities. Attention must be paid to the quality and quantity of facilities related to:

**food assembly:** particularly rural assembly markets where producers can gather their products and meet a plurality of potential buyers;

**produce preparation and food handling:** including the cleaning, sorting and grading of food items;

**packaging:** to facilitate handling, promote hygiene and subdivide into saleable units;

**storage:** such as granaries and cold storage and refrigeration facilities, which are often insufficient, badly managed or too expensive;

**rural-urban transport:** increased consumption of food in cities leads to food delivery vehicles, particularly trucks, entering cities and circulating within the urban area. In Shanghai, for example, it is estimated that by 2010 more than 350 000 additional 10 tonne truckloads will be required to deliver food to that megacity alone (see Figure 4.2). By the same year, 313 400 such truckloads

are predicted to be entering Mumbai. These vehicles require proper infrastructure, such as roads, well-located wholesale and retail markets, efficient docking facilities and adequate storage facilities. Table 4.2 indicates the estimated number of increased 10 tonne truckloads that will be required by a number of Asian cities by the year 2010.

**Table 4.2: Estimated increase in the number of 10 tonne truckloads needed to feed selected Asian cities by 2010**

Name of Asian City	Increased Number of Trucks
Bandung	58 200
Bangkok	104 000
Beijing	302 700
Bombay	313 400
Dhaka	205 000
Davao	21 500
Delhi	196 500
Hanoi	32 000
Ho Chi Minh	83 500
Hong Kong	18 300
Jakarta	205 000
Karachi	217 000
Kuala Lumpur	17 800
Lahore	115 000
Metro Manila	162 400
Pusan	29 900
Seoul	85 700
Shanghai	359 700
Yangon	86 900

Source: FAO data elaborated by Aragrande and Argenti (2001). Base year: 2000.

Disregarding the importance of rural-urban linkages can result in significant rates of food spoilage. “Food losses between the production and retail stages are estimated to range from 10 to 30 percent and are caused by a combination of on-farm, transport, distribution and spoilage problems which are greater in urban than rural areas” (FAO, 1998: pp. 3-4). In India alone, 30 to 40 percent of annual vegetable production goes rotten (Bhogle, 2000). “According to the Ministry of Food and Civil Supplies, 10 percent of India’s total food grain production, that is 20 million tonnes, is lost to rodents and insects because of bad and inadequate storage facilities” (Roy, 2000, pp: 67-68).

**Box 4.3: The magnitude of post harvest food loss**

Total on-farm rice (paddy) losses in Asia were earlier estimated to be of the magnitude of 25 to 30 percent. More recent studies by FAO projects have put such losses at about half of that level. While not quite so dramatic as original estimates,

loss levels of 12 percent in India and Sri Lanka, 13 percent in Bangladesh, 15 percent in Thailand and 16 percent in Nepal nevertheless represent a significant waste of food, labour and inputs. Even if it were possible to reduce such losses economically by just one quarter, the food saved in Asia could amount to around 15 million tonnes per annum. (Shepherd, 1996: p 8).

Improving food processing and distribution to reduce post-harvest losses can result in significant cost savings for food consumers.

Private and public investments urgently need to be made in Asia over the next ten years to improve the current state of rural-urban food linkages, particularly in terms of improving transportation systems and networks. Poor linkages, especially inadequate roads, result in a great deal of food being spoiled before making it to market. Improving transportation infrastructure takes time and is expensive, often requiring international financing in the case of poor Asian countries. Hence, there is a need to recognise the related importance of food processing as discussed in the following section.

#### 4.3.4 Food processing

Food processing is a “downstream” activity leading to value-added transformation of raw foodstuffs through a variety of operations such as peeling, cutting, milling, grinding, as well as pickling, fermentation, dehydration and other methods of conservation.<sup>8</sup> It also ultimately includes cooking as one of the final forms of processing before consumption. Processing also indirectly includes packaging and other such activities linked to the processing of food.

Some food processing activities still take place in the home though the historical trend has been toward the industrialization of these activities so that they are performed by enterprises of various sizes: micro, small, medium or large. Food processing is important to consider for three main reasons.

First, as previously discussed, given the high post harvest losses in poor countries that lack adequate transport infrastructure, simple post harvest technologies must be adopted in order to avoid food spoilage.

The second reason food processing ought to be considered a central aspect of feeding Asian cities is the fact that demographic change is leading to a rapid increase in demand for value-added food products. Urban lifestyles, particularly the large-scale entry of women into the paid labour force, leave little time for home-based food processing and cooking. Whereas it used to be common for families to prepare their own preserves, bring sacks of grain to the mill for grinding and cook most food at home, the trend is now toward the purchasing of labour saving “convenience” items.

Third, the demand for value-added foods represents significant income generating opportunities. Food can be and often is processed by a variety of micro, small and medium enterprises. Women, who traditionally possess cooking and other food-

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<sup>8</sup> Canning is a common home-based food processing activity but requires sound training before being undertaken commercially.

related skills, are in a good position to undertake business activities related to food processing and, in Southeast Asia for example, traditionally predominate as food processing entrepreneurs. Food microentrepreneurs can benefit, however, from training in the area of food handling and business management to enhance food safety and income-generation respectively.

There are a number of other concerns and challenges related to food processing in general. Many of them are aggravated when they take place in a concentrated manner in and around cities.

Like food production and distribution, the processing of food requires adequate assembly, packaging and transportation of foodstuffs from their point of manufacture through to the final place of consumption. Likewise, there is a need for small-scale food processing industries to easily access information, credit and marketing services.

The processing of food products of animal origin is of concern not only because of increasing demand but also because of the risk of contamination associated with meat, fish, eggs and dairy. All these types of foods are particularly susceptible to harmful bacteria and viruses. Current concerns over bovine spongiform encephalopathy (BSE) linked to animal feeding practices, has recently emerged as a major food safety problem in the beef industry. Other public health problems linked to animal feed, such as dioxin contamination and the improper use of antimicrobials have underlined the need to have adequate controls throughout the entire animal production chain including consideration of animal feed. Hence, to safely supply the growing taste of Asian urban consumers with meat and animal products, there is a need for adequate attention to all aspects of animal production and processing as well as hygienic distribution systems.

There are significant veterinary, environmental and public health concerns surrounding intensive livestock rearing, particularly in and around cities. The current European “foot and mouth” disease epidemic is a case in point. Asian urbanites are consuming greater amounts of meat, eggs and dairy products as incomes rise so this matter will certainly become more important in the next ten years.

Slaughterhouses in many Asian cities are insufficient and badly managed. Their poor state is a matter for immediate concern as are the unnecessarily cruel practices followed in many of them. In addition, a significant proportion of the meat consumed in Asian cities is raised and butchered in informal, unregulated home-based microenterprises (Heinz, 2000).

As previously indicated, Asians consume a great deal of fish, seafood and related products. Fish and seafood, which are easily contaminated, present special challenges for safe and hygienic processing. At the same time, East and Southeast Asia are home to traditional fish and seafood processing activities for the fabrication of comestibles such as fish sauce, fermented fish paste, *surimi* (fish paste) products such as fish balls and condiments such as fish flakes. These well-established cottage industries can be developed as livelihoods for the urban and periurban poor.

### 4.3.5 Urban food distribution

This section provides an overview of the issues related to food distribution within Asian cities. The term urban food distribution here includes concerns related to intra-urban transport, wholesale and retail markets and the range of other food retailing activities in urban areas including food shops of various types and sizes, supermarkets and foodservices ranging from the small-scale street food trade to the mainstream restaurant industry.

#### 4.3.5.1 Intra-urban transport

To get food from wholesale to retail markets and other retailing outlets, CLAs need to recognise the importance of an efficiently designed and functioning intra-urban transport system. Good intra-urban transport involves easing traffic congestion, particularly around markets, and providing proper storage and handling facilities, especially for perishables such as meat, fish, dairy products and eggs. A lack of attention to intra-urban transport will result in a host of future problems including:

- chaotic markets and slaughterhouses;
- greater market and traffic congestion;
- increasing burdens on poor consumers due to high food costs and distance from food markets;
- increasing “informal” activities; and
- higher levels of food contamination and pollution.

As many Asian cities already suffer from the problems outlined above, the need to improve intra-urban transport becomes all the more urgent.

#### 4.3.5.2 Wholesale and retail food markets

Urgent concerns affecting wholesale and retail markets are their location, design, maintenance and management. Wholesale markets continue to play a central role in urban FSDSs in Asia, mostly because of the current Asian preference for the purchasing of food from small, neighbourhood retail markets rather than supermarkets. This is no longer the case in many Western countries where “vertically integrated systems of food distribution, from the farm to the supermarket,” tend to predominate, with the exception of Southern Europe, where one can still find traditional wholesale and retail markets.

Of the four wholesale markets in Hanoi only the Long Bien market was planned, whereas Cau Giay, Bac Qua, Nga Tu So, Trung Hien crossroads developed spontaneously, operating along streets in the early morning with no proper market facilities and management. They are all now located in the inner city, which makes it very difficult for food trucks to reach markets as traffic jams are the norm and parking space is insufficient. Market and storage facilities are inadequate and poorly maintained, although traders pay a fee. As a result, food damage and losses are high, quality of food is reduced, especially for fresh foods.

Consequently, consumer prices are higher than they need be (Quang and Argenti 1999: p. 1).

The above example from Hanoi points to the myriad challenges with respect to wholesale market development in Asian cities. It highlights the need for advanced planning, proper management and services to market vendors such as storage and docking bays. Conflicts over space around public markets and rising food prices are historically sources of violence in cities.

There is a range of unanswered questions about the future development and need for wholesale markets in Asian cities. Among the most important are the types and size needed, the technical, financial and institutional factors involved and, particularly in the case of meat and fish, hygiene concerns (see Tracey-White, 1991, 1997 and 1999).

Retail markets specialize in the sale of raw foodstuffs such as fresh fruit and vegetables, meat, fish, eggs and dairy products. There are several inadequacies in Asian cities with respect to retail food markets. Most of them also apply to wholesale markets.

These include:

**Locational issues:** food markets are often poorly located forcing low-income urbanites to travel long distances at great expense to purchase food on a daily basis because small quantities are more easily affordable.

**Design considerations:** sometimes pavement traders and weekly fairs are crowded whilst local markets built by Municipalities remain underutilized or are abandoned. Good design attracts and retains shoppers.

**Congestion:** markets tend to be in high traffic areas resulting in conflicts between vehicular and pedestrian traffic. Congested traffic in and around markets can also contribute to air pollution problems. Many markets were built years ago and are now located in highly dense urban areas adding further congestion. Unplanned markets, resulting from the insufficient number of formal markets, are ubiquitous and result in conflicts over land-use and traffic congestion.

**Hygiene:** improvement is needed to give market vendors and their customers access to potable water, toilet facilities and training on personal hygiene, food handling and waste disposal.

**Waste management:** markets generate considerable organic and packaging waste, some of which can be recycled and composted. Other liquid and solid waste requires proper waste disposal mechanisms.

Improving food markets is particularly important for the hygienic sale of meat and other animal products. The emergence of new food retailing outlets in Asian cities is already leading to changes in the food distribution system when it comes to animal products.

The traditional marketing system of unrefrigerated meat and milk with a period of only a few hours between production and consumption will in many places sooner

or later become obsolete. This is due to necessary longer distribution channels from slaughter/processing plants to consumers and introduction of new food marketing schemes through supermarkets, fast food restaurants, etc. (Heinz, 2000: p. 4).

#### **4.3.5.3 Other retail food outlets**

It is at various retailing points that urban consumers have the most direct contact with FSDSs. Food may be purchased in a relatively “raw” (unprocessed or semiprocessed) or “ready-to-eat” state in a variety of retail outlets. These outlets include public and private markets of various sizes as already discussed above, western style supermarkets, itinerant food markets, shops, street food vendors and larger eating or “food-service” establishments such as restaurants.

The retailing of prepared food consists of a variety of establishments in the Asian urban landscape. These range from the well-known hawker stalls and other types of street foods through more formal eating establishments such as canteens, cafeterias and restaurants.

Street foods are defined by the FAO as “ready-to-eat foods and beverages prepared and/or sold by vendors and hawkers especially in the street and other similar public places” (FAO, 1997). Street foods play an important role in provisioning the food needs of the urban poor as well as middle-class consumers such as working mothers, youth and students (Tinker, 1997). Their affordability and “good value for money” drive demand for street foods as do cultural factors.

The street food business is a viable livelihood for the urban poor and in some parts of Asia, such as Southeast Asia, women visibly predominate in the trade. In almost all cases throughout the world, the preparation and sale of street foods is a family enterprise providing needed income, particularly in times of economic crisis where other jobs may not be available.

Food safety, and the nutritional quality of street foods, is frequently cited as a public concern. Though foods that are cooked and sold immediately are relatively safe, high coliform counts are often found in food that remains exposed for long periods of time, particularly in a hot humid climate. Hence, the safety of street foods must be improved. As well, “poor food hygiene, fouling of the environment as well as obstruction of pedestrian and vehicular traffic are widely cited as important negative facets of street food trade” (Clarke, 2000: p. 1).

In some Asian cities, such as Singapore, street food vendors have been largely relocated to “hawker centres” or food courts. This may be a possibility for other Asian cities. It is certain that progressive and proactive municipal policies to recognise the importance and support the needs of the “informal” food sector are a necessity throughout the region. This includes less visible food distribution microenterprises such as catering operations.

Larger food-service establishments are also susceptible to the food contamination risks associated with street foods as well as liquid and solid waste generation. The growing number of “formal” canteens, cafeterias and restaurants where an increasing

number of Asian urban consumers purchase meals must also be considered part of the urban food distribution system. A final point that should be noted is the fact that more and more supermarkets and convenience stores are beginning to sell “ready-to-eat” foods. This trend signals the need to look beyond street foods when it comes to assessing food hygiene and also points to growing competition for street foods from other sectors.

All sectors of the FSDS, including households, are responsible for the generation of tremendous amounts of waste. How to manage this waste in a sustainable manner is the subject of the following section.

#### **4.4 Management of waste from the urban food system**

The management of waste from the urban food system, particularly from markets and slaughterhouses, poses one of the greatest challenges to city managers. Slaughterhouse waste is related to a host of hygiene, health and environmental problems thereby requiring safe disposal. “Growing quantities of waste from processing plants, markets and slaughterhouses together with dumping of plastic packaging and waste burning boosts health risks and the pollution of water, soil and air” (Argenti, 2000: p. 4). These problems are compounded by the lack of urban space for landfills to dump solid waste.<sup>9</sup>

This section will profile three types of food waste where there are opportunities for improvement of current disposal practices in Asian cities, specifically: waste from slaughterhouses and food markets, the composting of organic household kitchen waste and wastewater use for periurban aquaculture.

The issue of **waste from slaughterhouses** is a delicate problem of management, technology and information that has serious repercussions for health and hygiene. There are growing quantities of waste from abattoirs in most Asian cities due to increased meat and poultry consumption. Appropriate technology must be acquired to process this highly volatile type of waste and the knowledge must be transferred to employees for the correct utilization of this technology. Managing this particular type of food waste properly is clearly a question of public and environmental health<sup>10</sup>.

Organic **waste from food markets** such as vegetable and fruit scraps ought to be viewed as a valuable resource due to the ease with which they can be composted if waste is properly handled before it leaves the markets. Proper handling is most importantly a question of the separation of organic and inorganic waste at the source of disposal.

In the marshy periurban areas of Calcutta and Dhaka, **sewage-water fed aquaculture** is a traditional, environmentally friendly practice that provides the majority of the fish consumed by millions of urban residents. The practice is also reported in Vietnam. Wastewater aquaculture is a partial answer to the question of how to manage the volumes of sewage from the megacities of Asia.

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<sup>9</sup> Many would argue that landfills are an inefficient and outdated form of municipal solid waste management.

<sup>10</sup> For an explanation of the issues surrounding the composting of slaughterhouse waste see Sawant (1997: pp. 18-19).

There are two main considerations necessary to address all of the above issues: first, the role of local authorities in wholesale and retail market planning and operations; and second, the promotion of private investments in FSD activities and facilities, including markets.

#### **4.5 Asian cities need FSD policies, strategies and programmes**

It is certain that the problems and constraints introduced in the previous sections of this technical overview will be aggravated by urbanization if no concrete measures are taken to address them. CLAs can and should play a key role in addressing the challenges that have been outlined in the previous sections of this technical overview. Their role in improving FSD involves outlining an appropriate FSD policy, which is defined as:

... a set of goals, objectives, strategies and programmes spanning regional, metropolitan, urban and local areas. It is set within a precise timeframe and is formulated in close collaboration with all concerned stakeholders. It guides city and local authorities in the use of resources under their control and through private sector investment, to improve access by urban households to stable supplies of good quality food, through efficient, hygienic, healthy and environmentally sound food supply and distribution systems (Argenti, 2000: p. 12).

##### **4.5.1 Why develop FSD policies, strategies and programmes?**

Appropriate FSD policies must be developed by CLAs for several reasons. First, national policies, when they even exist, are often not tailored to meet local needs and conditions. Food issues generally tend to be viewed as the purview of central governments, rather than local authorities. Policies are therefore often of a general nature and may lack the detail necessary to be relevant and effective for specific cities.

Second, CLAs are in close contact with the local community and already manage numerous key institutions in the FSDS such as markets and abattoirs and food sector regulation mechanisms such as inspection services. CLAs are also responsible for infrastructure and institutions indirectly related to the FSDS such as intra-urban transport and should therefore be planning and managing their cities with the present and future needs of the FDS in mind.

Finally, given the trend of devolving decision making from the national to the local level in many matters of economic planning, designing a technically sound and feasible FSD policy enables CLAs to undertake proactive partnerships with a range of local stakeholders. These stakeholders include private sector enterprises (including the “informal” sector), other government agencies at various levels and civil society.

##### **4.5.2 Role and needs of cities and local authorities**

Before developing an FSD policy, Asian CLAs need to understand their involvement in FSDSs. There are five principal role that CLAs can play (Argenti, 2000: p. 7-11):

- promote supportive attitudes and policies toward the various suppliers and distributors of food in their cities;
- stimulate private investment in the food sector;
- intervene in FSD in terms of planning, information collection and dissemination and through the provision of appropriate infrastructure, facilities, services and regulations;
- coordinate the various stakeholders in the FSDS; and
- act as an intermediary between the central government and the local private food sector.

A smoothly functioning FSDS requires appropriate and coordinated planning at municipal, metropolitan and regional levels. A priority, therefore, is to sensitize urban and regional planners and municipal managers to the importance of FSDSs and the nature of the food system in their localities.

... a primary task planners have to carry out is to understand how FSDSs work as far as production, transportation and distribution are concerned, the infrastructure and services needed, and the most appropriate technical and financial alternatives. Moreover urban managers need to identify the solutions having the greater potential for mobilizing the resources available locally, while defining norms and standards that meet the capacities of both the public and the private sector (Balbo, 2000: p. 1).

As well, it is important to ensure that positive attitudes toward the food sector be inculcated in mayors, municipal officials and planners.

Approaches adopted for the development and implementation of an urban FSD policy must be consultative, participatory, open-minded, alliance seeking and technically sound (Argenti, 2000: p. 18). Other principles include the fostering of competition, resistance to fleeting “fashions”<sup>11</sup> and letting the private sector run activities that can best be managed by businesses.

There are several technical gaps that need to be filled before CLAs can successfully design and implement an FSD policy. These include lack of critical information and technical expertise that are necessary to play a meaningful role. Many of these lacunae can be overcome through training and well-designed collaborations with other cities (see the following section).

One of the major hurdles to CLAs developing FSD policies relates to their increasing role in all spheres of local development in the face of dwindling resources, particularly financing. All of the recommendations made in this report are therefore predicated on adequate monetary, human and institutional resources being available to develop, implement and monitor FSD policies.

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<sup>11</sup> By fashions, Argenti is referring to developments that foster goals such as “modernization” or the preservation of tradition while losing sight of the primary objective of poverty-alleviation by stimulating income-generating opportunities and lowering the cost of living.

#### 4.5.3 The role and responsibilities of other institutions

CLAs should be the lead institutions for the formulation of urban FSD policies. Their role ought to be to coordinate rather than coerce other stakeholders from various levels of government, the private sector (including “informal” enterprises) and civil society organizations in the formulation of an FSD policy and its associated goals, objectives and strategies. The example described below of an attempt to formulate an FSD policy in Amman, Jordan underscores the need to have CLAs as the lead institutions.

#### **Box 4: FSD policy development in Amman, Jordan**

Local authorities in Amman have little concern for urban food security. Generally speaking, there is an inadequate understanding of the importance and impact of FSDs on the socio-economic development of the city and its environment. This leads to the problem of insufficient data concerning the food system. Interventions to improve urban FSDs should target municipal authorities and recognise the city as the lead organization to coordinate a multistakeholder policy development process.

Specific programmes for food micro and small enterprises are urgently required. Records indicate that there are more than 17 000 micro and small enterprises operating in the food sector in Amman. These economic activities play an important role in feeding the city and generating income for the families that own and operate the businesses. Nevertheless, the legal and financial environment hinders, rather than enables, the creation of such food enterprises. The absence of training programmes and poor lobbying power of the food sector businesses results in their needs not being addressed by local authorities. The creation of a “central unit for developing food micro and small enterprises” for the region of Greater Amman is therefore deemed necessary (Awamleh 2000; Sunna, 2000).

Once general goals, concrete objectives and specific strategies have been agreed upon by all stakeholders, CLAs must take the lead in designing programmes in the area of FSD that impact municipal, metropolitan and regional jurisdictions. These programmes, which should address food supply, distribution and related health and environmental concerns, consist of individual subprogrammes. Each subprogramme, in turn, contains specific action plans with clearly identified results that can be measured in the immediate, short, medium and long term.

#### 4.5.4 The nature of an effective FSD policy

An FSD policy needs to: 1) respond efficiently and equitably to expected changes in the amounts and sources of food required; 2) meet changing consumer preferences; 3) make food of good quality accessible to all city inhabitants at accessible prices; and, 4) reduce and possibly eliminate food-related health problems. These four areas should be priorities for CLAs.

The **goals** of a comprehensive urban FSD policy are threefold: **economic**, to improve efficiency and lower costs; **social**, to enhance equity and food security; and **health and environment** related, to reduce food borne illnesses and negative environmental impacts related to the urban food system. An example of a policy goal would be to better locate a city's public markets.

Policy **objectives** refer to the concrete measures that need to be undertaken to achieve policy goals. They are typically short term and involve one or more operational units. To be effective, objectives should be attainable, feasible, credible, technically sound, consistent with central government priorities and socially as well as politically acceptable. An example of a policy objective with reference to the aforementioned policy goal of improving the location of public markets would be to amend the land-use regulations of the city in question to facilitate relocation of public markets in the next three years.

Policy **strategies** point to the ways in which clearly defined objectives can be attained. To continue with the above example, a relevant strategy to enable the fulfilment of the objective to amend a city's land-use plan might be to consult with and involve the stakeholders who are likely to be opposed to such a change. This step would ensure that their needs are addressed and their views are included in the process of changing the land-use plan.

The goals, objectives and related strategies of an FSD policy proposed by a CLA must be complementary with related policies in the area of health, economic development and so on. Care must be taken to forecast policy and programme conflicts to mitigate their potential negative impacts.

#### 4.5.5 Measuring success

Finally, the outcome of a successful FSD policy can be measured by the presence of:

- a stable supply of low-cost food particularly for low-income urban consumers through efficient distribution systems, including informal markets and street vendors;
- greater equity from lower food prices thereby reducing social disruption, making supplies and prices more stable and increasing employment and income opportunities in the food sector; and
- fewer food-related health problems and minimization of the negative impact of FSD activities on the environment, such as traffic congestion, air pollution and noise around market areas (Balbo, 2000: p. 1).

Having benchmarks, such as the three outlined above, is important for gauging the impact of the implementation of an FSD policy in a given urban region.

### 4.6 *Technical cooperation among CLAs*

Technical cooperation among CLAs in the area of FSDs is relatively new. Nevertheless, this frontier field offers tremendous potential for the sharing of experiences, best practices, information and technical know-how between cities of the

developing world (i.e. South-South cooperation) and between Asian cities and those of Western Europe or North America (i.e. North-South cooperation). The fact that well-established international networks of local authorities such as CityNet and the International Union of Local Authorities already exist facilitates technical cooperation among CLAs with respect to FSD. Information and communication technologies open the door technologically to the expedient and efficient sharing of experiences and information through, for instance, virtual databases and on-line networking and training resources.

There are a number of preliminary steps that need to be undertaken to ensure that technical cooperation among CLAs takes place smoothly. To have effective cooperation and agreement, all actors involved should:

- be fully committed;
- develop a clear and achievable mission and goals;
- identify the type of partnership agreement;
- develop an estimated timeline for deliverables;
- secure required resources; and
- set clear expectations and provide necessary staffing and training.

CLAs can cooperate on a North-South or South-South basis to share and develop information, build awareness of the importance of FSDS issues and develop specific training packages in technical areas such as urban and periurban land management, wholesale market operation and food enterprise development. CityNet and the European Union's "Asia Urbs" programme have already undertaken steps to foster technical cooperation among CLAs in the area of FSD. The seminar workshops listed several areas where Asian CLAs need technical cooperation:

- building greater awareness of FSD through information dissemination and sensitization activities;
- strengthening the capacity of technical staff of CLAs in the design and implementation of technically sound urban FSD policies and programmes;
- improving urban planning and management skills and tools for FSD through the targeted training of urban planners.

CLAs can facilitate their cooperation with one another by collaborating with existing networks in the region like CityNet and international organizations with an expertise in FSD such as the FAO. Examples of the types of materials and activities that can be produced to facilitate information exchange and training include:

- technical documentation in local languages such as booklets, guides and brochures;
- CD-ROMs containing multimedia information on, for example, "best practices" in FSD to cities;

- videos made to sensitize local authorities to the importance of FSDSs to cities;
- training courses, fellowships, study tours and workshops/seminars to train representatives from CLAs and build sector specific regional networks.

#### **4.7 Conclusion**

The range of urban FSD problems identified in this technical overview point to a number of challenges faced by Asian cities, which are certain to exacerbate in the next ten years if proactive steps are not taken. These current and future difficulties in the area of FSDS also present opportunities for creative North-South and South-South technical cooperation that include the participation of CLAs, international agencies and the gamut of other stakeholders who are involved in the various activities involved in the feeding of Asia's growing cities.

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## 5 KEY PAPER 1 - FEEDING ASIAN CITIES: FOOD PRODUCTION AND PROCESSING ISSUES

By Hermann Waibel and Erich Schmidt

### Abstract

*This paper argues for a more active role for cities in shaping agricultural and food policy. The arguments for a stronger involvement of the cities beyond the mere regulation of the food purchase and food consumption process are based on recent changes in producer-consumer relations and the problems arising from recent trends in urbanization in relation to agriculture. The paper deals with four major components. First, the driving forces of the agricultural transition process and urbanization are reviewed from an historical perspective. Second, the problems arising from urban-rural relations in the context of food supply are analysed. Third, the spatial dimension of land-use in urban areas including the different forms of agriculture such as urban, periurban and rural agriculture and their implications for the urban environment are dealt with. Finally, a synthesis is provided to be used as a basis for developing the type of policy interventions often carried out by city administrators.*

### Introduction

The last century has experienced dramatic urban expansion. The cities of the third world have been growing at an unprecedented rate. The number of people living in cities in developing countries has at least quadrupled during the second part of the twentieth century. There has been a trend toward the formation of large metropolises or urban agglomerations.<sup>12</sup> There are now over thirty urban agglomerations in developing countries, and most of those are located in Asia. This development poses a tremendous challenge for the agricultural sector and the food supply industry. While there is a need to transport more food over larger distances, it is also necessary to respond to an increasingly diversified consumer demand in terms of product quality and food safety standards.

This paper analyses the major issues of food production and processing in a world characterized by a constant decrease of public investments in agriculture from an Asian perspective. The empirical evidence provided refers to selected countries in South and Southeast Asia.

The paper is organized around four major themes:

- an analysis of the driving forces of the transition process;

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<sup>12</sup>The World Development Report of 1999/2000 (WDR, 2000) defines cities and urban areas as concentrations of non-agricultural workers and non-agricultural production sectors.

- an illustration of the need to efficiently steer the process of urban-rural relations in the context of food supply;
- an exploration of the spatial dimension of land-use in urban areas, i.e. the description of the evolution of agricultural systems in terms of urban, periurban and rural agriculture and their implications for the urban environment; and
- a synthesis, which may form a basis and rationale for government policy interventions.

### **Driving forces**

Urbanization is a by-product of economic development. The urban population is rising faster than overall population growth even in those Asian countries with abundant land resources (UNDP, 1999: p. 231-234).

As countries develop, urban areas account for an increasing share of the gross national product (GNP). The growth sectors of an economy, particularly manufacturing (including food processing) and services, are generally located in cities where they benefit from agglomeration economies, ample markets for inputs and outputs and readily available labour. These urban agglomerations are also areas where ideas and knowledge are rapidly diffused. According to Shukla (1996) productivity rises with city size, e.g. a typical firm will see its productivity climb between 5 and 10 percent if city size and scale of local industry double.

Although the definition differs, most countries call settlements between 2 500 and 25 000 people “urban areas”. Regardless of the criteria used, the number of people living in large cities is on the rise (World Bank, 1999/2000). Very often, the majority of the urban population lives in the capital city (e.g. Bangkok, Manila, and Jakarta).

The share of agriculture in gross domestic product (GDP) is declining as a result of higher overall growth rates in the manufacturing and service sectors. The income elasticity of demand, as a measure of responsiveness of consumers to changes in their income, is higher for non-agricultural products. It is generally lower and decreasing for food products. Hence a dollar invested in industrial development is expected to yield higher returns than one invested in agriculture. For economic reasons industrialization takes place in urban areas where the agglomeration of production factors such as labour and infrastructure as well as the output of markets generate economies of scale. The accumulation of a growing share of the population in urban agglomerations has generated a political economy where the agricultural sector became taxed by the rest of the economy (Krueger et al., 1992). Overvalued exchange rates and government administered food prices were set below world market levels (Schiff and Valdés, 1995) and have generated disincentives for farmers to produce more, to innovate, to adopt new technology and to invest. The pressure that the urban population can put on governments effectively has resulted in a cheap food policy that invariably has brought about a conflict of interest between “urban” and “rural” (Lipton, 1977). While the importance for coordinated complimentary investments across sectors as a substitute for inefficient subsidies has been addressed in the

context of the so-called big push strategies (Murphy et al., 1989), the specific role of agriculture was not mentioned.

By and large, development policy suffers from an urban bias that has an empirical as well as a theoretical base. Empirically, food production has outpaced population growth resulting in declining food prices. On the theoretical side, the root for a bias toward agriculture is the Arthur Lewis Dual Economy Theory (Lewis, 1958). His model is based on the assumption that the major role of the agricultural sector in a developing economy is to supply surplus labour to a growing industrial sector. This theory relies on the perception that inefficiency and low labour productivity characterize agriculture. Investing in agriculture was regarded as investment in poverty. Modernizing agriculture on the other hand was assumed to require industrialization first. Only through the process of industrialization would the traditional equity-based wage of a feudalistic agricultural society (Schäfer, 1983) be replaced by an economic price for labour, i.e. one based on supply and demand in the labour market of the industrial sector (Ranis and Fei, 1961). While the positive contribution of agriculture in early phases of economic development was recognised, low prices for agricultural products relative to industrial products were believed to be a necessary pre-condition for rapid industrialization (Schäfer, 1983). Food prices in countries where incomes are low are “wage goods”, i.e. as people spend a large share of their income for food, the price of food determines their true earnings.

While the early industrialization strategy worked well in some countries it failed in others. To date, there are large differences among Asian countries. The share of agriculture in GDP has declined in all countries taken into consideration in this paper (World Bank, 2000). However this decline does not correspond very clearly with the overall socio-economic well being of a country as expressed by the Human Development Index (UNDP, 1999).

It is now clear that the dual economy model is too unspecific for designing policy recommendations (Bhadra and Brandao, 1993). A policy of protecting a growing manufacturing and service industry on the one hand (infant industry-argument) while “taxing” agriculture on the other was not always effective in reaching the dual purpose of “raising consumer income and enhancing agricultural productivity”. Government programmes to compensate farmers for low output prices through input subsidies for seeds, fertilizer and pesticides in several instances (e.g. the Philippines, Indonesia) have failed to achieve food security and have resulted in significant negative externalities. For example, Rola and Pingali (1993) established that farmers in Philippine rice production experience health costs at a ratio of 1:1 to their expenditures on insecticides.

The reliance on external chemical inputs and the promotion of monoculture has not only led to natural resource degradation and environmental damage but has also contributed to a negative image of the farming community. Farmers are often blamed for pollution of water bodies, erosion and forest encroachment. They are sometimes “misused” as an easy scapegoat for governmental policy failures. For example, farmers in the mountain areas of Northern Vietnam grow upland rice for household food security under a swidden agriculture system (Pemsl, 2000). These swidden agriculturalists are not only blamed for deforestation but are also being accused as the cause for low rice prices during a period of growing national rice production (Pandey, 2000).

Another lesson learned from the now outdated dual economy paradigm is that food prices are an insufficient indicator of food security. Although food prices are low to date, having decreased by 50 percent in real terms between 1960 and 1990 (McCalla, 1998), there is no decline in absolute poverty measured in income terms. To date, an estimated 1.2 billion people live on less than one US dollar per day and almost three billion have less than two dollars a day (World Bank, 1999). Many of these people are unable to benefit from lower food prices and the increase in agricultural production. Sen (1981) showed that famines happen despite high aggregate food supply. Apparently the market is not able to solve this problem. Hunger in a broader definition, i.e. when including all kinds of social and biological disadvantages associated with inadequate food intake (Drèze and Sen, 1989) requires public action that goes beyond food production. The lessons learned from misguided development interventions during the past provide some hint about how the process of urban-rural relations in the context of food supply and sustainable development can be efficiently steered.

### **Urban-rural relations**

Identification of some of the misguided development interventions in the past provides a better understanding of the components for an agri-environmental framework that meets the requirements of a "growing cities/growing food" scenario in the context of sustainable development. Such a framework is needed as the supply and demand conditions for food have undergone significant changes in Asian countries.

On the supply side, the interaction of rural and urban labour markets and rural and urban food production and processing needs to be addressed. Regarding labour markets and following the Schultz urban-industrial hypothesis (Schultz, 1953), the interaction between rural and urban labour markets is marked by a regional disparity in income. The demand for labour in urban (relative to rural) areas grows faster than the supply. The effect is magnified by the more rapid rural natural increase in population. Disproportionality between supply and demand in the short run raises urban relative to rural wages. As stated by Katzmann (1974: p. 687) "potential migrants from rural areas will weigh their lifetime gain in earnings against its economic and psychic costs. The farther a rural area is from the urban opportunities, the higher the costs of migrating and acquiring information about these opportunities. Consequently at economic equilibrium conditions, rural income will increase with distance from urban centres."

On the other hand, physical distance is no longer a real constraint to information diffusion, and migration may occur on a seasonal or temporal scale only. After planting, farmers move to the cities to work in the construction or tourism industries and return to harvest their crops. The extent of this form of migration became transparent during the Asian financial crisis. A study by the World Bank (Feder, 2000) has shown that small farmers, despite a lower degree of agricultural commercialization, were more seriously affected by the crisis because the share of non-farm income on their total household income is higher than that of larger farms. In conclusion, due to the relationship between urban and rural labour markets, economic development in urban agglomerations is affected by migration costs on the

one hand but, in turn, can also significantly affect rural livelihood. Furthermore, migration decisions are based on perceived costs and benefits with a strong tendency to overestimate the latter. One successful rural migrant visiting his former village will attract numerous others who have only a slight chance of achieving their desired level of economic success in the city.

On the production side, agriculture in general has become more intensive in terms of external input use and more commercialized on the output side. In response to technological changes on the production side and urban consumer demand for increasing amounts of only a few staple foods on the output side, agriculture has become less diversified relative to the time when the main purpose of farms was to produce food for the household itself. Today, in many Asian countries, the once integrated crop-livestock farm is just a memory. Technology input from the private and public sectors has been mainly concentrated on rice, corn and wheat. Technology and price factors (as mentioned in the previous section) have stimulated monoculture. The use of high yielding varieties, fertilizer and chemical pesticides has created well-known negative side effects on the environment, farmers' and consumers' health. Water for irrigation has been practically free of charge for farmers, contributing to its inefficient use. At the same time dwindling water resources have led to increasing competition between rural and urban water users. Consolidation and concentration of agroindustry have accompanied developments in the post-harvest sector over the past decade on the urban fringe. These changes may have increased transaction costs for effectively signalling changes in consumer preferences to producers. Despite obvious interconnections between urban-based factors and product markets and rural food production, there is still a lack of coordination between private and public urban and rural planning and public policy interventions largely due to the sector orientation of governmental policy.

There is also a connection between urban labour markets and agricultural production. As migrants fail to find adequate employment in urban areas, they tend to produce their own food on whatever land they can find. The phenomenon of urban agriculture in many cities of the developing world is a reality although its magnitude in quantitative terms is still undetermined. Some estimates place the number of people who engage in some form of urban agriculture at around 800 million people worldwide (UNDP, 1996).

On the demand side changing consumer preferences induce modifications to the food industry. In Southeast Asia this is especially true for fruits and vegetables (Isvilanonda, 1992; Jansen et al., 1996). The driving forces behind these developments are changes in input and output price, development of physical infrastructure, population growth, increase in per capita income, and better informed consumers (Ali, 1998). In Thailand, for example, the share of vegetables as a percentage of total crop value increased from some 20 percent in 1985 to 35 percent in 1994 (Inoue and Titapiwatanakun, 1997: p. 1). Likewise the share of fruits and vegetables in total consumption expenditures increased from 19.0 to 24.3 percent whereas the share of rice and cereals decreased (*Ibid*: p. 2). This value change is also accompanied by changes in quantity (Ali 1998: p. 2; *Ibid*: p. 2). The growing demand for vegetables has been accompanied by a rapid transformation of the traditional chain marketing system to a more diversified system of retailing through discount stores, supermarkets and convenience stores. These changes have been accompanied

by adjustments in the whole distribution system, e.g. central markets and large-scale trading. This adjustment has stimulated the growth and concentration of the food processing industry. Consumers have become aware of potential health hazards caused by over and misuse of pesticides especially in vegetable production and of the environmental damage caused by indiscriminate use of chemicals. Although some of these perceptions may be the result of wrong or biased information and public hysteria, they nevertheless influence consumer decisions. As a result, city people gradually become interested in agriculture and are a driving force behind the emergence of niche markets especially for “green products”.

In conclusion, rural relations in Asian countries have become more complex. Despite the contraction of the agricultural sector as measured in its share of GDP, food production affects human development in rural as well as in urban areas in a multifaceted way. This rural complexity poses a challenge to both rural and urban planners to effectively coordinate public policy interventions. It becomes clear from exploring only some of the urban-rural relations that agriculture and food is too much of a cross cutting issue to be left to agricultural experts alone whose paradigm until now has been made up of a rather one-sided rural production philosophy.

### **Spatial dimensions of agriculture in urban agglomerations**

When analysing urban-rural relations with regard to agriculture, one sees that functionally there can be no strict separation between rural and urban. The same is true for land-use. Applied to the reality of developing countries, the von Thünen location theory, developed some 150 years ago for urban-rural relations in Northern Germany, suggests a gradient of agricultural systems relative to their distance from urban centres (von Thünen, 1826). In economic terms, von Thünen-like models suggest that land-use patterns and the market price of land are established by relative rental gradients for agricultural and non-agricultural land-use. Under the conditions of a rather unbalanced urban expansion, as experienced in many Asian cities, the conversion of land into different uses does not proceed in concentric circles around the market town as the original theoretical model suggests. Consequently, location driven changes in rural agricultural systems, periurban and even urban agricultural systems<sup>13</sup> emerge among the gradients in the periphery, the wedges and the corridors of urban settlements (UNDP, 1996).

As pointed out by de Zeeuw et al. (2000), agriculture in urban agglomerations comprises various farming systems. These systems range from subsistence production and processing at the household level to fully commercialized agribusinesses comprised of specialized production, processing and distribution units. These agricultural systems exist within heterogeneous resource utilization situations, e.g. under scarce as well as abundant land and/or water resource conditions. Urban agriculture normally has a niche function in terms of time (transitory), space (interstitial) as well as specific social (e.g. women and low income groups) and economic (e.g. financial crisis, food shortage) conditions. It exists under a range of policy environments that can be prohibitive or supportive to its existence and

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<sup>13</sup>Despite numerous attempts to differentiate between periurban and urban agriculture the distinction remains blurred although the density of urban settlements is an important factor.

development. Contrary to the views of many urban planners and development experts, participants at a workshop in Havana, Cuba (Bakker et al., 2000) concluded that urban agriculture has to be seen as a permanent component of the urban system although some forms are based on temporal use of vacant lands only. From the perspective of urban food security, nutrition and health, urban agriculture can potentially make a significant contribution (Ruel et al., 1998). As women often have the responsibility for food procurement for the household there is a strong gender dimension. Furthermore, provisions made for agriculture in urban areas in terms of land, other resources, processing facilities and institutions can be considered as a kind of risk premium that city authorities pay as part of an insurance strategy to avoid food riots and other social disruptions (Waibel, 2000). Considering the social consequences of the financial crisis in Asia (Knowles et al., 1999) the social costs of a proactive city food security strategy are likely to be lower than relying on a future scenario of perfect market conditions and government subsidies. Empirical evidence for urban food production as part of a coping strategy to deal with the consequences of the financial crisis can be found in Indonesia (*Ibid*: p. 49). There is also a need for urban processing facilities because demand for food increasingly means demand for processed food.<sup>14</sup>

As product prices increase and factor prices decrease with proximity to urban markets, the availability of empty land close to urban settlements and urban centres raises the marginal value product of labour and hence attracts migration to such places. However, urbanization can increase the cost of agricultural production near residential and manufacturing areas in a number of ways. First, regulatory measures are often more effectively implemented, enforcing farmers to internalize some of the negative externalities generated, e.g. by the use of chemical inputs. Second, user costs of land may increase through property taxes. Third, farmers' costs can increase due to vandalism and poaching in the sub-urban fringe (Bhadra and Brandao, 1993). Fourth, agricultural production decisions can become distorted due to land speculation. Farmers may delay complementary investments, e.g. in machinery or drainage because they plan to sell their land and move to the city, as observed in Dhaka (UN, 1987). By the same token, farmers have no incentive to apply resource-conserving "good agricultural practices". The net effects of urbanization on agricultural land-use also depend on the type of agricultural commodity produced. For example, vegetable production may benefit from urbanization while livestock production may be adversely affected.

The application of location theory to urban areas has shown that urbanization does not make agriculture disappear. City administrators and planners need to take into account the fact that agricultural production occurs in an urban-rural continuum rather than in isolated, far away rural areas. It is therefore important that effective and efficient policies are designed that exploit complementary forces between urban development and agriculture in the context of economic and social welfare. Within this context decision makers need to be aware that the traditional producer-consumer relationship has been substituted by a more diversified structure that includes collectors, transporters, wholesalers and retailers.

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<sup>14</sup> Processing includes grading, packaging, transportation and storage.

## Summary

An analysis of the effects of urbanization on agriculture has shown that government intervention is needed to regulate agricultural land. While it is beyond doubt that cities will be the net importers of food and other agricultural raw materials, agriculture poses a challenge not only for rural agriculturists but for city people as well. Our analysis has shown that:

- City authorities can no longer afford to leave the communication of the preferences of urban consumers to market mechanisms alone. The example of the Bangkok Metropolitan Administration enforcing pesticide residue checks for vegetables coming in from the vegetable areas at the urban fringe of the metropolis is a response to some kind of institutional failure.
- The growing disconnection between food production and food consumption and better information access has its costs. Consumers are more likely to overreact in cases of reported food scandals and misuse of agricultural technology if they have little knowledge of agricultural production processes. Producer-consumer communication can be more effective if consumers are well informed and can thus provide reliable signals to producers and vice versa. Clearly, city authorities can play a role in improving the information environment by accepting agriculture and food production as part of city life and by introducing institutions to improve the situation.
- Agriculture is not and cannot be restricted to non-urban areas. Post harvest and agroindustry developments in general are favoured by urbanization despite claims that it does alleviate rural poverty as in the case of the starch industry in Vietnam (Golletti and Samman, 1999). Agricultural crops, like certain types of vegetables, are most profitably grown at the urban fringe. The development of technologies that take into account natural resources, environment and human health is a priority research area. Local government policy can stimulate the development and adoption of sustainable technologies by creating a favourable policy framework that discourages the use of potentially harmful technologies such as excessive use of chemical pesticides. Likewise, governments can support agroindustry by avoiding unnecessary bureaucratic procedures and taking into account location theory aspects in land-use planning.
- Urban migration will continue to take place despite increased efforts for rural development. Therefore, rural development is not a substitute for the engagement of city authorities in agriculture and food issues. Rather the complementary relationship between urban and rural policies needs to be more effectively elaborated and exploited.

Clearly, from a city perspective government intervention is most needed in the land market. Here, economic incentives such as tax rebates or tax relief can provide an incentive to maintain land for agricultural purposes. Regulatory interventions such as agricultural zoning and the public purchase or private transfer of land development rights are other possibilities to reduce the probability of food insecurity for the urban poor. For example, the revision of actual urban zoning by-laws and the integration of urban agriculture in zoning plans indicating in which zones urban agriculture is

allowed can be implemented. Also, zones where certain types of farming will be prohibited due to special conditions can be specified. Existing farming units especially in periurban areas can be included in city development plans as “green belts or green corridors” in order to avoid uncontrolled city growth and the destruction of valuable soil. Buffer zones can be created and inner city areas can be reserved. These areas can then be given to community groups on a medium term lease for agricultural purposes (specific leaseholds). Such periurban and inner city green belts could be given a community title to ensure that such open spaces remain in the public domain.

Finally, city authorities can reduce the negative effects of land speculation by improving the information environment (e.g. by improving the dissemination of public information on government projects).

In conclusion, the issues around food production and processing demand that the city’s role can no longer be limited to just regulating the food purchase and consumption process. Instead, city authorities must become actively involved in the operation of the entire food chain i.e. by introducing institutions that help to reduce transaction costs. City governments, however, should not get involved in direct interventions on prices and quantities favouring either producers or consumers. If the conflict between rural and urban interests is going to be resolved for the benefit of farmers, processors and consumers, “urban” and “rural” have a lot to talk about.

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## **6 KEY PAPER 2 - FEEDING ASIAN CITIES: URBAN FOOD DISTRIBUTION ISSUES**

**By Edward Seidler**

The world is increasingly becoming urbanized. Within the next five years the number of people living in urban areas will surpass that of people living in rural areas. It is projected that over the next twenty years 93 percent of urban population growth will occur in the cities in the developing world. Asian cities are currently growing at an average rate of 3 percent per year, compared to an overall population growth in Asia of 1.4 percent. However, these averages hide the fact that many cities are actually growing at over ten percent each year and that a large section of the 'new' population, often resulting from rural migration to the cities, is living in absolute poverty and battling daily to meet basic food needs.

As urban growth intensifies, increasing quantities of food are being transported to cities from further afield. Unless timely improvements are made in food distribution infrastructure i.e. market and transport infrastructure and facilities, existing facilities will rapidly become over-stretched and inadequate to handle the increased produce flows. Congestion in and around markets leads to increased produce losses and high transport and marketing costs as well as higher food prices, which the bulk of the city population can ill afford.

The level of urban food security of a particular city is materially affected by the efficiency of the system supplying and distributing food within the urban area. The efficiency of the food supply and distribution system, in turn, depends on the efficiency of operation of those participants making up the system. The system as a whole is influenced by the availability of supporting facilities and infrastructure necessary for them to operate efficiently. Access to food, or the level of urban food security can be viewed from two perspectives. The first is physical access or the physical availability of the food needed by urban consumers. The second is economic access or the ability of the population to purchase the food they need to lead healthy lives. Economic access is in turn determined by the level of personal income and the price of food to be purchased. This paper, while raising issues related to physical access, will particularly examine issues related to economic access as they relate to the functioning and efficiency of the urban food distribution system and its effect on food prices.

For food to reach the urban consumer it must pass through many hands and often through a number of channels. Numerous participants are involved in a variety of marketing, negotiation and organizational systems. Each of these participants has its own need for infrastructure, services and legislative and regulatory support. The traditional sector comprises buyers of different types operating at different levels such as those buying at the farm gate, at local assembly and at retail markets or wholesale markets and selling to small shops, market retailers and street sellers or selling directly to consumers. The modern sector consists of large, often vertically integrated, distributors and agroindustry supply networks as well as national or international trading companies.

Those agents involved in buying, transporting, storing, marketing and distributing food to and within the cities are private businesses and individuals. The involvement of the public sector in food distribution is generally on the decline in most areas of the world following structural adjustment and market liberalization but food agencies handling and selling staple food grains do remain significant in a number of Asian countries. The activities of national food agencies often have a large impact on the development of private food marketing systems. This is particularly the case for staple cereals such as rice and wheat as the private sector is unable or unwilling to compete with state subsidised prices for grains, which are procured and distributed through prescribed channels. The involvement of the public sector (central government, municipalities and local authorities) in many countries now tends to focus on:

- the planning, provision, management and maintenance of marketing infrastructure (roads, slaughterhouses, docks, assembly market facilities, public wholesale markets);
- the setting of market rules and regulations;
- regulating the location and conduct of commercial activities; and
- the implementation of food quality and health standards.

The capacity of municipal and local authorities to adequately plan and implement food marketing infrastructure and support services to cope with the rapidly rising food needs of their populations will materially affect the food security status of their populations.

What are the main components of the food distribution system in urban areas? First, food comes into cities utilizing a variety of transport modes: headloads, bicycles, hand and animal drawn carts, small vehicles, large trucks, trains, and river and seagoing vessels. All these modes need to be accommodated in terms of facilities and access. Second, the food is usually consigned to one or a number of wholesale markets either specialised markets for fruit and vegetables or grains or mixed wholesale markets or to specialised processing facilities such as mills, bakeries and slaughterhouses. Third, from the wholesale markets or processing plants, the food is consigned to a variety of retail outlets such as retail food markets, local food shops, modern supermarkets, informal and formal street sellers and fast food outlets, street food sellers and restaurants and various eating places. The functioning of these food distribution channels is governed to a great degree by the action or inaction of municipal authorities. The action (or inaction) of these authorities is often determined by the knowledge that these authorities have of the role and functioning of FSD channels, their importance and their requirements to function effectively and efficiently. Only then can the present and projected food needs of the urban population as a whole be met.

In most Asian cities the situation regarding the present performance and functioning of the various components of the food distribution system leaves much to be desired. Following this presentation there will be a number of workshops dealing with specific topics related to urban food distribution namely, wholesale markets, retail outlets, municipal policies for the informal food sector, fish marketing, food safety and

nutrition issues related to street foods and waste utilization from markets and slaughterhouses. I will therefore not dwell on specific issues that will come up in the workshops but will confine myself to making some overall assessments.

Much of the food entering most Asian cities passes through wholesale markets of one type or another. Many wholesale markets are congested as new markets or the expansion of existing markets has lagged behind the growth in urban populations and the consequent increased product flows. Because of the time it often takes to plan and build new markets, these markets are often congested and inadequate to meet the needs of the market users within the first few months of opening e.g. Kalimati market in Kathmandu. Space and facilities available to handle the products are insufficient, wastage and spoilage levels are consequently high and conditions for produce handling are unsanitary. The increasing vehicle traffic cannot be adequately accommodated in terms of access, arrival and departure and parking with the result that severe congestion and delays occur, transport costs are high and produce wastage is increased. All this leads to higher transaction and marketing costs and ultimately higher food costs that are passed on to the consumer. The management of wholesale markets is another area of concern, causing or compounding the problems just highlighted. In many countries, wholesale market managers are inadequately trained in the efficient operation and management of their markets. Market supervisory boards and municipalities are often pre-occupied with short-term revenue generation objectives and deprive the market and its management of sufficient funds to maintain market facilities, let alone to improve or expand them. The involvement of market users is often absent in market management decisions contributing to the prevailing poor and often conflict-ridden management of markets.

It is interesting to note here the specific situation regarding wholesale market development and operation in a number of countries in the region. Hanoi has a population of some 5 million and of the five food wholesale markets in the city only Long Bien market was planned. The four others developed spontaneously. The latter markets operate along streets in the early morning with minimal market management. They are all now located in or close to the inner city, which makes it very difficult for food trucks to reach markets as traffic jams are the norm and parking space is insufficient. Market and storage facilities are inadequate and poorly maintained, although traders pay a market fee. As a result, food damage and losses are high (it is estimated that 15 to 20 percent of fruit and vegetable products are lost during transport and handling), quality of food is reduced, especially for fresh foods, and consumer prices are higher than they need be.

The city of Colombo in Sri Lanka does not have dedicated wholesale markets for foodstuffs with the existing three markets for grains, fruits and vegetables and fish conducting both wholesale and retail trading. Although originally established as wholesale markets the incorporation of retail activities due to inadequate planning of retail markets has meant that the markets are now severely congested and the whole area around and inside the markets is severely affected by traffic congestion during the morning hours. Buyers frequently spend over two hours in the market to purchase their requirements. Maintenance of heavily used facilities is difficult and the inadequate drainage has resulted in flooding and damage to road surfaces and market structures.

Following the liberalization of horticulture marketing in China in the 1980s and the “commercialization” of the former fruit and vegetable procurement, storage and marketing companies, a large-scale expansion of wholesale market facilities occurred. These companies had large open premises and storage facilities but, after reform, handled a much reduced throughput so many turned their yards and open storage spaces into ad hoc wholesale markets open to private sector traders. In addition many city authorities (e.g. commercial and industrial bureaux) embarked on the construction of a number of wholesale markets to cater to the increased number of private sector operators and farmers who were now directly involved in produce marketing. These new markets handled fruits or vegetables, fish and also processed products, each in specialised areas and were mostly constructed on the outskirts of the cities. As cities rapidly expanded and new ring roads were built, notably around Beijing, the formerly suburban wholesale markets found themselves within the enlarged city and subject to increasing traffic congestion and problems of access for both farmers and buyers. The problems subsequently led to the gradual decline in the number of large wholesale markets as their locations, which were their former advantage, were now being deemed inappropriate. This example raises the importance of adequately planning wholesale market development within a dynamic urban planning context, taking account of the projected growth of the city, its road infrastructure and the anticipated use of land surrounding markets. A minimum of ten years is the context in which potential market locations should be evaluated.

In most countries of the region the provision of wholesale market facilities for agricultural products is seen as the sole responsibility of city or local governments. Thailand would seem to be an exception to this with large private wholesale markets successfully operating in both Bangkok and Chiang Mai. Serious consideration must now be given to creating conditions that can promote private investments in market facilities. These investments are needed due to the increasing need for market facilities in the face of the growing quantities of products being consigned from rural areas (through assembly markets) to the cities (urban wholesale markets) combined with increasing financial constraints faced by local and municipal authorities. Local authorities need to consider making land available and granting planning permission for private sector market development with possibilities of joint ownership being considered to provide the initial impetus to private sector investment in market facilities.

In the more developed countries of the region such as Korea and Malaysia supermarket chains are rapidly developing to meet the needs of more affluent consumers. In these two countries there is a gradual shift away from procurement through wholesale markets to contract supplies from producers or producer groups to central distribution centres operated by these chains. A contributing factor to this trend in other countries is the congestion and related higher costs and difficulties of procuring supplies through the existing wholesale markets.

The retail sector in most Asian cities is very diverse, adapting to the needs of the clientèle to be served. The poor generally purchase their requirements exclusively at local shops, street markets, local fairs and from hawkers or local street sellers. The availability of local retail street markets, local shops and street vendors in the ‘newer’ city areas (be they new suburbs or shanty towns) is often limited due to local restrictions on commercial activities or the failure to provide for these services during

the initial planning of the new areas. How many high-density housing areas do not have any local shops or a local market because the planners did not consider that these needed to be planned for and land was therefore not set aside? In these cases the poor have to travel to the older centres to secure their basic food needs and incur higher costs in doing so.

Many retail markets in urban areas are congested, unhygienic and inadequate to cater satisfactorily to the numbers of vendors selling in them. Many have arisen spontaneously along roadsides or on small vacant pieces of land. Facilities are simple and mostly inadequate with no drainage or waste disposal, no parking spaces for delivery vehicles and no running water or hygiene facilities. Many markets have no managers and are not maintained, although local councils will often collect fees or levies. In some cases, municipalities will construct retail markets such as in Colombo, but they are often poorly designed and badly located. In order to save land, markets have sometimes been built as two and three storey buildings making access to selling areas difficult for both vendors and sellers and leading to 'dead' areas in many markets. In consequence, pavement traders and weekly fairs are crowded while local markets built by the municipality remain under utilized or even partially abandoned. This situation is in evidence in a number of markets in Colombo and its surrounding areas.

Middle and higher income consumers in many Asian cities such as Bangkok, Beijing and Mumbai increasingly shop at conveniently located modern supermarkets and can easily access their supplies. Because of bulk buying and promotions, prices are often lower than in the traditional shops and markets. These people have transportation, can afford to buy the set quantities required, such as ten kg of rice or a kilo of tomatoes, and are looking for a wider range of commodities and higher quality products.

With the expansion of cities more and more consumers, especially lower income ones, have to commute large distances to work from their homes. The need to commute has given rise to a strong demand for both raw and prepared street food that can form a significant part of urban food consumption, sometimes representing over 30 percent of household food expenditure. The availability and cost of street food can have a significant impact on nutritional status both in terms of those who consume it and on the incomes accruing to those, mostly women, who sell it. Facilities, such as the running water, electricity and garbage disposal necessary for the safe vending of street foods, are often non-existent or inadequate. The lack of safe water supplies for food washing and preparation and for washing hands and dishes is often a source of food borne infections and illnesses. In some cities the importance of street foods as a low cost source of nutritious food and as a source of employment is receiving increased recognition and specific areas or facilities are being provided for street food sellers, such as in Thailand.

Most of what has been said above relates to problems confronting the existing food distribution system, which, in many cases, is unable to cope with the rapidly increasing urban population. If little or nothing is done to improve the functioning of the urban food distribution system the result, in the not too distant future, will be that urban families will face higher food costs arising from increased marketing costs as a result of greater congestion and higher food losses. More alarmingly, one will see increased malnutrition and higher degrees of urban poverty together with the related social and criminal consequences associated with food crises.

The situation elaborated above raises serious concerns over the existing and future urban food situation confronting cities in Asia. Now one must ask, “What can city and local authorities do to meet the challenges confronting their cities and populations in terms of improving urban food distribution and thereby the urban food security of their cities?”

Municipal and city authorities are required to:

- recognise that they indeed have a role to play in improving urban food security, identify and understand the existing constraints facing urban food distribution in their cities and what they can do to alleviate these. This recognition will necessitate that they have a good understanding of the functioning of the various food supply and distribution systems providing food to their cities as well as an appreciation of the role, functions and performance of the participants in the food distribution system and the constraints they are facing;
- create mechanisms whereby they can interact and dialogue with the private sector over problems, plans and policies e.g. associations of traders, shopkeepers, market users, processors, street food sellers;
- recognise the importance of ensuring that transport and marketing infrastructure are adequate both to meet the existing and future needs of their expanding populations and create conditions whereby the public and/or the private sector as appropriate or feasible, provide them. Increasing urbanization means more infrastructure, facilities and services are required and that these will be spread over a larger area;
- improve the operation of existing market facilities and plan for the establishment of additional and better functioning wholesale and retail markets in appropriate locations and improve the management of these and the services provided;
- consult with the present users of market facilities on the design and operation of new facilities, their operating procedures and the expected fee levels. If removal to a new market is envisaged, existing traders should agree to the changes and to the space allocation process in the new market;
- appreciate the value of and plan for the expanded provision of low cost food distribution facilities catering especially to low income consumers i.e. retail markets, local farmer retail markets, temporary or itinerant markets, pavement sales points;
- review regulations affecting food wholesale and retailing activities with the aim of reducing marketing costs and improving hygiene conditions in retail outlets;
- develop information, sensitization and training programmes for traders, shopkeepers and street food sellers;
- create the conditions necessary (i.e. legal, financial, tax, joint venture) for the greater involvement of the private sector in investment in food marketing and distribution facilities, recognising that municipalities are unable themselves to finance all the required infrastructure and facilities;

- recognise and incorporate in city urban development plans the need for adequately sized and located food distribution facilities (different categories of markets serving different functions) and adequate supporting services (water, power, communications, roads, etc.) to cater to the future food needs of the urban population.

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## **7 KEY PAPER 3 - URBAN FOOD SUPPLY AND DISTRIBUTION: POLICIES AND PROGRAMMES**

**By Dr Sami Sunna**

This key paper addresses the issue of urban food supply and distribution (FSD) policies and programmes. It is structured in two parts:

Part 1: The need for urban FSD policies and programmes explains why such policies and programmes are required and how they should be formulated.<sup>15</sup>

Part 2: The challenges involved in FSD policy formulation including an examination of the experience of the city of Greater Amman, Jordan.

### **Part 1 – The need for urban FSD policies and programmes**

Recent studies show that urban growth in most developing countries is being accompanied by growth in the absolute numbers of people living close to or below poverty lines, with some cities (e.g. Hanoi, Dhaka, Chittagong and Davao) facing poverty rates of 50 percent or more. Food insecurity is thus increasingly becoming an urban problem. More and more urban households are facing difficulties in accessing adequate food supplies for their nutritional requirements.

Urban expansion in developing countries has four major consequences for urban food security:

1. Demands for land for housing, industry and infrastructure compete with agricultural production within and around cities. Suitable productive lands are thus likely to be lost. More food will have to be produced in areas presently under cultivation (if higher yields are possible), grown on new lands (which are likely to be at a greater distance and less productive) and /or imported.
2. Increasing quantities of food must be brought to cities and distributed within the urban area. This puts additional pressure on existing food distribution systems, which, in many developing countries, are characterized by high food losses and waste, market imperfections, unnecessarily high marketing margins, inadequate services and poor performance.
3. More transport facilities will be needed for bringing produce from production to wholesale areas and then on to retail markets. This movement will result in increasing traffic congestion and pollution. Higher transportation costs, a main component of food prices, will contribute to increasing food prices for the urban poor.

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<sup>15</sup> Part 1 was prepared freely using the text of the following publication: Argenti, O., *Food for the cities. Food supply and distribution policies to reduce urban food insecurity. A briefing guide for mayors, city executives and urban planners in developing countries and countries in transition, Food into Cities Collection*, DT/43-00E, FAO, Rome.

4. The demand for processed and convenience foods will increase, raising further food quality and safety issues in terms of the utilization of inputs (particularly water) and hygienic conditions and practices all along the food chain.

As a result, the overall cost of supplying, distributing and accessing food is likely to increase. Urban consumers will pay higher prices for their food. This increase will be accompanied by an increase in the number of food insecure urban households, especially poor households in areas not served with adequate food distribution facilities.

To deal with the growing FSD problems accompanying the growth of cities, the establishment of a well functioning food supply and distribution system (FSDS) is essential. An FSDS needs to: 1) respond efficiently and equitably to expected changes in the amounts and sources of food required; 2) meet changing consumer preferences; 3) make food of good quality accessible to all city inhabitants at accessible prices; and, 4) eliminate food-related health problems. These four areas should be priorities for city and local authorities (CLAs).

There is, however, a general feeling of dissatisfaction with FSDSs to many cities in developing countries. Such systems are usually described as inefficient and disorderly. Major reforms in the food sector have been introduced in many countries as part of overall economic reform, yet there is little evidence of major improvements in basic infrastructure, services, laws and regulations and management of FSD activities.

There is a general consensus that CLAs can play a proactive and leading role in developing efficient FSDSs. This role is facilitated by the fact that the development, operation and management of food markets and the regulation of food production and trade at the urban level are already key functions of local authorities. They are in closer contact with the local community than are central government institutions and can therefore develop collaborative partnerships with the private sector. The mayors, city executives and representatives of city and local governments at the 34th World Congress of the International Union of Local Authorities have confirmed this collaborative role. Their declaration is reported below:

#### **Barcelona Declaration**

“... reaching food security through efficient and low-cost food supply and distribution systems... can contribute to improved health conditions, quality of life and the environment (in cities)”.

*Declaration by the mayors, city executives and representatives of city and local governments at the 34th World Congress of the International Union of Local Authorities, Barcelona, Spain, 20–24 March 1999*

An integrated and comprehensive urban FSD policy at the city level is required due to the fact that:

- Food supply and distribution aspects are not usually taken into account in the preparation of the socio-economic development plans for most countries at the national, regional or urban level.
- National food security policies may not adequately respond to local needs and conditions.
- The responsibility for food distribution is shared by a multiplicity of public and private institutions without mechanisms for coordination and cooperation. This situation has led not only to conflict and unnecessary duplication of efforts but also to the complete neglect of the effective development of FSDSs.

### **1 – What is an urban FSD policy?**

While the development of rural areas is mainly the responsibility of the central government (usually the Ministry of Agriculture), many aspects of FSDS fall under the responsibility of the CLAs. To improve access to food in a sustainable manner necessitates an understanding of urban food needs and FSD constraints and a concerted approach to solutions as well as the sharing of institutional responsibilities. The formulation and implementation of an FSD policy will help in achieving the above objectives.

An urban FSD policy is “a set of goals, objectives, strategies and programmes, set within a specified time frame and formulated in close collaboration with all concerned stakeholders. It guides CLAs in the use of resources under their control and through private sector investment, to improve access by urban households to stable supplies of good quality food, through efficient, hygienic, healthy and environmentally-sound FSDSs”.

#### **Policy goals, objectives and strategies**

The goals of FSD policies are usually threefold:

Economic: *To promote efficient FSD systems so as to achieve stable supplies of lower food prices to low income urban consumers and food production incentives through equitable and efficient marketing opportunities for farmers.*

Social: *To minimize food insecurity in poor urban households to achieve improved equity and increased consumption from lower food prices; reduced social disruption, because supplies and prices are more stable; increased employment and income opportunities in the food sector.*

Public Health and Environmental: *To eliminate food-related health problems and minimize the negative impact of FSD activities on the environment , through:*

- better hygiene conditions in the food chain;

- better located food market and processing infrastructure to reduce traffic congestion, air pollution and vehicle noise by cutting the number and distance of FSD journeys;
- better market and slaughterhouse waste disposal and use to reduce hygienic risk;
- adequate facilities (e.g. toilets, water access, drainage systems in markets to reduce the incidence of food contamination);
- better consideration during planning of the ecological conditions of the city;
- and finally, environmentally friendly and sustainable food production systems.

Overall, policy goals should be clear, credible and reflect the vision of both citizens and policy makers.

### **Policy objectives**

Policy objectives represent what a city needs to achieve in order to attain policy goals. Objectives should be attainable, feasible, credible, technically sound, consistent with central government priorities and socially as well as politically acceptable.

The relation between policy goals and objectives is explained in Figure 7.1.

### **Figure 7.1: Relation between policy goals and objectives: an example**

[Insert new Figure 7\_1.ai here]

### **Strategies**

FSD strategies indicate the ways in which policy objectives and goals can be achieved. Such strategies must be seen in the context of policies, strategies and customs governing different aspects of economic and social life (e.g. structural adjustment, economic liberalization and decentralization and religious and ethnic rules) which affect the FSD environment.

### **Complementarity between policies**

A well functioning FSDS facilitates access to food but does not, in itself, ensure that those without the means to buy food can obtain it. Access to food for the urban poor requires public action to generate incomes through employment creation or to distribute food (e.g. food subsidies and food stamps). Nutrition, hygiene and health education are also important for the most vulnerable consumers. Therefore FSD policy supports and should be supported by other policies, programmes and initiatives, as shown in Figure 7.2.

### **Figure 7.2: Some of the policies, programmes and initiatives required to improve urban food security**

[Insert Adobe Illustrator version of Figure 1 from Argenti, 2000 here]

Source: Argenti, 2000: p. 15.

### **Conflicts between policies**

Conflicts may arise between general macro-economic policies and specific FSD policies. It will thus be necessary to assess the impact of national policies on the development of FSDSs in various areas. For example, do inflation-control measures and public sector budgetary requirements hinder private investments in FSD? Similarly, are measures to dismantle state-run food distribution chains likely to create private oligopolies? Are there discriminatory practices affecting credit access for small food producers and traders? Are budget allocations to CLAs in line with increasing responsibilities, particularly for transport and market infrastructure development? Finally, are prospective reductions in government budgets likely to limit retraining of staff required by changes in policy orientation and decentralization programmes?

## **Basic principles for formulation of FSD policies**

In formulating FSD policies, the following four basic principles should be adhered to:

**Right approach:** Adoption of a consultative, participatory, open-minded, alliance seeking and technically sound approach. The private sector should be involved in planning decisions.

**Competition:** Promote competition and reduce the influence of large intermediaries.

**Go private:** Facilities and services, which can be run as businesses, are best left to the private sector.

**No trends:** Resist trends toward “modernization” or “preserving tradition” and encourage developments which lower the cost of living and stimulate employment growth in the city.

## **Elements of FSD policies**

An FSD policy has to cover the following issues and areas of concern:

### **Food supply to cities**

Food supply to cities issues cover:

- projections for urban food and water needs;
- development of efficient and sustainable production, fishing, processing and storage in rural, periurban and urban areas;
- infrastructure, facilities and services for food assembly, handling, packaging and transport to cities;
- efficiency, transparency and dynamism of production and marketing systems; effectiveness of services (information, extension, etc.) to producers, processors and traders;
- food import logistics and procedures;
- promotion of private sector organizations and private investment;
- planning, development and management of slaughterhouses;
- legislation and regulations.

### **Urban food distribution**

Urban food distribution issues cover:

- planning, development and management of wholesale and retail markets and food shops;
- planning and organization of specific low-cost food distribution arrangements;
- street food and informal activities;
- modern distribution;
- intra-urban transport; services to urban market users;
- promotion of market trader, shopkeeper and consumer associations and organizations;
- promotion of private investment in urban markets and shops;
- efficiency, transparency and dynamism of urban food distribution systems;
- legislation and regulations.

### **Health and the environment**

Health issues cover:

- general nutrition concerns;
- food safety problems and contamination due to incorrect use of fertilisers, pesticides and wastewater;
- lack of hygiene in FSD activities;
- management of pollutants;
- legislation and regulations.

Environmental issues include:

- management of waste from markets and slaughterhouses;
- air, water and soil pollution caused by FSD activities;
- forest depletion because of fuelwood use;
- legislation and regulations.

## **FSD programmes**

Once solutions, policies and strategies have been agreed upon among all stakeholders, regional, metropolitan, urban and local programmes for supplying and distributing food within a city must be designed.

Programmes for supplying and distributing food to a city are sets of coherent and logically structured interventions and expected results achieved within a time framework and with well-identified implementation responsibilities. Their specific objectives are linked to the achievement of FSD policy goals and objectives in the urban area as well as the periurban and rural areas upon which the city depends for its food supply (through which the food consumed in the city moves).

FSD programmes are prepared at regional, metropolitan, urban and local levels. Examples of some programme interventions at the four levels are shown in Figure 7.3:

### **Figure 7.3: FSD programmes at regional, metropolitan, urban and local levels**

[Insert new Figure 7\_3.ai here]

Programmes must be designed to facilitate action in the:

- *Immediate term* (less than six months);
- *short term* (from six months to three years);
- *medium term* (from three to six years);
- *long term* (over six years).

Each programme should address food supply, urban food distribution and health and environmental issues in the form of subprogrammes, each containing specific action plans addressing well-defined aspects of FSD. Action plans should comprise clearly identified expected results and related interventions as shown in Figure 7.4:

### **Figure 7.4: An urban programme arranged by subprogrammes and action plans**

[Insert new Figure 7\_4.ai here]

Although interventions in distinct areas are usually undertaken by different institutions, an approach based on an agreed upon vision of the city will facilitate the assignment of institutional responsibilities.

## **Part 2 – Challenges involved in FSD policy formulation: The experience of the city of Greater Amman, Jordan**

Jordan is a small country of five million people with an average per capita income of approximately US\$1 500 per year. The country witnessed rapid and unplanned urbanization caused by a number of political events in the region. First, the influx of Palestinian refugees in 1948, followed by displaced persons from the West Bank of Jordan in 1967, over 360 000 returnees from the gulf countries in 1991 and 1992 as a result of the gulf war and of the continued emigration of rural poor into the cities. The population of the city of Amman has increased from about 800 000 people in 1980 to around 1.7 million in the year 2000. Its area increased from 50 km<sup>2</sup> in 1950 to around 640 km<sup>2</sup> in the year 2000.

The rapid urbanization process has become a major concern for government institutions and local authorities due to its impact on already overtaxed social and economic services. Particularly affected are food distribution systems, which have a direct impact on the welfare and health of the population.

Cognisant of such impacts and of the need to take appropriate concerted action in this respect, the government of Jordan decided to undertake a study of the FSDS for basic food supplies to the city of Greater Amman. This led to the preparation of an FSD policy and associated programmes to address present and envisaged constraints. The government obtained technical assistance from the FAO.

### **Steps undertaken in the preparation of the FSDS study and the formulation of FSD policy and programmes for the city of Greater Amman.**

The Agricultural Marketing Organization (AMO) was the lead national agency. An Inter-institutional Project Support Committee, composed of public and private institutions concerned with FSD, was established. This committee was responsible for ensuring effective collaboration between the concerned national institutions and facilitating all required information and data.

A team of national experts was set up that included: a marketing planning economist, an urban planner, a micro-enterprise development specialist, a food system economist, a food trade legislation and regulation specialist and an urban market development specialist.

A number of workshops on selected topics were organized to involve and raise the awareness of policy makers and of the senior and middle management staff of concerned local authorities and institutions on FSDS constraints. These were:

*Food markets planning and management workshop.*

*Micro and small enterprise development within the context of FSD to the city of Greater Amman.*

*Legislation and regulations governing FSD to the city of Greater Amman.*

*FSD policy and programmes.*

Various technical documents on urban FSD issues were adapted to an Arabic-speaking audience. A case study of FSD to the city of Greater Amman was prepared, reviewed and discussed with public and private institutions. Following this, proposals for an FSD policy over the next ten years and a programme for short and medium term interventions were prepared and discussed with national authorities.

### **Difficulties encountered in formulating FSD policies, strategies and programmes**

The first difficulty encountered in Amman with respect to formulating FSD policies, strategies and programmes concerns *the importance of local authorities*. The AMO is a central government institution mainly responsible for the marketing of fresh fruit and vegetables. It does not have an overall view of Amman's present or future food needs or of FSD structures and problems (other than those related to fruit and vegetable marketing). The contribution of various AMO departments to the analysis of the present FSD constraints was limited. It would have been more appropriate to select the municipality as the executing agency because of its direct involvement in FSD matters.

The second sets of difficulties were related to the *inadequate concern by local authorities for FSD issues*. In spite of the interest of the municipality of Amman in ensuring accessibility of all its inhabitants, especially the poor, to good quality food at acceptable prices, and in improving the FSDS, it considers food security a national issue and therefore a central government responsibility. Very low priority is assigned to urban food security. The study team could not get any information on programmes the municipality intends to carry out to reduce the number of food insecure urban households.

The *inadequate understanding of FSDS issues by concerned authorities* further complicated the municipality's involvement in the Amman project. The interventions of the municipality of Amman in the FSDS (constructing, operating and managing market places) are mainly considered as a source of income to the municipality. Many functions of the city authorities have either direct or indirect impacts on FSDS. Most city executives, however, are not aware of the impact of an efficient FSD system on the healthy development of the city and of the potential economic, social and environmental benefits accruing from a well functioning FSDS.

The experience of Amman underscores *the importance of the direct support and involvement of policy makers*. The involvement of executives, at policy and decision making levels, in the activities of the project was very limited. Most of those involved were technical and middle management staff with little say in policy formulation and implementation.

The Amman project suffered from the problem of *insufficient data*. There was a lack of detailed information needed for the analysis of FSDS, the identification of constraints and the formulation of an effective FSD policy. While detailed information (e.g. trends in migratory flows, urban poverty, food consumption and food consumption patterns, investment in FSD activities, etc.) is available at the national level, it is often unavailable at the local level.

Finally, the Amman experience emphasises the *need for an effective interdisciplinary approach and technical leadership* in the formulation of FSD policies, strategies and programmes. It was difficult to integrate the individual disciplines of the five specialists entrusted with the preparation of the case study to ensure the required interdisciplinary approach. This was due to the following:

1. Members of the team were not recruited at the same time due to difficulties in identifying qualified experts.
2. Insufficient time was available for discussions among team members.
3. The members of the team had separate approaches to FSD problem identification and analysis.
4. The difficulties faced in the formulation of an FSD policy for the city of Amman may be very different from those that may be faced in other cities; yet our experience suggest the following:

The municipalities of concerned cities, rather than any other central government agency, should take the leading role in formulating FSD policy, programmes and action plans. The establishment of an FSD policy unit at the municipality with a special mandate for formulating and monitoring FSD policy and development programmes, in collaboration with other concerned public and private institutions, may be necessary.

The full understanding, support and active participation of CLAs, at the highest possible level, in all activities related to the formulation of FSD policy and development programmes must be ensured.

All relevant public institutions must commit themselves to providing all necessary support to the formulation of FSD policy through effective participation in the activities of the project (workshops, study groups, data gathering and analysis, review of recommendations of team of experts, etc.).

The contribution of concerned private sector stakeholders (associations of food producers, traders, processors, street vendors, transporters, consumers, etc.) in the formulation of FSD policy must be ensured. In Amman, most FSD constraints, and related solutions, were identified by private stakeholders during sensitization workshops.

An interdisciplinary team of specialists is required. The team should be composed of a town planner, a food systems economist, a marketing specialist, a socio-economist, a specialist in small and micro enterprise development in food distribution and a legal advisor. Other disciplines or specialized expertise may also be required depending on local conditions. The team should be briefed on the adequate interdisciplinary approach to be followed.

A special effort should be made toward early identification of the required data and information and their sources. Commitment should also be made by relevant institutions to make that data readily available.

### **Suggested issues for consideration by workshops**

Drawing on our experience in Amman, the following are a number of important issues for consideration:

1. What role should CLAs play in formulating and implementing urban FSD policies and programmes?
2. What technical resources and skills are needed?
3. What interventions are required to introduce FSD issues in urban planning and management?
4. What are the main health and environmental consequences of unplanned or unregulated FSD activities? What should be done and by whom?
5. What role should CLAs play in supporting private sector activities and investment in FSD?
6. What policies and strategies need to be adopted for the development of small and microenterprises in the food processing and distribution sector?

### **The author**

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## **8 KEY PAPER 4 - COOPERATION AND PARTNERSHIPS BETWEEN CITIES FOR URBAN FOOD SECURITY**

**By Bernadia Irawati Tjandradewi and Dato' Lakhbir Singh Chahl**

### **The challenges of food security in Asia**

It is estimated that by the year 2030, nearly five billion people (61 percent) of the world's 8.1 billion people will be living in cities. Also, 16 of the world's 25 largest urban areas will be in Asia. This growth has left a large proportion of the world's urban population in poverty with threats to their food security. In the developing world, 790 million people do not have enough food to eat, according to the 1995 to 1997 estimates, and this number is growing.

Threats to food security result when people cannot afford an adequate food intake because of high food prices or prices that are not compatible with their purchasing power. Many low-income households often have to incur additional expenses in obtaining food, mainly because they tend to live away from established urban markets, where food prices tend to be lower. As clearly discussed in the previous technical sections of this seminar, food prices tend to be higher than necessary because of numerous constraints and inefficiencies affecting FSD systems to cities. Specific problems outlined include:

- lack of suitable land, safe water and adequate inputs necessary to periurban agriculture (which represents a significant production source of food in certain cities);
- inadequate transport infrastructure and costly transport services;
- insufficient and badly managed markets and lack of hygienic conditions (or the presence of pollutants at major points in the food chain, resulting in food contamination and health problems).

As cities grow, the demand for land for housing, industry and infrastructure compete with the demand for land for agricultural production. Thus food supplies are likely to originate from greater distances.

*By improving their food production and distribution systems, city and local authorities can greatly improve the health of their citizens, generate additional employment and income opportunities and in the end, contribute to alleviating poverty not only among urban consumers, but also among food producers.*

Many Asian city managers do not sufficiently realize how much the daily activities of their institutions can influence the food security of their constituencies. Local governments in the Asia Pacific region rarely take FSD aspects into account in their planning. Those who do often lack the necessary understanding and skills for effectively developing efficient FSD activities, almost all of which are carried out by the private sector. City and local authorities are increasingly recognised as important local development actors and need to be regarded as direct partners in food security

and development activities. It is necessary to address ways to increase their skills and understanding.

### **The growing importance of cities and urban areas**

The world we are living in is changing rapidly. People work and live differently. As technology progresses quickly, improved communication and transportation, and the removal of economic and physical borders, have provided boundless opportunities for development.

With national borders becoming less important and there is increasing cross border cooperation, *globalization* is reshaping the regions where urban areas are located. Globalization, praised as a giant wave that can either capsize nations or carry them forward, has apparently offered many opportunities to developing nations, regions and localities (World Bank, 1999). In turn, governments that are responsible for creating and promoting national wealth have responded differently to the globalization trend. Experience shows that where development trends were well understood and managed, there has been a greater level of achievement of societal goals.

Many countries are facing the demand for self-determination and are experiencing the decentralization processes. As a consequence, national governments are transferring a number of their economic and administrative powers to local governments. Power transfer to local authorities has offered both immense opportunities and challenges. With the emergence of mobile capital investments, world-wide economic opportunities and international institutions, city governments have found it increasingly difficult to integrate these opportunities into their urban development processes. At the same time, these global economic forces have transcended national boundaries and frameworks.

The fact is that cities are becoming important components of the global network. For achieving a sustainable level of growth, cities should have a specific strategy for development. In this regard, the World Bank agenda for city development strategies advocates that cities be liveable, competitive, well governed and managed and bankable (World Bank, 2000).

With this background, city leaders have the complex task of finding innovative ways of generating a good quality of life in their cities by profiting from the opportunities that are offered. Kearns and Paddison (2000) identify four distinct changes related to city development:

1. Cities are trying hard to 'sell' themselves for investments not only from developmental budgets, but also from private and international sources.
2. As a part of inter-city competition, cities are attempting to develop their local, distinctive cultures to attract business investment.
3. Cities have viewed national governments as less able to help them and less relevant to their fortunes.
4. Cities have oriented themselves toward the international arena through cross border cooperation and trans-frontier networking.

With this set of changes, new relationships among agencies, institutions and organizations are being created. These relationships are important factors in forging links among cities of different countries and have helped to generate inter-city exchange in different fields. International and UN organizations have contributed significantly to achieving cooperation among local bodies, highlighting networking and information and technology transfer as effective tools to cope with changing situations.

In addition to such efforts, local governments themselves have gathered together and worked more closely by creating their own networks. Some of them include CityNet, International Union of Local Authorities (IULA), International Council for Local Environmental Initiatives (ICLEI), Metropolis, United Towns Organization (UTO) and so on. These efforts in networking among cities and their local stakeholders have resulted in a high degree of cooperation and transfer of knowledge and information on a wide variety of good urban practices.

These networking initiatives have to be looked at from the perspective of a technological evolution, which has radically changed the way that people work and communicate. More than ever before, information can be accessed as well as shared quickly and cheaply. Virtual libraries, laboratories, and organizations have provided inexpensive and easy access to dissemination of knowledge. Virtual networking is increasingly recognised as a tool in peer-to-peer learning and in the upgrading of knowledge and information. The importance of technology and networking is being increasingly recognised by cities for sharing ideas, documenting good practices, communicating with local stakeholders, encouraging better local participation and governance and influencing a change in behaviour, especially toward sustainability and sound local environmental practice.

### **Importance of North-South and South-South<sup>16</sup> cooperation**

North-South and South-South cooperation among local governments has to be looked at from the perspective of decentralization and local autonomy. The twin processes of decentralization and local autonomy have brought local governments to the fore, placing high expectations on them in terms of leadership and creativity in solving local problems of development. Cities in Asia and the Pacific region are facing increasing pressure in their efforts to internationalize. This pressure is most manifest in the need to attract foreign investment, entice the human resources and skilled persons to absorb the investment and create the quality of life and living environment desired by residents. Some cities are circumventing national and regional governments to go global on their own, much like a multinational company, by identifying and fostering financial and human resources.

In order for cities to be competitive and attractive, they will have to foster and partner with a range of stakeholders working at different levels of governance (local, regional, national and international) in order to raise the resources and meet the challenges of globalization (*and* simultaneously of decentralization).

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<sup>16</sup> The terms “North” and “South” are used to indicate the group of countries being industrialized and developing, respectively.

The key problem faced by cities is a lack of capacity within the local governments to handle the pressures and needs of decentralization and local autonomy. This weak internal capacity forces cities to look outside themselves to fill the gaps in capacity and resources for effective urban development and management. Partnering with other local and global stakeholders in managing the city has become a necessity for cities in this age of globalization. Cities have sought to privatize their urban infrastructure functions, to seek private sector participation in developing and managing urban services and to seek opinions and suggestions from the broader civil society (including NGOs and citizens groups) for better urban governance. Concepts of participation and partnership have moved beyond being just buzzwords to become a key component that underlies all urban policies and programmes.

But challenges remain due to the sheer diversity of problems being faced by urban local governments and the magnitude of these problems. Local governments (who form the bulk of CityNet's membership) have begun to strengthen processes and programmes that use more local resources to solve local problems. Partnering with stakeholders within the city, and also with others outside the city and country, has become a critical element that has seen currency in urban management programmes.

South-South and North-South cooperation needs to be seen through the perspective of cities facing a myriad of problems and challenges, and of the need for support, partnership and participation from a number of stakeholders who can assist local governments in better managing cities. Thus, terms such as partnership, cooperation and knowledge sharing have come to be part of the vocabularies of local governments.

Research carried out by UNDP has found that some of the improvements to poor communities in the South have come about through their links with the North (UNDP, 2000). It is also noted that municipalities in the South have gained through cooperation with their partners, by sharing knowledge and experience to address needs in management and administration. The areas include financial management, tax collection, environmental management and urban planning. Many links have also proved effective in addressing local concerns for greater civil awareness and good governance.

Some examples of successful North-South cooperation initiated among CityNet member cities are:

- (a) Lille, France and Hue, Vietnam on heritage conservation;
- (b) Lyon, France and Ho Chi Minh City, Vietnam on town planning and management;
- (c) Yokohama, Japan, and;
- (d) Bangkok, Thailand on flood control measures.

North-South cooperation not only benefits Southern partners. Northern partners are also able to learn from Southern partners. For example, as a result of Toronto's links with São Paulo, Brazil, Toronto developed a programme to provide quality food at affordable prices to low income communities (Gilbert *et. al.*, 1996). The Toronto

programme ensured that community organizations were strengthened and social interaction increased through potluck suppers. In the long run, the health of the families served improved.

South-South cooperation holds particular promise for various reasons: cooperation works well when the socio-economic conditions of partners are similar; there is great potential for transferability and adaptability of ideas and knowledge between partners and the focus is on long-term planning and implementation.

A typical example of this process is CityNet's Technical Cooperation among cities in Developing Countries (TCDC) programme. The TCDC programme is a vital force for initiating, designing, organizing and promoting cooperation among developing countries so that they can create, acquire, adapt, transfer and pool knowledge and experience for their mutual benefit and for achieving the national and collective self-reliance essential for their social and economic development.

CityNet, whose secretariat is located in Yokohama, has facilitated more than 30 transfers of best and/or good practices among local governments and other organizations, mostly in the Asia-Pacific region. A transfer implies identification and awareness of the solutions, matching the demand with supply of experience and expertise and taking a series of steps to help bring about the desired change (CityNet *et. al.*, 1998). To help various stakeholders, CityNet, UNDP and UNCHS have developed guidelines in the form of a practical manual for fostering South-South cooperation by transferring effective practices.

Examples of successful South-South cooperation include the transfer of best practices from Olongapo (Philippines) on integrated solid waste management to Tansen (Nepal) and Guntur (India). Through the network of municipalities, cities benefit not only through a one-to-one approach, but also through a one-to-many approach.

Another example of success is FAO's programme for the use of experts for technical cooperation among developing countries and countries in transition, the TCDC/TCCT Experts Programme.<sup>17</sup> FAO has been strenuously promoting technical cooperation among developing countries for a number of years, but this initiative provides an innovative mechanism by which to promote cooperation and ensure that technical cooperation targets those most in need in an efficient and cost-effective manner.

The FAO's TCDC/TCCT Experts Programme enables developing countries and countries in transition from Central and Eastern Europe to assist each other through the provision of experts in a spirit of shared responsibilities and shared costs. The beneficiary party provides local board and lodging, the releasing party continues to pay salary and other home-based entitlements, while FAO provides international travel, approved internal travel, medical insurance and a subsidy of US\$ 50 per day towards living expenses.

A total of 125 countries have signed agreements on the programme and by the end of June 1999, some 1 500 TCDC/TCCT experts had participated in wide-ranging FAO priority programmes and projects to benefit member nations. Experts from the private

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<sup>17</sup> For further details: [www.fao.org/GENINFO/partner/en/TCDC-e.htm](http://www.fao.org/GENINFO/partner/en/TCDC-e.htm).

sector and non-governmental organizations have also undertaken a number of assignments.

An analysis of the above examples of North-South and South-South cooperation activities brings up a number of key ingredients for success. All partners involved have to have a clear *understanding of cooperation* and the duties and responsibilities that it will entail. *Clear expectations* will have to be identified, communicated, nurtured and met by the parties involved. Having a good understanding of cooperation principles and apprehending the possible results, there is a clear need for *commitment* between the partnering governments or entities. *Community-wide participation* of all stakeholders is also critical for the success of the enterprise. This goes hand in hand with *reciprocity* that recognises and respects the individual strengths and experiences/expertise of the partners. The cooperating partners will have to recognise that *third parties* (especially NGOs, community based groups, etc.) need to be assigned a *role* in filling the gaps within their own set-ups. The role of external organizations such as CityNet is also considered an important aspect to help in fostering cooperation on a bilateral and multilateral basis by matching demand (for expertise, for human resources, for experiences sharing, etc.) with supply. The role for third parties and reciprocity ensure *complimentarity of resources*, another critical element of good cooperation efforts. Finally, as mentioned earlier, it is the *similarity of socio-economic and cultural issues* that will help in ensuring success.

While the ingredients mentioned above are applicable to all types of cooperation efforts between cities, and among cities and other entities, there are critical differences in the importance placed on them with respect to North-South and South-South cooperation activities. This is reflected in Table 8.1.

**Table 8.1: Key points for successful North-South and South-South cooperation**

Key points	North-South cooperation	South-South cooperation
Understanding for cooperation	✓✓	✓✓
Clear expectation	✓	✓✓
Commitment	✓✓	✓✓
Reciprocity	✓	✓✓
Community-wide participation	✓✓	✓
Role of third parties	✓	✓✓
Complementarity of resources	-	✓✓
Similar level of development, geographical, cultural, economical and technological condition	-	✓✓

Note:<sup>18</sup>

- ✓✓ Indicates higher importance
- ✓ Indicates lower importance

<sup>18</sup> The information is taken from CityNet's experience and UNDP's findings.

There are also, of course, several cases of unsuccessful efforts in North-South and South-South cooperation, particularly where the key issues listed in Table 8.1 were not adequately incorporated in the programme or plan. For instance, lack of understanding of the importance of partnerships in which Northern partners tend to dictate what the South should do and do not pay sufficient attention to their Southern partner's ideas or suggestions on how to solve local problems. Other reasons include the high expectation and dependency of Southern partners on their Northern counterparts.

## **Operationalizing North-South and South-South cooperation**

### ***1. Possible areas of cooperation***

There are many ways in which North-South and South-South cooperation can prove useful to both urban dwellers, who are consumers of agricultural products, and the rural populations, who are the main food producers and the consumers of urban services. The ultimate goals of such initiatives would be to establish a real symbiosis between cities and their rural hinterland. Possible decentralized cooperation initiatives can be broadly divided in several categories, which are given below as examples:

#### *Strengthening linkages between urban and rural areas:*

This could be brought about through improving the delivery of agricultural products to urban markets through the building of cold storage facilities and the provision of relevant vehicles to farmers *via* integrated policies including a credit component (provision of soft loans to farmers) and the establishment of cooperatives.

#### *Improving the quality and increasing the supply of agricultural products:*

- raising the quality of agricultural products and also encouraging agricultural diversification in rural areas in order to match the demand for food in cities both in qualitative and quantitative terms;
- improving the delivery of inputs, credit, information and expertise, partly through training packages, to rural dwellers;
- optimizing the use of organic waste produced by urban activities in a sustainable and environmentally friendly way.

#### *Enforcing appropriate land tenure and land adjustment policies:*

- controlling the conversion of agricultural land into urban land in order to keep the supply of food commensurate with the urban and national demand for food;
- enforcing land adjustment policies when the process of fragmentation of agricultural fields makes them too small to be operated – this is especially true in periurban areas.

#### *Increasing trade links between urban and rural areas:*

Access can be achieved through the extension of feeder and main roads linking rural areas and urban markets as well as through improving rural markets, which very often serve as outlets to larger urban markets. Additional initiatives geared to strengthening related capacity building in rural areas are also needed: e.g. encouraging the building of cooperatives, providing training and soft loans, etc. Special schemes focusing on women, who are often very active in trade in an Asian context, are strongly desirable: e.g. the creation of women's corners in Bangladesh union towns' markets.

*Ensuring that the mix of rural and urban land-uses inside metropolitan areas remain sustainable:*

With the geographical expansion of metropolises, rural and urban land-uses are becoming increasingly mixed. This is true in less developed countries of Asia, but it is also true in places like Japan where forms of urban agriculture continue to be practiced. In some cases, the pollution of water used for irrigation purposes creates environmental problems and jeopardises the continuation of agricultural activities within cities and in their peripheries. Animal husbandry is also a cause for concern in some Asian urban areas.

## **2. Bringing partners together**

North-South and South-South cooperation could usefully take place in the fields provided above as examples. Some initiatives have been already conducted.

For example, the experience gained by some Japanese cities in land-use planning techniques addressing situations in which agricultural and urban land-uses are highly mixed could be usefully shared with other Asian cities of the South. This experience sharing would be especially useful with regard to conflict resolution in farming communities at the edge of large cities and to the supply of water for agricultural activities within metropolitan areas or at the periphery of urban centres.

With regard to land-use policies, cities in the South could also learn a lot from efficient policies and support technologies developed in the North, using geographical information systems (GIS) for instance. Some European cities, in association with local agricultural research institutions or professional schools, have already shown their interest in working in close collaboration with Southeast Asian towns in the area of urban management to address problems raised, and opportunities offered, by urban agriculture<sup>19</sup>.

Also, many small service towns in the North catering to the urban hinterland have developed an expertise in the delivery, storage and marketing of agricultural goods, which could be usefully shared with cities and towns in the South.

## **Conclusions and reflections**

North-South and South-South cooperation efforts have been used to fill the gaps of financial, technical and human resources that are occurring within cities. Sharing

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<sup>19</sup> Examples can be found in the Asia Urbs program of the European Commission.

experiences and expertise among southern cities has had particular benefits for the partnering cities that go beyond mere aid or financial investment.

However, effective implementation of such cooperative efforts has not been easy. The partnering entities have faced a number of difficulties, limitations and constraints. Key among these are adequate and timely information, a thorough knowledge of the needs and priorities of the partnering entities, the process of finding and accessing required/relevant experiences, and expertise and funds to facilitate cooperative efforts.

These difficulties and barriers are not insurmountable. Cities have to recognise that there is a clear need for them to articulate their successes and their disappointments and to offer each other expertise in the cooperative effort. They will have to understand the expectations and limitations of the partnering entity and attempt to find a middle ground in overcoming difficulties. Communication and understanding are indeed at the core of a successful partnership.

Central governments, on the other hand, also have an important role to play in terms of creating an enabling environment where cities can seek, identify and foster partners for cooperation. Of particular importance are the priorities that central governments place on the cooperative efforts of city governments and the funding, legislative and administrative support that they can provide.

The role of international organizations and networks is critical in generating an inventory of resources, expertise and knowledge on cooperative processes. The organizations can not only document and disseminate information, they can also assist in providing the necessary expertise in fostering the cooperative effort itself. Highlighting the key ingredients of success of existing cooperative activities helps in avoiding pitfalls and ensures that the aims and objectives of any cooperative activity are met.

A better understanding of the need for North-South and South-South cooperation has to be generated. Such cooperative activities will have to move beyond just piece-meal projects or initiatives. They will have to be mainstreamed into urban development and management practices. Efforts will have to be made in making these cooperative activities an integral part of urban policies and programmes.

In conclusion, opportunities offered by North-South and South-South decentralized cooperation for feeding Asian cities are numerous and challenging. The crux is to identify channels to bring potential partners together on the basis of mutual interests.

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## 9 SEMINAR CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

Seminar participants acknowledged that rapid urban growth in most Asian cities is being accompanied by an increase in both the number and the proportion of poor households living close to or below the poverty line. Participants recognised that food insecurity is increasingly becoming an urban problem and that specific policies and programmes should be undertaken to improve the food security and nutritional well-being of urban populations, and particularly the poor. The establishment of an efficient food supply and distribution system (FSDS) that provides an adequate supply of good quality and safe foods, is affordable and accessible to all urban consumers and reduces or eliminates food-related health and environmental problems was considered key to improving food security in Asian cities. An adequate FSDS requires sound policies and strategies and development programmes spanning urban, periurban and rural sectors. These policies and programmes should be formulated in close collaboration with all concerned public and private stakeholders.

**An adequate supply of good quality, safe foods** must be made available and affordable to all urban consumers, including the poor and disadvantaged. The food supply to urban populations must be adequate in quantity, quality and variety to meet nutritional needs.

**Work toward building awareness** of the importance of FSD issues was considered essential among all levels of government and stakeholders. Information, sensitization and training play a significant role in furthering the ability to feed Asian cities.

**Specific, relevant information** on all aspects of providing an adequate food supply to urban populations is seriously lacking. Such information is fundamental for sound policy and planning development and for effective programme design and implementation. In addition, there is insufficient dissemination and exchange of existing information and knowledge among key players in the food supply system and the broad public. Wide access to complete and consistent information will greatly enhance and facilitate efforts to improve urban food security.

Information is particularly lacking in the following areas:

- food security and nutritional status of the urban poor;
- contribution of urban and periurban areas in meeting urban food needs;
- social, economic and environmental implications of current trends in agriculture, livestock production and aquaculture;
- differentiated water management systems, integrated land and water management methods and tools for urban areas;
- fish wholesaling in selected cities and fish marketing in general;
- street food; and

- scientifically sound and understandable information for the public on food quality and safety as well as health and nutritional.

**Effective coordination** for timely action and effective planning is significantly hampered by the involvement of many departments and various levels of government in many issues related to production, transport, processing, storage and distribution.

**Environment and food safety issues** throughout the food production to consumption chain require adequate attention so as to ensure an appropriate level of consumer health and environmental protection. Emphasis should be placed on preventative food safety management and the provision of training on issues relevant to food safety. Appropriate food quality and safety standards, codes of practice and other guidelines should be established to assist industry to achieve food safety goals. The required technical and administrative food control infrastructure should be developed to enable authorities to ensure compliance with regulations by industry.

**Waste management and related environmental impacts are key issues** for food production, processing and distribution. Negative effects of the rapid expansion of cities can include contamination of soil and water leading to food safety problems. It can also lead to deterioration of the surroundings of processing facilities and market places as well as degradation of living circumstances from noise and air pollution. Any attempt to improve the efficiency of the food supply should be made simultaneously with plans for waste management.

**Improvement of infrastructure** is needed for transportation, water supply, storage, processing and marketing facilities to enhance the efficiency of FSD activities and to address ongoing environmental degradation.

## Recommendations

### 1. Stakeholder participation and coordination

- Transparency must be emphasised in the process of elaborating policies and programmes related to various aspects of the FSDS;
- mechanisms should be established to facilitate interactive communication among all stakeholders; and
- efforts should be strengthened to ensure effective collaboration and coordination among concerned departments and various levels of government to assure more timely and coordinated action and more effective planning. Where appropriate, focal points may be established to deal with complex issues.

### 2. Information and awareness

Given the lack of sufficient information on all aspects of ensuring a safe and adequate food supply to urban populations, it was recommended that:

- all existing, relevant data be compiled, analysed and made widely available;
- where critical gaps have been identified, the necessary information be collected in a timely manner and made available;

- every effort be made to encourage and enhance information dissemination and exchange within and among cities at national and regional levels;
- a Knowledge Centre/Unit for Urban Food Supply and Distribution be established, preferably within the municipality, to provide relevant information for planning and research;
- an information campaign be developed for the broad public, including consumers, food producers and decision makers.

### **3. Food security and nutritional well-being among the urban poor**

Given that the urban poor are particularly vulnerable to food insecurity and malnutrition, it was recommended that:

- basic services such as safe housing, clean drinking water, drainage and sewage systems, health facilities as well as income-earning opportunities, all of which affect nutritional well-being, be provided and improved in the poor and slum areas;
- programmes to improve food security and nutrition specifically targeted to the poor and nutritionally vulnerable be implemented, monitored and evaluated;
- food and nutrition education activities be developed and implemented for all segments of the urban population, including activities specifically targeted to the poor and vulnerable;
- social safety nets be provided for the most vulnerable among the urban poor.

### **4. Information, sensitization, training and capacity building**

The seminar recognised the needs of senior policy makers for information and sensitization and the needs of technical and managerial staff of city and local authorities (CLAs) for training and capacity building, particularly in the following areas:

*Information and sensitization:*

- define the role of CLAs in urban food security;
- formulation of urban FSD policies, strategies and development programmes;
- making decisions for public investments in FSD infrastructure and facilities;
- public health and environmental implications of FSD activities;
- promotion of private sector investment in FSD activities;
- municipal policies for the informal food sector.

*Training and capacity building:*

- the analysis of FSDS constraints and sustainable solutions;

- formulation of urban FSD policies, strategies and development programmes;
- urban planning and management for efficient FSD activities;
- planning and management of wholesale and retail food markets;
- design of development programmes for micro, small and medium enterprises (MSMEs) especially with reference to methodologies, spatial planning, hygiene, business skills and organizational development;
- design, implementation and management of information and sensitization programmes for food market traders, transporters, processors, consumers and producers;
- design, implementation and management of urban and periurban food production development programmes (including livestock rearing and aquaculture);
- use and re-use of waste from food markets and slaughterhouses;
- legislation and regulations for FSD activities.

CLAs and central government authorities should collaborate in ensuring capacity building in the following areas:

- the administration of food control activities, food inspection and food analysis in order to better enforce food safety policies;
- post harvest technologies and good food-hygiene practices;
- urban-based extension services.

## **5. Physical infrastructure**

Road improvement should be conducted for enhancing production, processing and distribution of food commodities;

- physical facility improvement should be carried out for the provision of clean water for irrigation and municipal uses, based on responsive land-use plans;
- facilities for processing and marketing, such as wholesale and retail markets, should be enhanced;
- basic services such as water, sanitation, sewage systems, safe housing and health facilities must be provided to all urban areas, including the poor and slum neighbourhoods.

## **6. Waste management and environmental protection**

CLAs are usually responsible for the proper management of liquid and solid waste from food market and slaughterhouses. Such waste can be used for agricultural production and livestock feeding provided adequate care is taken in avoiding health and environmental negative implications. Central governments are responsible for

ensuring that appropriate regulations are adopted and adequate capacity developed to ensure their enforcement. Awareness of the issue is necessary for all the sectors.

## **7. Legal issues**

CLAs and central governments should legally recognise the informal sector as a first step to addressing existing problems and opportunities presented by the sector;

- national food legislation should be reviewed and revised as appropriate to ensure that adequate provisions exist to assure the safety of street-vended foods;
- institutional and legal frameworks for land and water resource management should be reformed towards decentralization as appropriate;
- food quality and safety standards, guidelines and codes of practice should be established for the handling of foods throughout the production-consumption chain;
- regulatory measures pertaining to the production of food from plant and animal sources in urban and periurban areas should be adopted;
- legislation should be enacted and incentives provided to encourage the adoption of environmentally friendly practices and policies in food production, distribution and processing.

## **8. Enhancing private investment**

- CLAs should adopt an enabling approach to promoting private investments in FSD infrastructure;
- CLAs should critically review and modify existing legislation and regulations with a view to stimulating private investment;
- CLAs should make basic information on city plans and projections for the medium and long terms to facilitate private investment in the FSD sector (infrastructure, services, businesses, etc.), making sure that investment opportunities are correctly identified and justified;
- information on investment modalities should be made available to the public;
- special approaches (group collateral, etc.) should be considered for financing small and medium enterprises in the food sector.

## **9. North-South and South-South partnerships**

CLAs in different countries have expertise and experience in many aspects of FSDS that can prove valuable to other cities. These should be shared through effective partnerships based on a proper understanding of local conditions, attitudes and requirements in a spirit of exchange rather than dependence. Various programmes by international and regional organizations such as CityNet, FAO and the European Commission exist to promote technical assistance partnerships and projects.

## 10 PRIORITY AREAS FOR NORTH-SOUTH, SOUTH-SOUTH COOPERATION

Seminar participants emphasised that technical cooperation among city and local authorities (CLAs), both North-South and South-South cooperation, needs to be developed to better understand urban food security challenges and to address specific food supply and distribution (FSD) constraints. Cooperation can take various forms. Disseminating good practices in addressing FSD constraints (e.g. market management and ownership, market waste management, informal food sector support and food microenterprise development) should be the goal for information, sensitization and training activities.

To have effective cooperation and agreement, all actors involved should:

- be fully committed;
- develop a clear and achievable mission and goals;
- identify the type of partnership to be agreed upon;
- develop an estimated timeline for deliverables;
- secure required resources; and
- set clear expectations and provide necessary staffing and training.

To ensure transferability of knowledge, technology and lessons learnt, matching the needs and experience between cities is essential. Matching mechanisms should be developed and supported by international organizations (e.g.: FAO, UNCHS, UNDP), national governments as well as world and regional associations (e.g.: the World Union of Wholesale Markets, CityNet, IULA). International organizations and associations should also ensure that technical cooperation between CLAs is technically sound, meaningful and useful for all parties concerned and correctly addresses constraints in a sustainable manner. Successful cooperation requires that special care is taken to use experts who are technically competent, have adequate language abilities and training skills and are knowledgeable of local conditions.

Participants highlighted that funding is a major requirement for successful North-South and South-South technical cooperation. Therefore, interested parties must be prepared to make the necessary investment and cost sharing should be considered when planning the exchanges.

Examples of possible concrete North-South and South-South cooperation among CLAs are detailed in Table 10.1.

**Table 10.1: Examples of possible concrete North-South and South-South cooperation between city and local authorities**

<b>Areas for</b>	<b>Resource</b>	<b>Beneficiary</b>
Capacity building	Cities/Institutions	Cities/Institutions
<b><i>Food Distribution and Marketing</i></b>		
Wholesale market development and design	Jakarta (Wholesale Market)	Colombo
Retail markets and outlets into urban planning	Lyon	Jakarta, Ho Chi Minh City, Vientiane, Phnom Penh,
Informal food sector management and street vendors	Bangkok, Calcutta	Colombo
Post-harvest services (marketing)	Muntinlupa	
Food packaging	Japanese cities (to be explored)	Muntinlupa
<b><i>Nutrition</i></b>		
Nutrition for children	Makati (Healthy Cities Programme) (to be explored)	Kathmandu
<b><i>Food Production and Processing</i></b>		
Food/agricultural production	To be explored	Ulaanbaatar
<b><i>Food Financing</i></b>		
Food financing including micro-credit	To be explored	Ulaanbaatar
<b><i>Water Management</i></b>		
Water resource management and water pollution	Nancy (to be explored)	Ho Chi Minh City
<b><i>Waste Management</i></b>		
Solid waste management from markets and slaughterhouses	To be explored	Muntinlupa

Note: Organizations such as FAO, regional networks such as CityNet and regional programmes such as Asia Urbs may facilitate and/or coordinate North-South and South-South technical cooperation among CLAs, through their specific modalities and to identify other potential partners for those cities needing capacity building support.

### **Objectives of North-South and South-South technical cooperation**

The following are specific objectives of North-South and South-South technical cooperation:

- Greater awareness among the policy makers, city executives and senior planners of CLAs about food security challenges as well as present and future constraints affecting various elements of the food supply and distribution systems (FSDSs) of their cities – through information dissemination and sensitization activities;
- strengthened capacity of technical staff of CLAs in the design and implementation of technically sound urban FSD policies and programmes in developing countries through training;

- improved urban planning and management skills and tools for FSD through training targeted at urban planners;
- sustainable solutions for specific constraints affecting local FSDSs through information dissemination, sensitization and training programmes targeting policy makers, city executives, senior planners and technical staff of CLAs.

CLAs can collaborate with international organizations such as FAO and regional networks, such as CityNet, to develop information dissemination, sensitization and training instruments (videos, CD-ROMs, technical documentation, training material, etc.). Stakeholders can organize regional and national seminars and workshops in the various aspects of FSDSs. Topics may include:

- analysis of constraints affecting FSDSs in the context of urban expansion and increasing urban poverty;
- formulation of urban FSD policies and programmes;
- integration of FSD into urban planning and management;
- decision making in public infrastructure investment;
- enhancement of private investment in FSD;
- training producers, traders and shopkeepers;
- consumer information campaigns;
- formulation of technical cooperation projects.

### **Main activities and instruments for technical cooperation**

North-South and South-South cooperation can be undertaken through a variety of activities and instruments that can be grouped as follows:

#### **A. Information dissemination and sensitization**

**Instruments:** Technical documentation in local languages adapted to a target readership, videos, multimedia CD-ROMs, dissemination of good practices in addressing FSD constraints, dissemination of data from global and regional databases, specific regional/sub-regional/national workshops and study tours.

#### **B. Training**

**Instruments:** training material in local languages, trainers (from universities), videos, multimedia CD-ROMs, specific regional/sub-regional/national training seminars, grants for attending training courses, dissemination of good practices in addressing FSD constraints, fellowships and study tours, etc.

#### **C. Direct technical assistance**

**Instruments:** equipment and technical experts and instructors (from CLAs, NGOs, equipment supplying companies, etc.).

### **Specific areas for technical cooperation**

Seminar participants recommended the following priority areas and objectives:<sup>20</sup>

#### **Urban and periurban food production**

- awareness and understanding by CLAs of the importance of, and risks associated with, urban and periurban food production through information dissemination and sensitization activities;
- awareness and understanding by CLAs of best practices adopted by cities worldwide in making urban and periurban food production more profitable and sustainable. Best practices need to be identified, compiled and disseminated;
- awareness and understanding by CLAs of safe production technology, nutrition and health for urban and periurban food production, through information and sensitization activities;
- strengthened capacity of public institutions and private sector organizations involved in food production in the design of programmes for the development of urban and periurban food production, promoting the safe use of inputs, transfer of production and processing technologies, marketing and microfinance, etc. through information, sensitization and training;
- exchange of technologies for added value food production in urban and periurban areas, especially vegetables and animal products, as well as post-harvest technologies, through direct technical assistance.

#### **Rural-urban linkages**

- awareness and understanding by CLAs of best practices adopted by cities worldwide in developing rural-urban linkages (packaging, transport, market information, etc.). Best practices need to be identified, compiled and disseminated;
- strengthened capacity of public institutions and private sector agents to develop rural-urban linkages: assembly markets, food packaging and transport, market information services, etc. – through information, sensitization and training.

#### **Extension services**

There are many cases of effective and efficient urban extension services in developing countries (e.g. Cuba) working to provide food to extremely poor inner-city neighbourhoods. Exchanges of technical assistance should be arranged for the development of the urban-based extension services.

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<sup>20</sup> Further specific needs and priorities for Asian CLAs and central governments agencies need to be identified through a questionnaire.

## **Water management issues in food production**

- strengthened capacity for public institutions and the private sector to use dedicated information systems, such as Geographic Information Systems (GIS), and methodologies developed for land and water management – through information, sensitization and training;
- awareness and understanding by CLAs of safe production technology, nutrition and health for urban and periurban food production through information and sensitization activities.

## **Livestock production**

- planning of new abattoirs, cold storage, dairy processing plants, meat retail outlets, etc. – through direct technical assistance and training of urban planners. Such facilities need to be maintained and adequately managed. Managers and operators of abattoirs and meat and dairy processing plants must be trained. The training must comprise improvements in technology and product hygiene. Instructors from equipment-supplying companies and study tours involving local managers travelling abroad will be required;
- upgrading sanitary control procedures and related equipment through information dissemination, sensitization and training of managers, operators and shopkeepers.

## **Aquaculture and fish marketing**

Policy makers and planners need criteria and instruments to develop safe aquaculture activities in urban and periurban areas as well as safe fish processing and marketing activities in cities. This requires information, sensitization and training as well as equipment and direct technical assistance. Northern CLAs can collaborate with international organizations (such as FAO) and regional networks (such as CityNet) to organize specific regional, sub-regional and national technical and sensitization workshops for the development of aquaculture products and fish processing, marketing and distribution.

## **Wholesale market development**

Public investments in wholesale markets must be adequately justified. Wholesale markets need to be properly located, designed, developed, maintained and managed. Old markets sites need to be decongested. Case studies and evaluations of successes and failures in other cities should be disseminated and discussion workshops held to help decision makers. Planners need to be trained to properly integrate wholesale markets into urban plans. Wholesale markets require professional managers who need to be trained and to visit markets in other cities. Market waste needs to be adequately managed so as not to generate health hazards.

## **Retail outlet development**

- Exchange information and experiences among CLAs on retail marketing related issues, including street vending and food safety aspects;

- train planners to properly integrate retail markets into urban plans, particularly in newly urbanized areas. Retail markets require professional managers who need to be trained and encouraged to visit markets in other cities. Market waste must be adequately managed so as not to generate health hazards;
- strengthen capacity of CLA staff in designing and implementing information and training campaigns involving shopkeepers, retail market traders, street vendors, etc. through training.

### **Street foods: food safety and nutritional aspects**

- Strengthen and update technical knowledge and expertise on analytical laboratory techniques and procedures to support regulatory activities in the street food sector;
- update regulatory frameworks and their implementation by local authorities through sensitization activities and direct technical assistance;
- South-South partnerships are important in allowing municipal authorities in different countries to share experiences on results achieved with different approaches to street food regulation and control. A regional database on the street food sector should be developed in collaboration with local universities.

### **Micro, small and medium enterprises in food processing and distribution**

Asian CLAs need to design and implement effective policy programmes for the development of micro, small and medium enterprises in food processing and distribution. The effective design of these programmes requires information, sensitization and training activities as well as direct technical assistance. Training in areas such as participatory methodologies, spatial planning, hygiene, business skills and organizational development as well as microfinance for micro and small-scale food entrepreneurs.

### **The environmental impact of FSD activities**

There is a need to strengthen CLAs' understanding of the negative impacts on the environment of FSD activities through information dissemination and sensitization. Criteria for environmental monitoring and impact assessment adapted to local conditions are required. Important areas are: effective and sustainable management of liquid and solid waste, including hazardous substances, from markets and slaughterhouses; use of chemical inputs in food production and use of water.

There is a need to provide expertise to support the development of a regional database on environmental conditions and protective mechanisms in diverse regions.

## 11 WORKSHOP SUMMARIES

This section summarizes the results of deliberations in 17 workshops that took place at the regional seminar. The first section groups together the general conclusions and recommendations that tend to be repeated in most of the full reports. The second section provides specific conclusions and recommendations as suggested by each individual workshop.

### 11.1 General workshop findings

Most of the workshop participants agreed on the importance of the following:

1. The lack of **awareness** of FSDSs was frequently cited as a problem, and it was recommended that CLAs need to be sensitized as to the importance and workings of the urban food system.
2. As a result of this lack of awareness, poor quality or missing **information** concerning urban FSDSs is a recurring problem that needs to be redressed through appropriate data collection and dissemination.
3. Food supply and distribution depends on solid transportation, storage and communication **infrastructure**, which is frequently lacking or of sub-standard quality in Asian cities. Hence, a number of the workshops suggested public and private investment in infrastructure development and improvement.
4. Both CLAs and central governments often overlook the **participation** of all stakeholders when it comes to planning and managing FSDSs. As a result, many workshops identified the need for a proactive, participatory mechanism as an important aspect of improving urban FSD.

These general issues will not be repeated in the next section.

### 11.2 Specific workshop findings

This section summarizes the results of each workshop into one paragraph with the intention of producing an integrated narrative. The first six workshops concentrated on urban food production and processing activities. The subsequent five workshops focused on food distribution concerns whereas the remainder dealt largely with FSD policies and programmes. Certainly, there is overlap between production, processing, distribution and policy areas of urban FSD but this grouping enabled discussions to emphasise certain aspects of the FSDS.

#### 11.2.1 Response to urbanization of food production in rural, periurban and urban areas

The principal recommendations for local authorities were to provide land-use rights for the urban poor to enable them to engage in urban and periurban agriculture (UPA) while, at the same time, assessing the feasibility of protecting agricultural land especially in periurban areas. Local authorities should promote the recycling of organic waste to provide valuable fertilisers (e.g. compost) for urban and periurban food production. Food processing technologies ought to be introduced and supported to boost value-addition, and regulatory measures pertaining to UPA should be *ad hoc* and flexible. Central governments should set up institutional frameworks for the promotion of stakeholders' organizations in the areas of production and marketing.

These frameworks would enable the private sector to play a role, particularly in the provisioning of needed microfinance, and as an investor in waste management, infrastructure and technology transfer. Central governments can and should coordinate various authorities. Finally, international organizations and donors should play a role in building the awareness of central and local governments of the importance of UPA.

### 11.2.2 Strengthening rural-urban linkages

Given the number of weak market and institutional linkages between rural and urban areas, as well as several weak elements in legislative and governmental frameworks, it is likely that several existing problems related to rural-urban linkages will exacerbate in the next ten years if no action is taken. These problems include increasing strain on the rural-urban food chain; decrease in agricultural productivity; reduced access of poor farmers to capital, technology and information; increased food losses and the long-term loss of sustainable lifestyles. All of this results in the continuing impoverishment of rural areas and an increasing cost of food for the urban consumer resulting in food insecurity for the poor in Asia's cities. Workshop participants recommended that CLAs, in addition to investing in transportation and storage infrastructure, work with the private sector to develop food wholesale markets in both producing and consuming areas. There are, however, a number of needs to be addressed prior to undertaking such recommendations. These needs include having a long-term policy perspective to build partnerships between rural and urban actors and instituting incentives for strengthening these linkages.

### 11.2.3 Extension services for feeding the cities

Without the support of urban-based extension services, the likely outcome for Asian cities will be reduced and increasingly expensive food supplies and greater environmental contamination. The main solution to the problem as foreseen by the participants of the workshop is the establishment of a public urban-based extension service to provide education, training, communication and information to meet the food needs of cities. The public extension service, established by CLAs, must work in partnership with and support both the private sector and NGOs carrying out extension-type functions. The strategy recommended by workshop participants consists of three components. First, advocacy toward building awareness and national consensus among all levels of government and stakeholders concerning the significant role of education, training and communication in feeding cities. Second, strategic planning to identify relevant stakeholders, review existing policy and develop an action plan set up within a ten-year frame with mission statement, vision statement, guiding principles and strategic goals. Third, technical assistance at different stages in the development of a new urban-based extension system from international experts from both developing and developed countries.

### 11.2.4 Water management issues in food production for feeding Asian cities

Asian cities are facing severe water management problems due to their rapid growth. Present problems and constraints include: poor water management generally; lack of efficiency in irrigation and increased use of chemical inputs; lack of linkages and

coordination between land-use planning and water resources management; and unsustainable exploitation of water resources are all resulting in pollution and less water for cities. If rapid urban population growth is not checked, water scarcity will increase through degradation of water resources (desertification, quality, etc.) and increased demand. Water and environmental policies provide new opportunities for CLAs to secure sustainable, good quality water supplies.<sup>21</sup> Workshop participants call on CLAs to: create planning cells for land-use and water management; develop strategic plans for urban development combining land-use and water management; implement extension programmes for water conservation and water quality preservation; enforce health and environmental regulations and standards and mobilize resources for water service provision by encouraging private sector investment. The participants also recommend that central governments: 1) delineate the catchments for mega-cities for surface and groundwater and develop river basin management organizations; 2) reform institutional and legal frameworks for decentralization of land and water resource management; and 3) develop health and environmental standards for food production and processing. Finally, the private sector should invest capital resources and know-how in urban water service provision and environmental management.

#### 11.2.5 The supply of livestock products to Asian cities

In many large cities in Asia, city abattoirs work to greater capacity than they are designed for and are located too close to densely populated areas. They discharge wastes into rivers or in surrounding areas and create tremendous environmental pollution. In order to remedy the situation, the abattoirs must be closed and new ones, with efficient waste treatment facilities, established outside of residential areas. These new systems will require not only financial investment, but the cooperation and consent of end users (i.e. butcher associations). Technical assistance and cooperation will also be required to train operators of abattoirs and meat and dairy processing plants; upgrade sanitary control of livestock products and plan new abattoirs, city markets and cold storage facilities. Local needs as well as the availability of skilled personnel, spare parts and energy, etc. must be considered in the planning process.

#### 11.2.6 Urban and periurban aquaculture

Aquaculture is the fastest growing sector of the world food economy. Most Asian cities, however, are characterized by rapid urbanization and industrialization, which can constrain urban and periurban aquaculture. In these situations, the volume of fish directed to poorer populations will tend to decline, and a negative impact will be felt on the food security of these populations. On the other hand, there are likely to be positive indirect effects through the generally improved economic development of the production areas. Considering the conflict of resources it entails as well as its potential environmental and public health problems, it appears doubtful that urban aquaculture should be promoted. Experiences from Bangkok and Dhaka seem to

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<sup>21</sup> Combating these trends is largely outside the sphere of influence of CLAs and calls for central/state government intervention to foster more equitable growth between rural and urban areas. Asian countries also need an appropriate framework for water resource management and agricultural policies aimed at achieving food security while ensuring an adequate water supply to urban areas. CLAs will have an obligation to meet water use efficiency and water quality objectives as well as to negotiate their water supplies resulting in higher water costs and investments.

support this view. The workshop participants suggested that since it is not appropriate to make a distinction between rural and periurban aquaculture, at future meetings concerning aquaculture in cities, city authorities and rural developers as well as aquaculture producers should be present. It would also be desirable to create associations for different types of aquaculture producers. Other recommendations include: gathering and disseminating information on the social, economic and environmental impacts of current trends in aquaculture; improving the monitoring of water quality in periurban areas; providing aquaculturalists with an enabling environment to prevent economic failure, environmental problems and other negative outcomes; land-use planning in which water and its uses in aquaculture are considered should be enacted and improved methodologies should be adopted to avoid pollution problems with wastewater fed aquaculture.

### 11.2.7 Wholesale market development

Given the rapid urban growth and inadequate physical infrastructure in most Asian cities as well as the traffic congestion and unsanitary trading practices at many existing markets, it is necessary to establish new wholesale markets in many Asian cities. The workshop explored the physical planning as well as the technical, financial, institutional and management issues that need to be considered when stakeholders are expanding or redeveloping their wholesale market systems. Recommendations for local authorities include: ensure management and financial autonomy is given to market management boards, ensure that urban plans identify wholesale markets as unique land-use requirements and fully involve traders, transporters and consumers in the market design process. Workshop participants also recommended that central governments ensure that there is close coordination between the various stakeholders. The involvement of the World Bank and Asian Development Bank was suggested in financing wholesale markets. These investments are also valuable as cross cutting activities linked to food for cities and urban planning issues.

### 11.2.8 Retail outlet development

Workshop participants considered that CLAs have a responsibility to ensure that adequate retail outlets, functioning in a clean and safe environment, were provided for the benefit of their populations. The key issues considered were: why CLAs should be involved in retail outlets development, what CLAs should do to improve and develop retail outlets and improve their availability and operation and what CLAs need to fulfil their retail outlet development responsibilities. Participants concluded that because of rapidly increasing urban populations and the need to accommodate increasing food needs, CLAs must be involved in the upgrading and development of retail marketing facilities in order to improve food safety and hygiene standards for the general population. CLAs also need to improve physical and economic access to basic food by low income consumers, create jobs (especially in the informal sector), provide environmental protection and improvement, improve the commercial conditions and competition under which retailing takes place and improve market transparency, improve food supplies to cities and towns by creating better access and recognise that retail market facilities can be important sources of revenue for CLAs.

### 11.2.9 Municipal policies for the informal food sector

The informal food sector (IFS) provides comestibles and income for many Asian urbanites. Problems include the lack of recognition of, information on, technical capacity to deal with and political will concerning the IFS. Other constraints relate to the contradictory and disintegrated policies and practices concerning the IFS in Asian cities, the emergence of conflicts over urban land-use and the lack of power of some CLAs to proactively engage this sector of the food system. Recommendations therefore include the need for CLAs to formally recognise the IFS through legislation and engage the sector using a participatory, consultative approach that provides needed services on a fee basis. Other suggestions include creating a municipal office on the IFS to coordinate data assembly, collection, policy making and implementation. CLAs need to employ creative policies that promote the IFS and deal with the sector as an issue with national and regional planning implications. Central governments ought to recognise the importance of the IFS for the urban poor and perhaps create an “urban poor affairs office” to play a coordinating role for local interventions. At the same time, central governments should devolve both political and fiscal power to the local level for the engagement of this sector and other urban poverty issues. Central governments should also play a role in consumer protection. Other stakeholders, such as the private sector, civil society organizations (CSOs), academics and consumers, should foster “win-win” solutions to share space, information and technical skills with the IFS.

### 11.2.10 Fish marketing in Asian cities

Discussion in this workshop focused on how fish supply to large urban populations in Asia could be improved and what concrete actions could be recommended that would contribute to this process. The experiences of Dhaka, Bangladesh and to some extent Kathmandu, Nepal were the focus of discussion. Participants concluded that general problems include: unsatisfactory hygienic and sanitary conditions, lack of transparency in the market place, lack of appropriate infrastructure, insufficient information and inefficient information flows and lack of awareness of product safety issues for consumers. There is also an apparent insufficiency in fish retailing arrangements, particularly to low income consumers, and a lack of consumer sensitivity to health and sanitation issues. Workshop participants recommend that, while the capacity of authorities is often limited and alternative strategies and partnerships should be encouraged, CLAs and central governments should ensure: the availability and maintenance of technically adequate facilities for wholesale marketing, that low cost equipment and facilities are available for retailing to low income consumers, the provision of appropriate support services and the sensitization of stakeholders on hygiene and sanitary aspects of fish marketing.

### 11.2.11 Street foods in Asia: food safety and nutritional issues

Street foods are a source of inexpensive nutritious food, as well as income, for many Asian urbanites. Street foods tend to cater to a wide variety of consumers because they are ubiquitous and often serve a tasty, wide variety of traditional “fast food”. Problems with this sector include a lack of legal recognition, poor safety and hygiene leading to food contamination and waste disposal issues. There are also frequent disputes over urban space: specifically related to the obstruction of vehicular traffic.

Challenges to overcome in the effort to address the above problems include a lack of reliable information on the sector, lack of regulation and the redress of land-use management disputes. Suggestions for concrete actions by participants in this workshop include: creating a focal point for all activities related to this sector; coordinated data collection; involvement of all stakeholders in a transparent and accountable policy making process; provision of training, physical facilities, food control infrastructure and other resources. Central governments ought to enact laws and regulations for street foods, create national networking committees on street food safety and provide adequate resources for the sector. The private sector can play an important role by helping to form street vendor organizations and providing training to vendors. The private sector can also assist with information gathering on street foods. Finally, international agencies can and should facilitate information exchange through the FAO's Regional Centre for Street Food Safety in Calcutta.

#### 11.2.12 Promoting private investments in FSD

Demand for investment in FSD will increase in large Asian cities because of consistent and increasing opportunities for profit; growth in the number of supermarkets dealing directly with producers; increased demand for better preserved, cleaner packaged food; increasing technological demands and the need for transportation over longer distances. Some of the factors constraining private sector investment include inconsistent government policies and regulations making profits uncertain, lack of city planning information, poor roads, inability of processing facilities to manage timing of deliveries, perceived unwillingness of municipalities to give up monopoly positions in providing and operating markets and incorrect information about certain foods. The workshop participants suggested that national governments (in concert with international organizations) set food standards and quality controls for food handling services and that local governments implement and enforce them. Local governments should also establish regulations for wholesale market operation and make basic city planning information available to facilitate investment decisions. Local authorities in rural areas should provide assembly markets as a public good. National governments should provide legislation to protect producers and consumers from monopoly situations and ensure access to food by the poor. Private sector organizations can ensure that members share information and have access to information controlled by the public sector, lobby for legislation to change regulations and ensure that banks have sufficient information to enable them to make informed investment decisions within their sector.

#### 11.2.13 FSD into planning at regional, metropolitan and urban levels

Workshop participants drew on their experiences of cities in the region to reach the joint conclusion that FSDs vary dramatically from city to city. In Dhaka, for example, there is a direct link between producers from the rural areas around the city and urban consumers. Because of this link, the supply of food matches the demand, including that of the urban poor. In other cities, for example in Kathmandu and Colombo, the system is highly dependent on intermediaries making prices significantly higher than the costs of production. In Malaysia, the FSDs are mainly in the hands of the private sector with the government playing only a marginal role. The workshop participants came to the conclusion that a partnership between the public and private sectors in the functioning of urban FSDs in Asia not only has

many benefits, in many cases it is the only acceptable alternative because of the limited resources available to most CLAs. Participants concluded that central governments, international technical assistance and funding agencies, as well as donors, should contribute to the capacity building of governments in FSDSs. CLAs should adopt an informed strategic management approach to FSDS issues using consultations to enhance the participation of different stakeholders, including consumers, in the process. CLAs should also identify and set aside, as soon as possible, appropriate lands for essential FSDS development. Central government agencies should help local governments improve their capacities to deal with FSDS including designing a regulatory framework to facilitate the involvement of the private sector. International organizations should promote the sharing of information pertaining to FSDSs, and North-South and South-South cooperation would help to enhance the dissemination of good practices, technical know-how and communication instruments.

#### 11.2.14 CLAs and food security: role and needs

Workshop participants concluded that problems and constraints related to food security and CLAs include: conversion of agricultural land for urban land-use; lack of coordination between agencies; weak capabilities in urban land management and lack of appropriate forms of banking especially for the informal food sector. Participants considered that CLAs should therefore: strengthen capacities in urban land management; establish vertical and horizontal coordinating mechanisms among public agencies; expand their base of decision makers and promote partnerships among CLAs, civil society and the private sector. In order for CLAs to play an effective role in FSDSs, they need training for political leaders and CLA staff on food security issues and technical assistance and information sharing around policy formulation, planning and management of food security issues. North-South and South-South partnerships can assist by providing documentation and dissemination of good practices and regional data on food security in cities. These partnerships could also assist in the sharing of knowledge and experience among CLAs and the establishment of links with chambers of commerce, trade associations and agricultural colleges, etc.

#### 11.2.15 Food security and nutritional well-being among the urban poor in Asia

The participants in this workshop concluded that the causes of food insecurity among the urban poor in Asia have to do with poverty itself therefore pointing to the link between nutritional well being and larger socio-economic concerns. Children, the unemployed and female-headed households are particularly at risk for food insecurity. In addition to understanding the coping strategies of the urban poor, programmes need to be targeted toward the most vulnerable groups to ensure nutritional needs are met. Examples include school lunch programmes, encouraging income-generating activities and food subsidies for the destitute. The report for this workshop recommended that food security policies and programmes be ensconced within wider frameworks that enhance the welfare of the urban poor such as health services, national action plans and social security measures.

#### 11.2.16 Small and medium enterprises in food processing and distribution

Workshop participants identified several constraints and related recommendations related to micro, small and medium enterprises (MSMEs) in food processing and distribution. The problems include lack of recognition by government at various levels and related harassment of MSMEs in public places, poor financing and problems with marketing and distribution, an absence of constructive collaboration between MSMEs and other stakeholders and the lack of clear definitions of enterprise types for international cooperation. CLAs can help solve these problems by legally recognising MSMEs, providing them with access to services such as space, water, and sanitation on a fee-paying basis and developing participatory multistakeholder planning frameworks that include MSMEs. The private sector and CSOs can provide needed microfinancing. Microenterprises in particular need to create associations for the protection of their interests and marketing of their products. Central governments ought to adopt standardized definitions of enterprise types and advocate cooperation between MSMEs and government departments (such as the Ministry of Tourism) to organize opportunities for the development and promotion of these food enterprises. As women and children play a key role in food MSMEs, governments at various levels and donors should recognise their importance and garner their participation in decision making.

#### 11.2.17 The environmental impact of FSD activities

Participants in this workshop recommended the development of a “virtual” Knowledge Centre for Urban Food Security and Distribution as a databank for professionals involved in FSDS planning or research. They also advocated the development of materials for the use of the broader public to help people understand the current negative economic and environmental impacts of urban food security problems. The group also suggested that city administrators develop explicit lists of priorities for city development that address the economic, social and environmental aspects of food supply. Tools to assist them in addressing those priorities should be selected. Municipalities should focus their efforts on providing good markets and fair regulations with respect to food distribution and should oversee the implementation of those regulations. Municipalities should also arrange for the collection of solid waste and stimulate recycling. Workshop participants suggested these recommendations could be achieved through workshops, by providing resource material for planners and by encouraging study tours for professionals involved in FSDSs to other cities in the North and South. A Knowledge Centre would effectively underpin all these efforts. Cooperation could be further stimulated through CityNet and the regional urban agriculture networks.

## **12 FAO'S INITIATIVE FOR FOOD SUPPLY AND DISTRIBUTION TO CITIES**

The World Food Summit held at FAO-Rome in November 1996 gave priority to the development of urban and periurban production as well as improvement of the efficiency of food supply and distribution systems and linkages between production and consumption areas. The aim of the summit was to facilitate access to food by low-income households and hence improve food security in developing countries and countries in transition. The Habitat II Conference in 1996 drew attention to high urbanization levels and the rapid urban growth rates in developing countries and countries in transition and stressed their direct relationship with urban poverty.

FAO's initiative for "Food Supply and Distribution to Cities" addresses the relationship between urbanization, urban poverty and food insecurity. It focuses on the impact of urbanization on the efficiency of food supply and distribution activities and the need to stimulate private sector initiatives and investment. The cost at which food is made available to poor urban consumers is a key determinant of the level and stability of food prices and is determined not only by private sector activities, but also by public sector interventions, which are often carried out with weak technical and managerial skills.

This initiative thus constitutes a major contribution to follow-up and implementation of the action programme based on the commitments made by FAO Member States at the World Food Summit.

## **13 FOOD INTO CITIES COLLECTION**

The *Food into Cities Collection* focuses on FSD to urban areas in developing countries and countries in transition (DTCs), particularly:

- the relationship between urban food security, urban poverty and food supply and distribution systems (FSDSs);
- the consequences of the growth in food demand and urban expansion on FSD costs;
- the study of the efficiency and dynamism of FSDS in the context of urban expansion and urban poverty growth;
- policies, strategies and action plans to strengthen the efficiency and dynamism of FSDSs, at urban, periurban, and rural scales; and
- rural, periurban and urban food supply responses to urbanization.

The collection is available to all researchers and professionals, especially those in DTCs, as a means of making their writings better known with the objective of increasing appreciation of the challenges imposed by urban growth and urban poverty on urban food security.

The *Food into Cities* collection publishes: articles, monographs, theses, reports, comparative and case studies, sectoral reviews, proceedings and contributions from conferences, seminars and workshops. These publications are available on the Internet.

Previously published works may also be included. Calls for papers are issued for the preparation of special volumes. Texts in English, French and Spanish are accepted. Texts in other languages may be accepted only if provided with an extensive executive summary in English, French or Spanish. For more information, contact:

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Fax: (+39) 06 5705 6850 or 5705 4961  
[www.fao.org/ag/sada.htm](http://www.fao.org/ag/sada.htm)

## 14 FOOD INTO CITIES NETWORK

The informal *Food into Cities Network* was created in 1997 by the "Food Supply and Distribution to Cities" programme of the FAO. This international network links institutions and individual professionals concerned with food security in the urban areas of developing countries and countries in transition (DTCs). The network is specifically oriented toward understanding:

- the relationship between the food security of urban areas and food supply and distribution systems (FSDS);
- the consequences of increasing food demand and urban expansion on food supply and marketing costs;
- the study of the efficiency and dynamism of FSDS in the context of high levels of urbanization and urban expansion; and
- policies, strategies and programmes for strengthening the efficiency and dynamism of FSDS in and among urban, periurban and rural areas from both a national and regional perspective.

The objectives of the network are to promote:

- increased appreciation, in DTCs, of the challenges that rapid rates of urbanization and associated food marketing and distribution costs impose on the food security of poor consumers;

- greater diffusion, in DTCs, of research, knowledge and experiences concerning urban food security and FSDS;
- increased dialogue, collaboration and advice on the analysis of and interventions concerning FSDS, in the context of increasing levels of urbanization and the expansion of cities.

Membership has many advantages. Interested individuals and institutions are urged to enquire about possible registration in the network by contacting:

Coordinator, “Food into Cities” Network  
B618 – AGSM  
FAO  
Viale delle Terme di Caracalla  
00100 Rome, Italy

Fax: (39) 06 - 5705 6850 or 5705-4961  
E-mail: [sadanet@fao.org](mailto:sadanet@fao.org)

## 15 ANNEXES

## **15.1 Seminar Agenda**

# **Regional seminar “Feeding Asian Cities”**

27-30 November, Bangkok

*organized by:*

**CityNet**

and

**The Association of Food Marketing Agencies in Asia and the Pacific (AFMA)**

*with the technical support of:*

**FAO**

*in collaboration with:*

**International Union of Local Authorities (IULA)  
UNDP/UNCHS/World Bank - Urban Management Programme  
(Regional Office for Asia and the Pacific)  
Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ)  
Ministère des affaires étrangères (France)  
World Union of Wholesale Markets (WUWM)**

# **AGENDA**

*Venue:*

**Prince Palace Hotel**  
488/800 Bo Bae Tower  
Damrongrak Road, Klong Mahanak, Pomprab, Bangkok 10100  
Tel.: (+66) 2 628 1111 - Fax: (+66) 2 628 1000

**Monday 27th November**

**07:30 – 08:30** Registration of participants

**08:30 – 09:30** Opening Ceremony

**09:30 – 09:45** Coffee break

**09:45 – 10:00** Video: “Food and Nutrition”

**10:00 – 10:30 Seminar organization and structure**, O. Argenti, Co-Secretary IDWG “Food for Cities” and Focal Point, “Food Supply and Distribution to Cities”, FAO

**10:30 – 11:15 Key Paper 1: *Feeding the Cities: Food Production and Processing Issues***  
H. Waibel, GTZ

**11:15 – 12:00 Key Paper 2: *Feeding the Cities: Food Distribution Issues***  
E. Seidler, FAO-AGSM

**12:00 – 12:15** Coffee break

**12:15 – 13:00 Key Paper 3: *Urban Food Supply and Distribution Policies and Programmes***  
S. Sunna, FAO Consultant

**13:00 – 14:30** Lunch

**14:30 – 18:30**

Workshop A1: *The Response to Urbanization of Food Production in Rural, Periurban and Urban Areas*  
Leader: P. Moustier, CIRAD

Workshop A2: *Strengthening Rural-Urban Linkages*  
Leader: M. L. Augustin-Jean, Polytechnic of Hong Kong

Workshop A3: *Extension Services for Feeding the Cities*  
Leader: B. Seiders, FAO-SDRE

Workshop A4: *Water Management Issues in Food Production for Asian Cities*  
Leader: T. Facon, FAO-RAPG

Workshop A5: *The Supply of Livestock Products to Asian Cities*  
Leader: G. Heinz, FAO-AGA

Workshop A6: *Urban and Periurban Aquaculture*  
Leader: M. Martinez, FAO-FIRI

**19:30 – 23:30 Reception hosted by the Bangkok Metropolitan Administration**

**Tuesday 28th November**

**08:00 – 08:30 Video Session:** “Marketing Extension”

**08:30 – 12:30**

Workshop B1: *Wholesale Markets Development*

Leader: J. Tracey White, FAO Consultant

Workshop B2: *Retail Outlets Development*

Leader: E. Seidler, FAO-AGSM

Workshop B3: *Municipal Policies for the Informal Food Sector*

Leader: G. Yasmeen, University of British Columbia, Canada

Workshop B4: *Fish Marketing in Asian Cities*

Leader: E. Ruckes, FAO-FIIU

Workshop B5: *Street Foods in Asia: Food Safety and Nutritional Issues*

Leader: R. Clarke, FAO-ESNS

**12:30 – 14:00 Lunch**

**14:00 – 18:00**

Workshop C1: *Promoting Private Investment in Food Supply and Distribution*

Leader: S. Sunna, FAO Consultant

Workshop C2: *Food Supply and Distribution Issues into Planning at Regional, Metropolitan and Urban Levels*

Leader: M. Balbo, University Institute of Architecture, Italy

Workshop C3: *City and Local Authorities and Urban Food Security: Role and Needs*

Leader: N. von Einsiedel, UNDP/UNCHS (Habitat) Urban Management Programme

Workshop C4: *Food Security and Nutritional Well-being among the Urban Poor in Asia*

Leader: V. Menza, FAO-ESNA

Workshop C5: *Small and Medium Enterprise Development in Food Processing and Distribution*

Leader: G. Yasmeen, University of British Columbia, Canada

Workshop C6: *The Environmental Impact of Food Supply and Distribution Activities*

Leader: F. Moukoko-Ndoumbe, FAO-AGSP

**Wednesday 29th November**

**08:00 – 08:30 Video Session:** “Talaad Thai - Bangkok Wholesale Market”

**08:30 – 09:00 Key Paper 4: North-South and South-South Cooperation: the Challenge for Local Governments for Food Security.** L. S. Chahl, Secretary-General, CityNet

**09:00 – 09:15 Achieving Local Partnerships for Feeding Asian Cities.** V. Rotgé, Operations Project Manager, Asia Urbs, European Commission

**09:15 – 09:30 North-South Partnerships “Stakes of North-South Cooperation”.** H. Chabert, Deputy Mayor, Lyon, France

**09:30 – 10:00** Questions and answers from the floor

**10:00 – 10:15** Coffee break

**10:15 – 12:30 Panel Discussion**

*Panel members:*

S. Mukherjee, Mayor, Calcutta, India;

H. Chabert, Deputy Mayor, Lyon, France;

N. Thavisin, Deputy Permanent Secretary, Bangkok Metropolitan Administration, Thailand;

S. Tanjung, President, Jakarta Wholesale Market, Indonesia;

O. Argenti, Co-Secretary IDWG “Food for Cities” and Focal Point “Food Supply and Distribution to Cities”, FAO;

Y. Kioe Sheng, Chief, Human Settlements Section, UNESCAP;

L. S. Chahl, Secretary-General, CityNet;

V. Rotgé, Operation Project Manager, Asia Urbs, European Commission.

*Moderator:* N. von Einsiedel, Regional Coordinator for Asia and the Pacific, UNDP/UNCHS/World Bank “Urban Management Programme”

Questions and answers from the floor

**12:30 – 14:00** Lunch

**14:00 – 18:00 Presentation of “Workshop Conclusions and Recommendations”**

**Parallel activities:**

Meeting of delegations from Cambodia, Laos and Vietnam with representatives of local authorities from France to discuss specific partnerships on food supply and distribution topics.

**Thursday 30th November**

**08:00 – 08:30 Video Session**

**08:30 – 12:30 Presentation of “Workshop Conclusions and Recommendations – continued”**

**Parallel activities:**

Working Group 1 (selected participants only): *Priorities for North-South and South-South Cooperation and Partnerships for Urban Food Security*

Working Group 2 (selected participants only): *Drafting the Agenda for Action*

Working Group 3 (selected participants only): *Drafting the Seminar Provisional Report*

Working Group 4 (selected participants only): *Drafting the Declaration of Mayors, City Executives and Local Governments Representatives*

**12:30 – 14:00 Lunch**

**14:00 – 14:30 FAO’s initiative for “Food supply and distribution to cities”**

O. Argenti, Co-Secretary IDWG “Food for Cities” and Focal point, “Food Supply and Distribution to Cities”, FAO

**14:30 – 14:45 Questions and answers from the floor**

**14:45 – 15:00 Presentation of “Priorities for North-South and South-South Cooperation and Partnerships for Urban Food Security”, B. I. Tjandradewi, CityNet**

**15:00 – 16:00 Approval of “Agenda for Action”**

**16:00 – 16:30 Coffee break**

**16:30 – 17:30 Approval of “Seminar Conclusions and Recommendations”**

**17:30 – 18:00 Approval of “Seminar Declaration”**

**18:00 – 18:30 Closing Ceremony**

**19:30 – 21:30 Farewell reception hosted by FAO**

## **15.2 Summaries of Speeches**

### **15.2.1 Opening Address – H.E. Samak Sundaravej, Bangkok Governor**

During the last quarter century, many Asian cities including Bangkok have experienced tremendous expansion resulting in growing demand for food, infrastructure, social facilities and improved amenities.

Other consequences of growing populations are congestion and pollution, undesirable social consequences and poverty-related diseases, increasing demand for ready-made meals raising issues of food quality and safety, and competition for agricultural lands for development of urban infrastructure, housing and industries.

Many more challenges are ahead of us as half of the population of Asia will be located in its cities by 2020. There are a number of issues we must address to ensure adequate and healthy food.

1. The policies of local authorities to resolve food problems should be clearly and objectively defined, programmes should be framed and areas for training identified.
2. Database and management information systems of local authorities must be strengthened.
3. Clear lines of authority should be demarcated to ensure food security.
4. The private sector needs the recognition and supportive policies of local authorities in supplying adequate and healthy food at a reasonable price.

Other important areas for discussion include water safety, environmental issues, improving the quality of street food, recognising and strengthening the key role of women in improving access to food.

I have raised some key issues regarding feeding growing populations, particularly the poor, in expanding Asian cities. It is important that we share experiences among our cities and develop South-South and North-South cooperation. I trust that this seminar will come up with some viable policy recommendations, action plans and support programmes for the future.

### **15.2.2 Welcome Address – Dr R.B. Singh, Assistant Director General and Regional Representative FAO-RAP**

The Food and Agriculture Organization of the United Nations (FAO) has always had food security as the cornerstone of its mandate. Over the past fifty years, the Asia-Pacific region has made tremendous progress in food security. Many nations that once experienced periodic famine are now virtually self-sufficient in food production. Community-based nutrition and poverty alleviation programmes in Thailand and Indonesia are held as models for eradicating food insecurity and poverty in the developing world.

But, there is no room for complacency. Of the world's nearly 800 million chronically undernourished, more than 500 million are Asian. FAO projects that by 2015 there will be 576 million undernourished in the world and 52 percent of those will be Asian.

Urbanization has grown at an unprecedented rate during the last fifty years, the number of people living in cities in developing countries has increased at least four times. With increasing urbanization, higher proportions of poor people live in urban areas.

Rapid urbanization poses serious challenges for enhanced and sustained food production and distribution, especially for transport, necessary infrastructures and energy costs. Further, there will be increasingly diversified consumer demand in terms of product quality and food safety standards. These realities must be internalized in national food and agriculture policies. The rural-urban continuum and synergism must be strengthened under the "growing cities/growing food" scenario.

FAO fully recognises the key role for local governments in feeding Asian cities. They, you, are in a unique position to affect a situation of rapid change. We stand ready to offer whatever assistance we can to enable you to improve the efficiency of the food supply and distribution systems in your cities, thus freeing Asians from the fear of hunger and poverty.

### 15.2.3 Achieving local partnerships for feeding Asian cities – Dr Vincent Rotgé, Asia Urbs Secretariat, Brussels

The goal of this speech is twofold: 1) to discuss promising areas of decentralized cooperation in relation to the delivery and supply of food to cities; and 2) to highlight the potential of decentralized cooperation as well as the problems encountered with this type of cooperation. This speech builds on lessons drawn from the implementation of the Asia Urbs Programme initiated by the European Commission with the aim of encouraging the sharing of urban best practices and contributing to poverty alleviation efforts and socio-economic development in Asian countries.

The Asia Urbs experience in decentralized urban cooperation shows clearly that initiatives dealing with the issue of feeding Asian cities are viewed as key areas for cooperation from both the Asian and European sides. It shows also that European local governments in association with European institutions are ready to contribute money and personnel to Asia-based projects. It demonstrates that European styles of urban management, income-generation policies and agricultural engineering can prove useful in an Asian context provided they fully recognise local conditions. It often works to pool the field experience of NGOs in Asia with the urban management experience of local governments. In short, the Asia Urbs Programme shows that local initiatives can solve important challenges in feeding Asian cities.

To conclude, the decentralized cooperation initiatives promoted by the Asia Urbs Programme can make a valuable contribution to feeding Asian cities in developing relevant urban management techniques. It is desirable that such initiatives proceed in parallel with cross-disciplinary research work conducted jointly by urban development planners, agricultural engineering specialists and economists at micro and macro levels.

#### 15.2.4 Stakes of North-South Cooperation – Mr Henry Chabert, Vice-President of Greater Lyon, France

Many mayors, city administrators and town planners now think of the city more in terms of housing, transportation, infrastructure and social frameworks than in terms of food marketing systems. Consequently, public investments are often not properly planned and municipal regulations do not reflect changes in the food economy such as shopping habits and high prices.

Municipal authorities must have mid-range (four to six years) and long-range (ten to fifteen years) strategic forecasts for the city, keeping in mind spatial, demographic and economic evolution as well as food needs. Concretely, municipalities should adopt policies and programmes in order to reduce marketing costs and prices, to stimulate employment in the field of marketing and promote urban and suburban agriculture.

The general aims of these programmes should be:

1. Reinforcing, at all levels, the focus on quality and hygiene of food for the poorest consumers.
2. Stimulating and disseminating the results of research, debates and experiments on urban FSDSs as well as formulating and executing policies and programmes at regional, inter-regional and national levels to reinforce the efficiency and dynamism of urban FSDSs.
3. Promotion of collaboration between the various institutions including technical assistance and academic partnerships.

Challenges include rapid globalization, changes in the organization of distribution networks, the need for new ways to efficiently link producers to consumers and the rapid evolution of FSDSs and consumer shopping habits.

### **15.3 Seminar technical committee**

1. Michelle Gauthier (Forest Conservation, Research and Education Service)
2. Erhard Ruckes (Fish Utilisation and Marketing Service)
3. Biplad K.Nandi (Senior Food and Nutrition Officer, FAO Regional Office for Asia and the Pacific)
4. William Seiders (Extension, Education and Communication Service)
5. Cornelia L.Koenraad (Women in Development Service)
6. Rachel Nugent (Comparative Agricultural Development Service)
7. Renata Clarke (Food Quality and Standards Service)
8. Wilfried Baudoin (Crop and Grassland Service)
9. Jorgen Hansen (Animal Health Service)
10. Felix Moukoko-Ndombe (Farm Management and Production Economics Service)
11. Peter Steele (Agro-Industries and Post-Harvest Management Service)
12. Richard Roberts (Marketing and Rural Finance Service)
13. Olivio Argenti, (Marketing and Rural Finance Service)

### 15.4 List of participants

Country	Name	Position	Organization	City
Bangladesh	Mr Ahmad, Qazi Saif Uddin	Social Welfare and Cultural Officer	Dhaka City Corporation	Dhaka
Bangladesh	Mr Mirza, Hossain Altaf	Director	BIRTAN - Bangladesh Institute of Research and Training on Applied Nutrition, Ministry of Agriculture	Dhaka
Bangladesh	Mr Rahman, Mokhlesur	Consultant Economist and MIS Specialist	Fourth Fisheries Project, Department of Fisheries, Ministry Fisheries and Livestock	Dhaka
Belgium	Ms Orban-Ferauge, Françoise	Professor, Head of Department of Geography	FUNDP - University of Namur, Department of Geography	Namur
Belgium	Dr Vincent, Rotgé	Operations Project Manager	Asia Urbs, European Commission	Brussels
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Cambodia	Mr Dy, Bun Chhem	Director Provincial Health Department	Municipality	Siem Reap
Cambodia	Mr Phat, Leng	Director	Municipality, Department of Agriculture, Forestry and Fisheries	Phnom Penh
Cambodia	Mr Suy, San	Deputy	Municipality	Siem Reap
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China	Dr Padovani, Florence	Researcher	The Chinese University of Hong Kong	Hong Kong
China	Dr Zhai, Fengying	Deputy Director	Institute of Nutrition and Food Hygiene, Chinese Academy of Preventive Medicine	Beijing
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Germany	Prof. Waibel, Hermann	Professor of Economics	University of Hannover	Hannover

India	Dr Chakravarty, Indira	Director, Professor, Dean and Head	All India Institute of Hygiene and Public Health, Department of Biochemistry and Nutrition	Calcutta
India	Prof. Jakhanwal, Suraj Prasad	Professor and Senior Advisor	SDS - Society for Development Studies	New Delhi
India	Mr Mukherjee, Subrata	Mayor	The Calcutta Municipal Corporation	Calcutta
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Philippines	Mr Batac, Joseph	President	MAFESO, Marilao Federation of Service Organization	Bulacan
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Vietnam	Mr Vu Ngoc, Tien	FAO Programme Assistant	FAO Representation	Hanoi

## 15.5 Resource Materials

The following papers can be freely downloaded from: [www.fao.org/ag/sada.htm](http://www.fao.org/ag/sada.htm). The references not listed in the compendium of background papers, discussion papers and other seminar documents are listed at the end of these proceedings as part of the supplementary bibliography.

### BACKGROUND PAPERS

Code	Author	Title
DT/AC/31b-99E		Final statement of FAO-ISRA sub-regional seminar "Food supply and distribution to Francophone African cities", Dakar, 14-17 April 1997
DT/42-00E	Abdalla, Z.	Urban food security and food marketing in the Near East Paper presented at the FAO's Agriculture, Land and Water Use Commission for the Near East (ALAWUC), Beirut, Lebanon, 25-27 March 2000
DT/36-99E	Aragrande, M. and Argenti, O.	Analysing food supply and distribution systems of cities in developing countries. Methodological and operational guide. Draft version
-	Argenti, O.	Feeding the cities: food supply and distribution (IFPRI Briefs, Focus 3, Brief 5)
DT/43-00E	Argenti, O.	Food for the cities. Food supply and distribution policies to reduce urban food insecurity. A briefing guide for mayors, city executives and urban planners in developing countries and countries in transition
DT/40-99E	Argenti, O.	Urban food security and food marketing. A challenge to city and local authorities - Paper copies also available in Urdu, Vietnamese and Arabic
AC/21-99E	Argenti, O.	Urban food security and food marketing in Metropolitan Lahore, Pakistan - Workshop report
DT4401E	Balbo, M.	Food supply and distribution into urban planning and management. A guide for urban planners and managers in developing countries
-	Bona, J.N.	Recycling of municipal solid waste towards urban and periurban food production in Cargayan de Oro City
-	Bradley, P. and Marulanda, C.	Potential of simplified hydroponics to provide urban agriculture income
-	Burke, J. and Beltran, J.	Water for cities
-	Burleigh, J.R. and Black, L.L.	Year-round production of safe vegetables for Manila from periurban areas
-	CityNet	What is citynet? (leaflet)
DT/14-97E	Cullinan C.	Legal aspects of urban food marketing supply and distribution
TCP/JOR/89 23	Dajani, R.	Micro and small enterprise development within the context of the food supply and distribution systems to the City of Greater Amman (draft)
-	De Bon, H. and Tran Khac Thi	The response of periurban agriculture to urbanization in Vietnam (draft)
EC3399E	Dhankar, D.H.	Food marketing in new Delhi. a pre-case study (draft)

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AC/15-99E	Diouf, J.	The challenge of urban distribution and production. Statement at the 101st Inter-Parliamentary Conference
-	Edwards, P.	Wastewater-fed aquaculture: state-of-the art
-	Facon, T.	Feeding Asian cities: a long-term water sector perspective.
DHS/03-00S	FAO	Wholesale market management - a manual
-	FAO	Market infrastructure planning. A guide for decision makers
-	FAO	Street food development: report of regional seminar, Bangkok, Thailand, September 29- October 1, 1999 (draft)
-	FAO	Training for decentralization: the Sichuan experience - An example of North-South Cooperation between City and Local Authorities
DT/39-98E	FAO	Feeding the cities (excerpt from: The State of Food and Agriculture 1998)
AC/20-99E	FAO	Feeding the cities
-	Gale, H. F.	Agriculture in China's urban areas: statistics from China agricultural census
-	Gautam, B.R.	Food insecurity in Kathmandu Metropolitan City
EC/35-99E	Gill-Hang Huh and Chee-Ju Oh	Food marketing in Seoul (Pre-case study - working document)
TCP/JOR/89 23	Hamdan, R.H.	Food supply, demand and urban-rural linkages (draft)
-	Higaki, Y.	Safe vegetable production in Ho Chi Minh City, Vietnam
-	Holmer, R. et al.	Comparative analysis of periurban vegetable production, consumption and marketing in three Southeast Asian cities (draft)
-	Holmer, R. et al.	Urban Food Security and Its Link to Solid Waste Management (draft)
TCP/JOR/89 23	International Business Legal Associates	Legislation and regulations governing food supply and distribution systems (draft)
AC/16-99E	IPU	The problem of metropolitan areas: a global challenge to which Parliamentarians must respond in terms of urban civilisation and democracy. 101st Inter-Parliamentary Conference Resolution
-	Jesus, F.	A competitive market in search of public regulations. The case of Hanoi food supply in the north of Vietnam
-	Kielen, N.	Water management issues in food production for Asian cities
-	Kobayashi, K.	Development of wholesale markets in Asian selected countries in view of international comparison of wholesale marketing system for fruit and vegetables
-	Le Danh T. <i>et al.</i>	Trends in food consumption and in the nutritional status in urban Vietnam
-	Le Thanh Hung et al.	Sewage use for aquaculture in periurban areas of Ho Chi Minh City and food safety (draft)
-	Lee, C.-Y.	Public policy for development of the distribution industry. A case of the distribution industry development five-year plan in Korea (draft)
-	Lee, C.-Y.	Marketing and distribution in Korea (draft)
-	Lee, C.-Y.	Present status of the distribution industry in Korea (draft)
-	Medina Pezzali, A.	Low-cost equipment and facilities for retailing fish in selected cities of Southeast Asia
-	Mercasa	Ownership and management of wholesale markets. The experience of Mercasa, Spain

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DT/41-99E	Onumah, G. E. and Hubbard, M.	Urban food supply and distribution: policies addressing urban poverty
-	Orban-Ferauge, F.	Fast urban growth and sustainability: the case of Cagayan de Oro (Philippines).
AC/22-99E	Quang, C. and Argenti, O.	Food supply and distribution to Hanoi - Workshop report
-	Quang, N.D.	Pre case study of food supply and distribution to Hanoi
-	Rahman, Md. M.	A case study on feeding fish in Dhaka City, Bangladesh
-	Rajorhia, G.S.	Analysis of studies on periurban livestock production systems in Asia, West Asia, Africa and Latin America
AC/23-99E	Rupasena, L.R.	Food supply and distribution to Colombo - Workshop report
-	Saha, C. and Dutta, A.K.	Waste recycling through aquaculture at North and East of Calcutta urban and periurban (summary of report)
-	Saha, C. et al.	Urban and periurban aquaculture - A case of Bhubaneswar City, India (summary of report)
-	Schiere, H.	Periurban livestock systems. Problems, approaches and opportunities
DHS/01-00E	Shepherd, A.	Food for consumers: marketing, processing and distribution
DT/23-97E	Shepherd, A.	Market information services. Theory and practice
TCP/JOR/89	Sirriyeh, M.	Food supply and distribution issues in urban planning (draft)
23		
-	Sunhee, H.	Safety of Imported Fishery Foods in Seoul
TCP/JOR/89	Sunna, S.	Report of a workshop on Food markets planning and management in Greater Amman, Jordan
23		
TCP/JOR/89	Sunna, S.	Micro and small enterprise development in the food supply and distribution
23		
TCP/JOR/89	Sunna, S.	Report of workshop on urban food supply and distribution policy
23		
-	Tuyen, Le Danh et al.	Trends in food consumption and in the nutritional status in urban Vietnam
EC/34-99E	Villasis, E.A.	Food marketing in Metropolitan Manila (Pre-case study - working document)
DT/AC/31-99E	Wilhelm, L.	Food supply and distribution to Francophone African cities Summary of papers and discussions at the FAO-ISRA sub-regional seminar "Food supply and distribution to Francophone African cities", Dakar, 14-17 April 1997
-	Yasmeen, G.	Urban agriculture in India: a map of research capacity and expertise
-	Yasmeen, G.	Stockbrokers turned sandwich vendors: the economic crisis and small-scale food retailing in Southeast Asia

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## PARTICIPANTS' SHORT BACKGROUND PAPERS

Author	Title	Country
Adiyoga, W.	Food resilience in province special region. - capital city of Jakarta (Power-point presentation)	Indonesia
Adiyoga, W.	Urban and periurban vegetable production systems: are they dependable alternatives for supporting food security programmes?	Indonesia
Albarece, B.	Corn production in Manolo Fortich, Bukidnon	Philippines
Awamleh, M.	Proposed structures for food micro and small enterprise development. The city of Amman	Jordan
Bandeh Khoda,	Introduction to the food industrial complex	Iran
Basij, J.	Food policy in the future	Iran
Beng Thay, T.	Problems of food supply in Siem Reap	Cambodia
Chabert, H.	Lyon: quelques enjeux concernant la distribution alimentaire	France
Duran, L. S. Jr.	Improving nutrition to food security with integrated solid waste management	Philippines
Eleperuma, S.D.	Challenges and constraints faced by Colombo Municipal Council in supply of meat and poultry to the city	Sri Lanka
Eleperuma, S.D.	Challenges and constraints faced by Colombo Municipal Council in supply of meat and poultry to the city	Sri Lanka
Ghulam, M. Gupta	Distribution of basic food items in Lahore Meeting nutritional needs of the urban poor	Pakistan India
Adiyoga, W. Ismail, F.	Markets in Colombo	Sri Lanka
Jakhanwal, S.P.	Food supply and distribution in a mega city: a case study of Delhi	India
Jalil, H.	Supply and distribution of perishables in Lahore Metropolitan	Pakistan
Khan, A.K.	Food distribution system in the city of Lahore	Pakistan
Leng, P.	Food supply and processing issues in Phnom Penh	Cambodia
Leng, P.	Vegetable production in Phnom Penh	Cambodia
Mohtar, S.	The operation of wholesale markets in Malaysia	Malaysia
Panday, B. R.	Feeding Kathmandu city	Nepal
Paw, M.	Food price stabilization in Yangon City	Myanmar
Qazi Saif U. A.	Role of Dhaka City Corporation in urban food security	Bangladesh
Rahman, M. <i>et al.</i>	A case study on feeding fish in Dhaka City	Bangladesh
Tran Khac Thi	Safe vegetable production development to supply Hanoi (draft)	Vietnam
Tran Van Tien	Food supply and distribution to Hue City. Current situation and policies	Vietnam
Tri, M.P.	Improving fish processing and marketing facilities in Ho Chi Minh City	Vietnam
Vaidya, Y.	Urbanization changing eating patterns and its effects on urban life style in Nepal	Nepal
Wijetunga, A.	The problem of inadequate infrastructure facilities	Sri Lanka
Wiwahari, S.	Food resilience: province of DKI Jakarta	Indonesia

## DISCUSSION (WORKSHOP) PAPERS

<b>Workshop</b>	<b>Discussion leader</b>
A1 - The response to urbanization of food production in rural, periurban and urban areas	Dr. P. Moustier, CIRAD
A2 - Strengthening rural-urban linkages	M. L. Augustin-Jean, Polytechnic of Hong Kong
A3 - Extension services for feeding the cities	B. Seiders, FAO
A4 - Water management issues in food production for Asian cities	T. Facon, FAO
A5 - The supply of livestock products to Asian cities	G. Heinz, FAO
A6 - Urban and periurban aquaculture	M. Martinez, FAO
B1 - Wholesale markets development	J. Tracey White, FAO
B2 - Retail outlets development	E. Seidler, FAO
B3 - Municipal policies for the informal food sector	G. Yasmeen, University of British Columbia
B4 - Fish marketing in Asian cities	E. Ruckes, FAO
B5 - Street foods in Asia: food safety and nutritional issues	R. Clarke, FAO
B6 - Use and re-use of waste and residues from markets and slaughterhouses	R. J. Holmer, Xavier University College of Agriculture, Philippines
C1 - Promoting private investment in food supply and distribution	S. Sunna, FAO
C2 - Food supply and distribution issues into planning at regional, metropolitan and urban levels	Prof. M. Balbo, Istituto Universitario di Architettura, Italy
C3 - City and local authorities and urban food security: role and needs	N. von Einsiedel, UNDP/UNCHS/World Bank Urban Management Programme
C4 - Food security and nutritional well-being among the urban poor in Asia	V. Menza, FAO
C5 - Small and medium enterprise development in food processing and distribution	G. Yasmeen, University of British Columbia
C6 - The environmental impact of food supply and distribution activities	F. Moukoko-Ndoumbe, FAO