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FEEDING THE CITIES: A CHALLENGE FOR THE FUTURE

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FAO

SUMMARY The growth of cities has to do with natural expansion and with rural migration, due to the weak economic conditions prevalent in the countryside. If the growth rate remains stable during the next thirty years, we can predict that the world population living in the cities in the year 2020 will reach 3.4 billion people. This phenomenon generates important problems in developing countries and they do not have the resources or the means to solve them.

Urbanisation affects food production because it imposes a new model which demands more fresh products, both vegetable and animal, with less traditional food which forces agricultural patterns to change. On top of this, cities are occupying new agricultural areas, and consume large volumes of water and fuel which accelerates the deterioration of natural resources.

From a human stand point, urbanisation offers precarious economic and social conditions. Inmigrants are forced to live in slums without services or hygiene, until they can pull out. During this transitional period new food consumption models, which can also demand "new" imported goods are developed.

Despite this "westernisation" of the diet one can observe a better nutritional level in the urban than the rural population. This is due to the better quality of processed foods, and a larger variety of them; in this area street food plays a relevant role.

For the urban, dweller better nutrition with accessible prices and quality control can be obtained through adequate urban infraestructure like markets, warehouses, effective distribution mechanisms and adequate transport.

Nutritional intervention programmes such as subsidies, coupons, consumer education, training of personnel have been implemented in many countries with a high level of success.

Nevertheless, all these measures may constitute an irresistable attraction to those that are left behind in the fields and can have a negative effect. A realistic policy of urban nutrition must consider the urban-rural phenomenon as a whole, beginning with a structured integral support of the rural areas.

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INTRODUCTION

Urbanisation is the inevitable consequence of socio-economic development and industrialisation. The result of rapid far reaching revolutionary technological and industrial changes has been to draw to the principal cities the rural labour force, as well as people skilled in administration and commerce who lived in small townships. This phenomenon, which can be seen in the industrialised nations in the past century, also constitutes the primary process that has spurred urban growth in developing countries since the Second World War.

Nevertheless, in many Third World countries, the phenomenon of intense urbanisation did not commence — or did not continue — on the basis of the potential offer of employment in the cities, but rather was a consequence of the "expulsion" of the active rural population due to the deterioration in living conditions and earnings.

On the other hand, one must take into consideration that the countryside-to-city migration is not the principal cause of the growth of the urban population. In truth, nowadays, natural growth of the urbanised population is responsible for two-thirds of the growth of cities in the developing world (1).

However, it is certain that the rapid expansion of the urban population in the world is one of the phenomena of the Twentieth Century that will influence most greatly the social and economic policies to be adopted at national and international levels in the coming decades.

TRENDS IN URBANISATION

In 1980, developing countries had 75% of the world's population: it is estimated that, between years 1980 and 2000, this population will constitute the source of 84% of the increase in world population. During this period, it is probable that the portion of the population that lives in cities in those countries, will increase from 29 to 39% until it reaches 50% in the year

2015. The mean world increase of urban population, which is estimated to be around 2.4% a year may seem modest, but this rate corresponds to an incredibly large number of individuals and is without historical precedent. According to a recent report from the Habitat Agency of the United Nations, a mere 1% increase in the migration from the countryside to the cities translates into 35 million new urban residents per year.

The pattern of urban growth varies notably between regions within the countries as well as within the geographic regions themselves.

According to recent U.N. data, the pattern of urban growth in Latin America, which has almost reached the level of industrialised countries, is 3%, equal to that of Asia. In Africa, however, the average growth per year is 5% with a rate of 6.6 % in East Africa. These data result from a combination of factors such as the natural increase in the urban population, the fall in mortality, the growth in rural migration, as well as the reclassification of rural areas as urban. In the major part of the developing world, migration alone is responsible for 40 to 50 percent of the growth of metropolitan areas, not only by virtue of the number of individuals, but also due to the higher birth rates found among the migrants, the majority of whom are young adults at the reproductive age.

In effect, those who migrate from the rural zones to the urban centres are the younger, more robust, and more educated. Men outnumber women in Asia, but the contrary occurs in Latin America.

Table 1 illustrates data on urban populations in the principal regions of the world according to their degree of development, providing evidence that urban growth will be most intense in the coming years in the least developed regions.

It becomes clear from these data that the number of people that live in urban areas of those regions is greater, and increases more rapidly than in more developed regions. If the projections of the U.N. turn out to be accurate, by the year 2020 the population of the entire developing world will exceed 6.5 billion, of which 53.5% , that is to say 3.4 billion, will live in urban areas. Within only 30 years, those urban areas will have a population equivalent to that of the entire world in 1970. If the current rhythm of growth is maintained, it will require, respectively, 20 and 25 years to double the urban population of Asia, Latin America and the Caribbean, but less than 15 years for Africa.

This means that just to maintain the current living standards— which many consider to be inadequate— it will be necessary to double the availability of goods and services during the same

TABLE 1
URBAN POPULATION BY REGION, TOTAL URBAN,* AND PERCENTAGE ( ) OF TOTAL POPULATION

	1950	1960	1970	1980	1990	2000	2010	2020
Most developed region	447.3 (53.8)	571.4 (60.5)	697.9 (66.6)	798.2 (70.2)	877.2 (72.5)	949.9 (74.4)	1011.4 (76.0)	1063.4 (72.2)
Less developed region	286.9 (17.0)	460.1 (22.2)	673.2 (25.4)	965.9 (29.2)	1357.1 (33.6)	1902.7 (39.3)	2611.45 (46.2)	3424.8 (53.1)
TOTAL WORLD	734.2 (29.2)	1031.5 (34.2)	1371.1 (37.1)	1764.1 (39.6)	2234.3 (42.6)	2852.6 (46.6)	3622.9 (51.8)	4488.2 (54.7)
Africa	35.3 (15.7)	52.6 (18.8)	81.2 (22.5)	129.2 (27.0)	210.5 (32.6)	340.0 (39.0)	528.0 (45.6)	765.6 (52.2)
Asia (excluding China and Japan)	122.8 (16.2)	175.4 (19.1)	261.5 (22.4)	395.8 (26.9)	578.9 (32.0)	827.0 (38.2)	1134.8 (45.5)	1474.5 (52.7)
Latin America and the Caribbean	67.6 (41.0)	106.9 (49.3)	162.7 (57.4)	236.3 (65.4)	325.1 (72.1)	419.8 (76.8)	514.7 (80.2)	609.8 (83.0)

From: U.N. Departament of International Economic and Social Affairs, "Prospects of World Urbanization; Revised 1984-85". Population Studies No 101, United Nations, New York, 1987.

* millions

intervals. The same projections of the U.N. (2) have calculated, additionally, that in the year 2000 the population will be concentrated in huge urban centres, called "predominating" or "major". Among these, more than 79 will surpass 4 million inhabitants of which 59 will be in developing countries and will account for one quarter of the Third World population (Table 2).

THE EFFECTS OF URBANISATION

The rhythm of current growth of the urban centres in developing countries is much greater than in industrialised countries, at the end of the 19th century and the beginning of the 20th. Nowadays, many developing countries have an urban-rural population distribution similar to that of industrialised countries, without having had the means or the time to conduct orderly planning of the necessary urban infrastructure. The effects of urbanisation on the economy of the countries are numerous, but the most evident effects relate to food availability, consumption models, and nutritional needs. Satisfying the food demand of the cities requires policy decisions at the highest level. The evolution of the urban food demand requires

TABLE 2
URBAN COMMUNITIES WITH AT LEAST 2 MILLIONS INHABITANTS IN 1985 CLASSIFIED ACCORDING TO THEIR POPULATION SIZE*

Classification in 1985	Community/Country or Area		1950	1985	2000
1	Tokyo/Yokohama	Japan	6.74	18.82	20.22
2	Mexico City	Mexico	3.05	17.30	25.82
3	San Paulo	Brazil	2.76	15.88	23.97
4	New York	U.S.A.	12.41	15.64	15.78
5	Shanghai	China	10.42	11.96	14.30
6	Calcutta	India	4.52	10.95	14.30
7	Buenos Aires	Argentina	5.25	10.88	13.18
8	Rio de Janeiro	Brazil	3.48	10.37	13.26
9	London	United Kingdom	10.37	10.36	10.51
10	Seoul	Korea	1.11	10.28	13.77
11	Greater Bombay	India	2.95	10.07	16.00
13	Osaka/Kobe	Japan	3.83	9.45	10.49
14	Beijing	China	6.74	9.25	11.17
17	Jakarta	Indonesia	1.82	7.94	13.25
15	Cairo/Giza	Egypt	3.50	7.69	11.13
20	Teheran	Iran	0.95	7.52	13.58
21	Delhi	India	1.41	7.40	13.24
23	Manila/Quezon	Philipines	1.57	7.03	11.07
25	Karachi	Pakistan	1.04	6.70	12.00
26	Bangkok	Thailand	1.44	6.07	10.71
27	Lima-Callao	Peru	1.05	5.68	9.14
28	Madras	India	1.42	5.19	8.15
29	Hong Kong		1.75	5.13	6.37
31	Dhaka	Bangladesh	0.43	4.89	11.16
33	Bogota	Colombia	0.70	4.49	6.53
34	Baghdad	Iraq	0.58	4.42	7.42
36	Santiago	Chile	1.43	4.16	5.26
38	Pusan	Korea	1.04	4.11	6.20
39	Shenyang	China	2.25	4.08	5.35
40	Bangalore	India	0.78	3.97	7.96
43	Caracas	Venezuela	0.68	3.74	5.03
44	Lahore	Pakistan	0.83	3.70	6.16

From: "The Prospects of World Urbanization, Revised 1984/85" (ONU)
* millions

substantial changes and a better quality and variety of agricultural products.

The zones of supply for the cities are even further removed and when it is no longer possible to satisfy food demands with their own national resources, one must resort to imports, thus increasing the level of economic and the political dependence of the country.

In addition, urbanisation results in competition between urban and rural areas by exploiting the natural resources and is responsible for the introduction of drastic socio-economic changes. As a result, all of these factors affect the nutritional status of the population.

Other effects of urbanisation on food consumption depend on the availability of infrastructure, such as means of transport and markets, sufficient supply of water, adequate sewage systems and environmental sanitation, warehouses and processing industries, with the objectives of assurance of quality and availability of food supply.

FOOD PRODUCTION AND NATURAL RESOURCES

Although there are few data on the impact of the "expulsion" of the rural labour force on food production, it would appear logical that the reduction in this force would create seasonal shortages in manpower. At the same time, the migration would increase the number of consumers in the cities and, hence, the index of family dependency.

In order to meet the growing urban demand for food, with a reduced rural work force, it is necessary to increase agricultural productivity. For this, one must resort to a number of mechanisms such as seasonal employment, especially of women, mechanisation of agriculture, adjustment in the calender of harvests; subsidised inputs, seeds, pesticides, etc; and credits which benefit, above all, the larger agro-business.

The change in the composition of the urban food requirements necessitates substantial changes in the quantity and quality of agricultural products. For example, areas close to the rapidly growing urban centres ("green belts") change their traditional production to cultivate products that have much more demand in the urban population.

The impact of urbanisation on agricultrual production is also shown through the loss of agricultural lands to build highways and new urban residential developments, as well as to provide water and fuel. It is estimated that about 10 million hectares of arable lands will be taken for urban development between 1980 and the year 2000.

The rural-urban competition for water is still more complicated. In order to satisfy the growing demand of the city, more and more water is dedicated to urban uses at the expense of agriculture. Also, great amounts of water are contaminated with industrial and urban waste, as well as agricultural waste and agro-chemicals.

In addition, the growing demand for firewood is leading to rapid deforestation in areas surrounding cities and is responsible for price increases. This situation worsens the precarious situation of family earnings in poor urban families and reduces the availability of household food. This last factor, combined with a deficient sanitary environment, contributed to the prevalence of malnutrition and morbidity in the cities.

SOCIAL AND ECONOMIC CONDITIONS

Recently, it was thought that the population of the countries of the Third World was predominantly rural, with a concentration of administration and services in the main cities. In the light of the data and the projections on world wide demographic growth, we have been able to realise that the majority of the population of developing countries in general is affected by the urban problem. Unfortunately, in those countries few national governments and even fewer municipal city hall administrations have the power, the resources, or the qualified personnel to provide the required services and facilities for a better life for their rapidly growing populations; these would include employment, clean water, health, schools and transport.

The recent migrants to the cities generally lack ideal professional training or education for the available jobs. Therefore, they will not have regular income nor adequate housing or food during a transition period immediately after their arrival; hence, they live in the cheapest slum areas. These factors carry grave consequences for the physical and mental health of these families, which translate into a high incidence of diseases linked to the lack of drinking water and environmental sanitation. It is estimated that one in four children dies due to acute malnutrition (3).

The majority of recent immigrants look for work in the informal sector, as temporary workers in construction jobs, as vendors of street foods, in transport, in street services, not to mention theft and prostitution.

In view of the precarious state of their incomes, the high cost of transport to the areas of temporary employment, the contributions that have to be sent back to the parents that were left behind in the villages, the lack of time or facilites to prepare food, these families consume primarily cheap basic foods, as well as processed food of poor quality. As the adults and even the children are often outside the home in search of work, or in one way or another earning a living, they buy their food from street vendors who give little attention to the hygiene or security of what they sell.

In this transition period, the recent arrivals also find it difficult to figure out the network of social and health services geared to children, taking into account that many women do not know how to deal, nor how to deal with life in big cities, which aggravates even more the health and nutrition of their little ones.

In this panorama, one of the most dramatic social consequences for the welfare of the children is the interruption of breastfeeding, which is observed only half as often in the cities of Latin America, as in the corresponding rural areas. This can be explained by the attempt of women to join the work force, as well as the persuasive advertising campaigns for commercial weaning products. Unfortunately, the change to bottle feeding often means an overly diluted milk due to the high cost of powdered milk, as well as to its contamination due to poor maternal knowledge and the lack of sterilising facilities. The results of changing to the artificial feeding of infants are gastro-enterites, emaciation, marasmus and often, death. (4)

Simply getting food every day is, therefore, one of the major problems that the poor must confront in urban areas. The purchase of foods depends not only on the price itself but also the non-food expenditures; that implies, for example, going to a central market. To save the additional expenses of transport, the poor are obliged to purchase foods in small quantities, or singly in local establishments and from street vendors at higher prices.

In order to face up to the continuously growing and everchanging food needs, the absolute priority is for better commercialisation of foods for the very poorest. This could be done by way of peripheral markets with easy access to consumers and with efficient systems of organisation, administration, hygiene, quality and price control. As the cities grow, the demand for fresh fruits, vegetables and livestock products increases more rapidly than that for basic staples, especially cereal grains. That is to say that the proportion of perishable foods in the cities is increasing constantly, and that the supply and management of these foods need adequate facilities.

FOOD CONSUMPTION AND NUTRITION

With the exception of basic foods, urban diets generally provide greater quantities of the remaining food groups than do the rural diets. This situation derives from a series of factors such as earnings, ecology, eating habits, publicity, etc. In addition to the socio-economic factors, other variables, such as cultural factors, family structure, educational levels etc. play a more important role in the evolution of a traditional rural diet into the urban pattern.

Rural emigration often signifies a brutal rupture with traditional dietary habits for the new residents; this can cause a series of nutritional deficiencies. It has been shown that, in industrialised countries, urbanisation has a greater effect on food habits than on underlying nutritional status itself. A similar evolution is now being demonstrated in developing nations.

Urban populations, influenced both by the introduction of foreign food through the channels of food assistance and by the provisions available, thanks to commercial importation, wind up preferring products such as wheat and rice which, however, are better adapted to the urban life-style. The latter have culinary qualities that make them easier to cook and prepare than the secondary cereals, traditional roots and tubers, which are native to the areas. (5)

These changes are even noted in Latin American countries, where such diverse traditional preparations of maize, such as tortillas or atoles, have permitted the adaptation of this grain to the urban life-style. Despite this, there is a growing intake of wheat among the cereal grains eaten in urban areas.

In addition to the basic foods, there are others that contribute to the diversification of the urban menu. The consumption of fresh foods, such as fruit and vegetables, meat and poultry, milk and dairy products is increasing rapidly. On the contrary, the consumption of legumes is falling rapidly, and vegetable oils are gradually taking the place of traditional animal fats.

Fish consumption and above all of fresh fish, is increasing with urbanisation; in countries with a rice-based food system, there has been a reduction in the consumption of salted or preserved fish foods in favour of the fresh product. As a result, there exists a general tendency in urban eating patterns to substitute progressively starches with sugars, animal proteins, fats and lipids.

These changes in the feeding system also have positive consequences in the supply and utilization of certain micro-nutrients, such as iron (from animal products), calcium and vitamins A and C.

Therefore, the process of urbanisation has an enormous influence on feeding, by supplying to the urban population nutrients that contribute to a better level of health and nutrition, at least until higher wages and the adoption of harmful eating habits put consumers into the category of overnourished: malnutrition "by excessive" consumption is growing rapidly in all of the metropolises of the world, especially in those in developing countries.

Nevertheless, during the changeover, residents of cities enjoy a better nutritional status than those in the countryside, above all thanks to a greater availability of health services and to a greater diversification of the diet. This concept means that nutritional adequacy of the diet is related not only to the satisfaction of energy and protein requirements, but also to the number and quantity of the distinct ingredients that enter the diet.

For this reason, the urban diet, which is more varied, provides important nutritional benefits. The Fifth World Food Survey of the FAO (6) shows, in Table 3 that infantile malnutrition in the rural environment is much greater than in the urban setting.

The reason is that practically all consumers of urban centres have access to a greater variety of foods, above all animal

TABLE 3
PERCENTAGE OF CHILDREN LESS THAN FIVE YEARS OLD IN RURAL AND URBAN AREAS OF SOME COUNTRIES

Country and date	Low height in relation to age (1)		Low weight in relation to height (2)		Low weight in relation to age (3)	
	Areas		Areas		Areas	
	rural	urban	rural	urban	rural	urban
	%		%		%	
Brazil (northeast) (1975)	21,9	16,6	2,2	2,3	21,9 (4)	16,6 (4)
Camerun (1978)	22,4	15,5	1,1	0,7	23,0	12,2
Egypt (1978)	23,8	15,0	0,7	0,5	9,9 (4)	6,1 (4)
Haiti (1978)	28,6	15,7	6,4	3,8	29,5 (4)	14,6 (4)
Lesotho (1977)	33,7	17,2	4,3	3,0	24,9	17,3
Liberia(1976)	20,2	13,8	1,6	1,7	25,5	
Arab Republic of Yemen (1978)	42,1	13,0	6,7	2,1	47,0 (4)	22,8 (4)
Sierra Leona (1978)	26,2	17,4	3,2	3,2	32,4	24,3
Togo (1977)	20,4	11,4	2,2	0,8	16,5 (4)	8,9 (4)

1. Less tan 90 percent of reference value. Indicative of long term undernutrition (chronic)
2. Less tan 80 percent of reference value. Indicative of recent undernutrition (acute)
3. Less tan 80 percent of reference value. Indicative of acute undernutrition, chronic or acute plus chronic.
4. Less tan 75 percent of reference value.

products, fruits and vegetables. Although the levels of energy intakes in the urban area are generally lower than in the rural zones, dietary diversity along with lower energy expenditure could explain the reason why malnutrition is less extensive in the cities. The quality and the nutritional content of urban diets, expecially with respect to fats, animal proteins, iron and vitamin A are greater than in the rural diet. In general, urban areas have lower rates of morbidity and mortality, a greater life expectancy, and fewer children with low birth weight problems and growth retardation (7).

The rates of infant mortality among residents of the poor neighbourhoods and slums are far higher, however, than among other inhabitants of the cities. For example, in a study undertaken in neighbourhoods in the city of Porto Alegre, Brazil, in 1980, the rate of infant mortality for slum residents was triple than of those who lived in communities with adequate urban infrastructure (76 per 1000 births compared with 24 per 1000). (8)

At the other extreme of the malnutrition spectrum in the urban areas, one can observe a growing incidence of chronic degenerative diseases, not only among the poor classes of the industrialised countries, but also among the well-to-do classes of developing countries. This phenomenon, which is affecting an ever growing proportion of the population in the majority of developing countries, is attributed essentially to factors such as the increase of income, the evolution of life-styles and rapid urbanisation.

These factors promote the "westernisation" of the society, principally of the diet, which contributes to an increasing incidence of chronic ailments related to diet, such as diabetes, obesity, cardio-vascular diseases, and dental caries. To date, these problems have not received the attention that they merit from the epidemiological point of view, as energy deficiency, malnutriton and deficiencies of other nutrients have monopolised the few resources dedicated to the fight against malnutrition. (9)

The importance of changes in eating practices due to the westernisation of the diet, even in a country such as Mexico, in which maize still constitutes the basic staple, is illustrated in table 4 (10).

All of these changes in patterns of intake modify the urban food demand in developing countries, and aggravate their dependence on industrialised countries, because in most cases, the best foodstuffs for an urban life-style are not produced locally and must be imported.

In addition, as a consequence of urban growth, an even smaller number of rural peasants must satisfy this food demand, which requires considerable effort by governments to adopt efficient systems of production, and change the patterns of agricultural production in a period of crisis, where the same agricultrual system is trying hard to earn foreign exchange to alleviate the foreign debt.

In Table 5, taken from a FAO study (11), estimates of the increases in foodstuffs are illustrated, expressed as wheat-equivalents that would be necessary in developing regions to

feed the additional urban populations for the year 2000.

If the 290 million tons of wheat equivalents of foodstuffs that are lacking to nourish all of the additional urban population between 1980 and the year 2000, had to be produced locally, this would require, according to estimates, an increase in the productivity of the agricultural worker in Africa of 24 %, in Asia of 16% and in Latin America of 17% over the same 20 year period. Up until now, the increase in food production has not been sufficient to address the food needs, the result of which has been a progressive increase in imports. But in the long term, the growing dependence on imports is not sustainable.

TABLE 4
SUBURBS OF MEXICO CITY: AVERAGE CHANGES IN DAILY FOOD INTAKE OVER A PERIOD OF 18 YEARS

Food Group	g/Person/Day Year	
	1960*	1978*
Tortillas	332	222
Bread, Pasta	118	107
Rice	11	39
Wheat flour	0	15
Beans	45	43
Milk	205	272
Cheese	0	28
Meat and meat products	54	71
Eggs	8	53
Garden vegetables	104	30
Fruits	40	47
Fat/oils	26	31
Sugar	45	38
Commercial Beverages	52	219
Processed food	5	27

Source (10)
* Number of households in 1960: 100 and 1978: 400

Producing more in order to supply the ever-growing volume needed to cover the urban energy needs and satisfy the demand in quality and variety, constitutes a truly impressive challenge for the governments and administrations faced with the irresistable growth of the urban population. But even if they had efficient systems to resolve these problems, the governments would still have to improve infrastucture to ensure that the products get to the markets without excessive losses and at a price accessible to the majority.

Moreover, the urban demand for fresh foods, i.e. perishable foods, is growing faster than that for grains and roots, and therefore, it is necessary to raise the efficiency of transport, storage, marketing, and food industry to a level that assures a stable availability of high quality foods for all the socio-economic groups. In particular, the establishment of peripheral markets, jointly with the creation of wholesale markets in strategic areas in the city, contributes to reducing prices and assures the availability and the quality of foods. For example, the development of supermarkets in Latin America has occurred especifically in residential zones, in which clients have cars to go shopping and refrigerators which allow the purchase of large volumes almost at a wholesale price. Naturally, residents of low-income urban zones neither have the means nor the capacity to utilise these services and are forced to pay much more for some foods of lesser quality in the small local shops or local door to door vendors.

Therefore the majority of commercialisation and distribution of foods constitutes a priority in the framework of a realistic policy of food and nutrition, not only of urban consumers, but also for small producers, and specially women who generally provide the bulk of the supply of fresh products.

TABLE 5
ESTIMATED INCREASE OF FOOD NEEDS
(WHEAT EQUIVALENT) MILLIONS OF TONS

Region	Total of the urban population 1980 - 2000	Migrants to urban areas 1980-2000	No increase 1980 - 2000
Africa	56,9	25,6	31,3
Asia	173,6	78,1	95,5
Latin America	59,6	26,8	32,8
Total	290,1	130,5	159,6

STREET FOOD

Foods sold and consumed in the street can be defined as "foods and drinks ready to eat, which are prepared and sold in the streets and in public places". The development of this industry, or rather of this "urban food artisan's craft" (12) is linked mainly to the urban life-style, and closely follows the expansion of the urbanised population. This activity has always existed, but the current proliferation of food vendors in the streets is partially the result of a demand for catering services, looked down on by the establishment of formal restaurants and cafeterias, and partly the result of the growing numbers of people out of work or without professional skills, who have found a way of earning a living in this informal activity.

Increasing numbers of workers and employees do not have time to return home to eat due to the long distances and the lack of rapid low-cost transportation. This gives a dynamic character to this market and impetus to increase the number of street vendors who serve food at a low price, in comparison to restaurants or even in comparison with household food.

Street food plays a positive role in the local economy of developing countries. The craft creates jobs for the unemployed or those with irregular work, mobilising whole families into the purchase of the ingredients, preparation and making and selling of dishes. Thanks to the low cost of this activity, due to the inexpensive, and almost always home-made equipment, the street vendors have the capacity to offer food of good quality, ready to eat and at very accessible prices. (13)

For workers with scant resourses, or students, the availability of street food is a positive factor which allows them to integrate themselves into the city and this food, according to recent studies, has a high nutritive value. One can consider that those foods make a major contribution to the diet of poor families. Finally, with the proliferation of vendors, the competition is fierce, such that the prices remain low, yet another positive factor for the integration of poor families into the urban environment (14).

Street food offers other positive aspects in the social and economic realm, sometimes due to their informal nature. This industry gives work and income to a large number of women and girls. For example, in Peru and Guatemala, 50% of the vendors are women and this proportion reaches 90% in Honduras (15).

Street food also channels a demand for fresh traditional foods, offering small producers the opportunity both to earn money and promote traditional eating habits as they use local products.

Despite all of the aforementioned advantages, the street food industry is not taken into consideration in the national budget balance, as it is virtually impossible to estimate the economic importance of this informal activity. Also, the sanitary and hygienic quality of these foods provokes unease among public health authorities and various countries are striving to incorporate this activity within the formal system of retail sales.

Therefore, the existence of street food industries places governments in the dilemma of either suppressing or assisting this activity, which plays such an important role in the urban food system of Third World cities, and which has an undeniable importance, not yet determined but certainly great, in the supply and demand of foods.

Conscious of the utility of this industry as a factor for the integration of the most underpriviledged groups, many governments are struggling to reconcile the advantages derived from their informal character with a minimum of quality control measures and necessary authorisation for sale to ensure the health of the consumers.

A PROPOSAL FOR SOLUTIONS

The experience of the twentieth century shows that migration to the cities is inevitable and, probably, in the long run, it represents a positive point, given that, in one or two generations, the social and economic status of the migrants reaches a much higher level than that of the relatives that remained in the countryside. But the price that must be paid by the poor and unskilled immigrants while passing through this critical period which begins right after leaving the villages, is high, in terms of health, infant mortality and social and employment exploitation.

At a national level, the majority of Third World governments are viewing, with considerable consternation, the phenomenal and anarchical growth of the major cities, a growth that can no longer be contained within the limits of the long-range social and economic development plans. Certain countries have responded to this situation by designing "spacial policies" trying to constrain the growth via development of secondary urban centres. Up to now, the results of these policies have been mainly expensive and inefficient. Policies of sectorial development have continued to be contrary to the initiatives for decentralisation, and public or private investments have retained their decentralising logic. As a consequence, rural-urban migration has continued its accelerated rhythm.

The macro-economic policies and the prices continue to favour the major cities, which receive the major part of the national investment in electricity, water, markets, education, health and transportation. With respect to food, subsidies keep their prices low—for reasons of political stability—and continue attracting multitudes of poor people in need of food.

For these reasons, there are so many migrants that have moved in the recent decades to cities such as Nairobi, Manila, Mexico, Sao Paulo, Rangoon and Puerto Principe.

The lessons about the policies regarding the use of space in urban development that we can glean, then, are that coersion does not work. Only the attenuation of economic and social inequality between rural areas and the secondary cities on the one hand, and the major metropolitan areas on the other, can reduce the migratory movement. Certain developing countries have begun to take away more funds from the major cities and invest them in rural areas and secondary cities (16), taking advantage of the natural economic resources of the regions, specially the processing of products and marketing, in addition to the decentralisation of governmental services. The conclusion is that a successful urban policy cannot be achieved without simultaneously undertaking an ambitious programme of rural development.

Meanwhile, it is of urgent necessity to undertake measures to improve food and nutrition for the most underprivileged, who have already moved to the city and are living under the most miserable conditions.

URBAN INFRASTRUCTURE FOR IMPROVED FEEDING

Rapid urban development creates acute problems for nutrition and feeding, and problems for commercial distribution, as well as overburdening the infrastructure and services aimed at protecting the quality and security of the food supply.

The lack of services such as rubbish disposal, drinking water supply systems, and sewage is the cause of the growing contamination of food, which in turn leads to disorders and diseases that reduce the working capacity of the population. The lack of quality control for foods sold by street vendors, and the slaughter of animals in new peripheral communities can be responsible for the spread of disease. This is a risk with wider implications, since some of the food workers originate in these neighbourhoods. By virtue of the lack of education or the scarcity of sanitary facilities at the workplace, the standards of sanitary quality for processed foods might be less than that established at national or international levels. The cholera epidemic, which has broken out in South and Central America results, without a doubt, from the lack of adequate infrastructure for providing water and foods.

Among the priority measures which must be taken, improving the system of food distribution in the cities is the most fundamental to stimulate an efficient process for sale and to ensure an adequate supply of food at reasonable prices for the majority. Solutions to the problem of transport of fresh foods from rural zones, quite distant from the city, is fundamental to reduce losses and ensure a rapid turnaround by truck or rail, between the production areas and the central markets. Also, to reduce the expenses in marketing and distribution, governments should step in to improve the storage, processing and quality-control sevices. There is already abundant experience e.g. in Mexico and Brazil, that this has provided positive results for the needy groups. Nowadays, thanks to initiatives taken at the community level, we can observe the establishment of informal community cooperatives in certain Latin American countries, which buy in bulk so as to take advantage of wholesale prices. Sometimes they rent transport as in the collective purchase of beef in Argentina and of basic staples in Brazil.

To resolve all of these problems, it will be necessary to take a series of educational, legislative and legal measures that can only be implemented through the special efforts of officials, producers, transporters, industrialists, marketers and also by consumers.

PROGRAMMES OF NUTRITIONAL INTERVENTION

As in the majority of the developing countries, the improvement in the infrastructure, the training of personnel, and changes in the pattern and quality of food production will take time. Taking into account the rapid growth of the cities and the limited resorces, the nutritional intervention programmes are directed towards the most vulnerable groups (children, pregnant women, lactating women), which cannot wait for the large scale socio-economic development policies to bring them nutritional and health security in the short term.

Many programmes have been implemented in the last few decades in various parts of the world. The most effective have come about for their integration into primary health and maternal education programmes. For example, the World Bank has mentioned a considerable reduction in infantile malnutrition in Brazil and Colombia, using a combination of directed subsidies to facilitate access to foods, direct food distribution, and nutritional education (17). FAO, for its part, has carried out a series of studies in various urban centres in Africa, Asia and Latin America to identify those interventions best suited to improve the nutritional situation of the most underprivileged groups, and to identify barriers to their implementation (18). These studies are summarised in Table 6.

As shown in Table 6, there is a series of interventions to help resolve the food and nutrition problems of the urban poor. Many of them have been carried out in various developing countries, and their cost-benefit evaluation has clearly shown interventions aimed at improving access to foods at the household level, to be more efficient than those targeted toward specific individuals. Nevertheless, intervention in the at-risk groups is still necessary to satisfy the nutrient requirements of children. Of course, what follows would not make much sense if the macroeconomic policies for employment, health, credit, etc, essential for the allieviation of urban poverty and malnutrition, were not carried out simultaneously. These considerations, however, are outside of the scope of this document.

ACCESS TO FOOD

The concept of access to food constitutes one of the essential bases of the strategy of food security and consists in providing low income groups with the means of acquiring their basic

TABLE 6

REPORTS AND RESULT FROM THE 1986 FAO MISSIONS TO URBAN CENTERS OF AFRICA ASIA AND LATIN AMERICA (NAIROBI, DACCA, JAKARTA, BANGKOK AND CITIES IN ARGENTINA, BRAZIL, COLUMBIA, CHILE, ECUADOR, MEXICO, PERU, URUGUAY AND VENEZUELA

Problems	Interventions	Limitations
Prices of food too high for the poor: food/packaging food ratio	1. fair price stores. 2. Simpler packaging, communal purchasing, consumption cooperatives	1. and 2. depend on economic and political decisions
Prices of basic foods fluctuate when scarce and prices in parallel markets increase excessively	Availability of municipal stocks, especially for the poor, located in poor zones for easy access	Political and economic action
Not enough time for breast-feeding, preparation of food for unweaned infants, reduction in infant care, nutritional problems of the aged	Day centers at workplace, cheap food for weaning, communal kitchens	Lack of pertinent legislation for working mothers; shortfalls in technology and resources
Imbalanced food intake, deficiency of micronutrients, lack of family food security	Urban agriculture for fruit and vegetables, encouragement and production of cheap food mixtures rich in nutrients, fish ponds, small cattle raising	Legal restictions on agriculture in urban centres; lack of space and extension services, lack of fruit nurseries
Poor enviroment, lack of cooking fuel, insufficient sources of drinking water, insanitary conditions	1. Piped water on street corners 2. Firewood groves in cities 3. Widening of sanitary services to poor areas 4. Education in environmental hygiene	Profitable interventions yet ones which demand political decisions
Long distances to markets	Establishment of markets with intervention, run in poor areas	Needs close planning and execution and perhaps subsidies
Lack of nutritional knowledge	Nutritional education	Illiteracy, lack of funds for programs, incorrect publicity
Lack of statistics on poor urban population and its nutritional condition and planning and follow-up programs	Mandate for the collection of data for urban statistics	Legal problems such as not considering shack districts as part of municipal administration
Shortage of personnel to carry out programmes	In-service training for personel, volunteers and young people	Difficulty in finding sufficient literate volunteers and a high drop-out rate
Insufficient nutritional elements in current community development activities	Awareness among city leaders and planners	Need for more political conscience
Wastage of resources and effort through lack of coordination between public sector and NGOs	Estabishment of coordination mechanism	Danger that NGO commitment and initiatives would be diluted by formalised interventions

staples or of giving them the wherewithal to produce them. To facilitate access, one can act on purchasing power with policies for jobs, training, and wages; alternatively, one can act on the supply of food, with a view to containing the increase in prices and their fluctuations, in order to stabilise the supply of food. This can be effected with the establishment of ration shops, consumer cooperatives or with the construction of food depots and community purchases, or both.

Measures to change the supply are generally more rapid although they are more vulnerable to the economic complex—than policies of socio-economic development.

SUBSIDISED FOODS

Subsidies assigned to certain basic staples to facilitate the acquisition by poor are very popular because they are politically visible and permit a large number of people to be reached.

These subsidies can be general or targeted and can be in the form of food coupons, thus constituting a transfer of income to the neediest. General subsidies are the most common type since they are the easiest to implement, but they almost exclusively favour urban consumers, and their benefits reach the rich as well as the poor. In order to better target them, various systems have been implemented, such as operating ration shops only in poor neighbourhoods, or passing out identification cards only to eligible participants.

Programmes based on coupons which have a monetary value and which can be exchanged in regular stores for certain basic staples (food stamps), have been tried for a long time, but not so much in developing countries, as the administrative costs are high. Nevertheless, recent experience in Brazil (19), and Columbia have provided promising results, especially because they have directed their efforts at strengthening the administrative-technical stucture and at training personnel.

Direct food aid aimed at certain target age-groups are also a widespread measure to facilitate the access of foodstuffs to vulnerable groups.

Programmes of food suplementation can supply edible items in the same places where the beneficiaries are found, or they can be given out from a central point for the participants to take home with them.

These programmes are especially directed to mothers and preschool- children, and are usually based in maternal child centres, social services, and day-care centres as their distribution network.

School feeding programmes are also very well known and popular in Latin America. Even though their impact on height and weight parameters has not been firmly established, there is no doubt that this type of program is one of the most efficent from a cost-benefit point of view, because it allows undernourished children to recover a medium level of physical and mental growth.

In particular, school-feeding increases enrolment and attendance, and awakens the curiosity and attention of students, allowing them to make maximum use of their studies.

Finally, another type of promising community action initiative has recently been launched in Latin America under the pressure of the economic crisis. There are self-help projects promoted by women's clubs, neighbourhood committees and cooperatives which, by virtue of their informal character, their flexibility and small scale are best suited to resist the price and supply fluctuations. They are also truly based on a community spirit and they function at a low cost.

Some of these projects are being successfully developed in Central America with the help of PVOs and bilateral organizations and have established infrastructure such as popular kitchens, food shops and day-care centres for mothers who work outside the community.

URBAN AGRICULTURE

Governments should assist the development of urban agriculture. This type of agriculture refers to the production of food within the urban or peri-urban limits, that can be horticultural (vegetable gardens), for basic staples, the raising of animals, or full-scale agriculture. Urban agriculture also represents a remunerative activity of easy access to many of the unemployed, especially women. The promotion of urban agriculture should be official and actively promoted as an important component of urban development and as an additional source of food—or of income—for the poor. The purpose of such a promotion should be to increase the health and nutritional status of the poor, to increase their income (50 to 70% of which is customarily spent on foods) and to promote employment. Urban agriculture also has the advantage of producing fresher and less expensive foods, of contributing to the health of the ecology of the cities with the creation of green areas, eliminating rubbish, and recycling domestic waste.

CONCLUSIONS

The phenomenon of urbanisation is irreversible and it is still accelerating in various regions of the world by virtue of an endogenous increase in urban populations and through growing internal and external migration.

To address the problem, the regional governments dedicate the majority of their resources to the improvement of urban infrastructures, to establishing industries to generate employment, to assuring the regular supply of food, all of this at the cost of agricultural investment which is declining in almost all developing countries.

The urban masses enjoy a far superior political clout than the more numerous, but dispersed and isolated rural populations.

For this reason, little effort is spared in helping them to survive and to integrate themselves within the urban fabric. An essential element in such a policy is food, a vital necessity and at the same time a visible manifestation of the concern for the poor by the governmental authorities.

From the rural side, in contrast, the investments are specific and modest, except for export crops that allow for the payment, albeit partial, of the foreign debt. So widespread is the practice of subsidising consumption in developing countries—almost exclusively benefiting the cities—that subsidies for the production of traditional basic staples are exceptional and rare.

Under these conditions, rural poverty increases, national production of foods declines, aggravating even more the economic and social dependence on the importing countries. On the other hand, because of lack of investment in collective rural services such as schools, health centres, hygiene, and transport, the phenomenon of "expulsion" of the productive rural labor force accelerates and the importance of the urban sector in the national economy increases even more.

As a result, a national urban food and nutrition policy should be formulated based on a just distribution of state investment to revitalise the rural area. In this context, it is interesting to note that the policies of economic adjustment proclaimed by the International Monetary Fund and the World Bank have begun, in certain countries, to invert this tendency and to increase the production of food in order to improve the income of the peasant farmers and reduce undernutrition.

What is certain, howerer, is that the producers will direct their resources toward agricultural or industrial activities that are most profitable, which are generally those of interest to the consumer with substantial buying power.

National food security is therefore based on a more balanced policy between the countryside and the city, both centralised and decentralised, regarding both the supply and the demand and integrating the agro-food chain with development.

On the part of the poor urban consumers, it is necessary to emphasise the dyad of nutrition-health because one cannot improve one without the other. With respect to nutrition, the most efficient action, in addition to the basic social and macro-economic policies, is that which facilites access to foods, because, with the aid of a nutritional surveillance system, they allow one to direct the effort to the neediest.

On a long-term basis, one could contemplate influencing food demand to restrain the role—often damaging— of commercial publicity so that the poor can obtain an optimun nutritional value in the foods that they buy. Many programmes are already operating, especially in Latin America, which are disseminating education to the consumer, which control prices for retail sales and control the quality and the safety of food. These interventions are fortified also with initiatives of self-help of the community, by the informal sector of street food vendors, and by national non-governmental associations. Nevertheless, confronted with a largely urban future, it is imperative that we mobilise international cooperation for developing the capacity for the countries themselves to nourish their own cities by way of broad polices of urban and rural development. Certain efforts have already been brought to fruition under the auspices of international non-governmental organisations such as the World Association of Cities in the International Congress of "Man in this World" celebrated in Madrid, Spain in February 1986.

Facing the magnitude of urbanisation problems that will characterise the third millenium, it will be necessary to involve the technical agencies of the United Nations which have adequate technological bases to advise and aid the governments and to mobilise those indispensible international resources to ensure harmonious balanced development of the countryside and the city. What needs to be taken into account is the external pressures, the time that it takes for these efforts to show an effect, and the social forces that struggle to gain the attention of those in power.

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