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SOME URBAN FACTS OF LIFE: IMPLICATIONS FOR RESEARCH AND POLICY

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ABSTRACT

This review of recent literature explores the challenges to urban food and nutrition security in the rapidly urbanizing developing world. The premise of the manuscript is that the causes of malnutrition and food insecurity in urban and rural areas are different due primarily to a number of phenomena that are unique to or exacerbated by urban living. These areas include (1) a greater dependence on cash income; (2) weaker informal safety nets; (3) greater labor force participation of women and its consequences for child care; (4) lifestyle changes, particularly diet and exercise patterns; (5) greater availability of public services, but questionable access by the poor; (6) greater exposure to environmental contamination; and (7) governance by a new, possibly nonexistent, set of property rights. The main focus is on identifying what is different about urban areas, so as to better frame the program and policy responses.

CONTENTS

Acknowledgments v

1. Introduction 1

2. Challenges to Obtaining Food, Nutrition and Health Security in an Urban Environment 2

- The Importance of Cash Income and Markets in Urban Areas 2
- Stronger Formal Safety Nets and Weaker Informal Safety Nets? 6
- The Increased Labor Force Participation of Women and its Consequences for Child Care 9
  - The Numbers 9
  - Women's Work and Child Care 10
  - Women's Work and Processed Food Consumption 14
- Lifestyle Changes 16
  - Dietary Patterns 17
  - Activity Patterns 19
  - Health Implications 20
- Increased Availability of Services, But Questionable Access by Poor Households 22
- Environmental Contamination 24
  - Air Pollution 25
  - Water and Food Contamination 26
- Legal Rights 28
  - Urban Agriculture 28
  - Informal Marketing Activities Such as Street Foods 30
  - Insecurity of Tenure and Development Activity 31

3. Implications For Policy and Research 32
- Measurement of Trends in Urban Poverty and Nutrition 33
- Determinants of Urban Poverty and Undernutrition 33
- Learning From Existing Urban Interventions 34
- Improving Methods of Inquiry in an Urban Environment 39

4. Conclusions 41

Tables 42

References 46

TABLES

1 The incidence of formal safety net programs in selected Sub-Saharan countries . . . 43

2 Comparison of women's work and child care arrangements in urban and rural areas (data from DHS surveys) 44

3 A comparison of the magnitude of rural/urban, within-urban and within-rural differences in the prevalence of diarrhea in 2 weeks preceding survey (DHS data) 45

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1. INTRODUCTION

The premise of this manuscript is that the causes of malnutrition and food insecurity in urban and rural areas are different due primarily to a number of phenomena that are unique to or are exacerbated by urban living and by the circumstances that brought the individual to the urban area in the first place. We discuss the following phenomena (or "urban facts of life") and the pressure they place on the attainment of household and individual food, nutrition, and health security: (1) a greater dependence on cash income for food and nonfood purchases, (2) weaker informal safety nets, (3) greater labor force participation of women and its consequences for child care, (4) lifestyle changes, particularly those related to changes in diet and exercise patterns, (5) greater availability of public services such as water, electricity, sewage and health, but questionable access by poor slum dwellers, (6) greater exposure to environmental contamination (water, food, and air), and (7) governance by a new, possibly nonexistent, set of property rights.[1,2] The main focus of the discussion is on identifying what is different about urban areas, which should help frame the program and policy responses that are discussed in the final section.

2. CHALLENGES TO OBTAINING FOOD, NUTRITION AND HEALTH SECURITY IN AN URBAN ENVIRONMENT

[1] This list was derived based on an extensive survey of the literature (Ruel et al. 1998) and a stakeholder assessment conducted as part of the process of deciding whether IFPRI should launch a program of research on urban poverty, food insecurity and undernutrition (MP14 team 1997)

[2] Increased institutional and administrative complexity, greater exposure to stress, violence and addictive substances as well as HIV infections are also urban facts of life, but are not discussed here.

THE IMPORTANCE OF CASH INCOME AND MARKETS IN URBAN AREAS

Historically, the most significant difference between food access in urban and rural areas is that rural people can often produce their own food, whereas urban people are more dependent on food purchases. A recent study in Accra found that households purchase 90 percent of their food (Maxwell et al. 1999). This dependence on purchases is further increased because, unlike their rural counterparts, urban dwellers cannot easily exploit natural resources for their food. Food expenditures can make up as much as 60 to 80 percent of total income among low-income urban households (Tabatabai 1993; Maxwell et al. 1999).

The ability to earn a cash-income thus becomes an especially important determinant of urban food security. Factors that affect an individual's ability to generate income, including the ability to stay healthy or to get a good job (which can involve being able to get good education and training), are critical factors that for the poor are in short supply. Other noneconomic factors, including neighborhood, caste, and gender, can be even more important than human capital (ILO 1995; Yamada 1996).[3]

Perhaps the biggest challenge urban-dwellers face is that the majority of them work in sectors where wages are low, working conditions precarious, and job tenure insecure. Because urban-dwellers must rely on income in order to survive, urban poverty tends not

[3] As discussed below, participation in the labor force affect food and nutrition security not only by affecting income. Women's participation in the labor force is increasing, with potentially significant consequences for child care and dietary patterns of the household.

to be primarily the result of lack of work but the lack of well-paying, steady jobs. Many of the urban poor work in garment factories or at home for piece-rate work, sell food or cigarettes in the street, scavenge in garbage dumps, sweep streets and clean latrines, drive rickshaws, or seek day-work in construction (ADB 1994; ILO 1995; CARE Bangladesh 1998; CARE Tanzania 1998). In urban Sub-Saharan Africa, employment in sectors that pay regular wages, such as manufacturing and industry, accounts for less than 10 percent of total employment (Rondinelli and Kasarda 1993).

Potentially because of their concentration in these unskilled, irregular jobs, seasonality affects the earnings of the urban poor just as surely as it does those of the rural poor. CARE Bangladesh (1998) reports that incomes decrease among casual laborers such as rickshaw drivers and construction workers in Dhaka in the rainy season, primarily because they work outdoors and suffer from increased likelihood of illness.

With the urban-dwellers' dependence on purchases in the market for food, the level of food prices can seriously affect an urban household's food security. Food prices depend on a number of factors, including the efficiency of the food marketing system, the household's access to food subsidies or other food programs, and macroeconomic policies.

Urban marketing systems are highly diverse but not especially well-integrated, leading to higher prices. Bad roads linking agricultural production areas with the cities and inadequate storage facilities increase costs by causing high losses. Within the city, run-down and obsolete wholesale markets raise costs, too, as often ineffective management cannot handle the large volumes of food that are processed. Urban retail

markets are often small and scattered, unable to profit from economies of scale. At the same time, tight time constraints, coupled with an income pattern where wages are earned and spent daily, often compel the urban poor to buy their food from these small neighborhood shops, which do otherwise meet the needs of the urban poor by providing ready availability and permitting purchase of the small quantities often not available in larger markets (Drakakis-Smith 1992; FAO 1997).

Macroeconomic policies can also significantly affect the price of urban food. For many years, "cheap food" policies, including widespread subsidies, overvalued exchange rates, and trade restrictions deliberately kept the price of urban food low. Structural adjustment programs throughout the developing world have reversed many of these policies. As anticipated, the urban poor have not done well in the short-run (Demery and Squire 1996; Sahn, Dorosh, and Younger 1997). Demery and Squire report that even in Ghana, a country that has shown substantial commitment to economic reform and where rural poverty has decreased, poverty in the capital city of Accra has increased. The devaluation of currencies and the removal of subsidies have contributed to rises in food prices, although some have argued that these prices could fall if deregulation were broadened to include the food processing sector (Kelly et al. 1995; Jayne and Rubey 1993; Pearce 1991).

Households can reduce their reliance on cash-income for food in a number of ways, including accessing informal networks or formal social assistance programs or growing their own food on plots inside or outside the city. Formal and informal safety nets are the

focus of the following section, but here we can highlight the role of urban agriculture in providing for food and nutrition security. Although numbers are difficult to come by, studies estimates that as much as 40 percent of the population in African cities, and up to 50 percent in Latin America are involved in urban agriculture. Many of the producers are women. Most studies conclude that urban farming constitutes a crucial form of food access for the lower income groups, although because farming requires access to land, those who practice urban agriculture may not be among the poorest of the poor. (Maxwell 1995; Mougeot 1993; Rakodi 1988; Sanyal 1985; Sawio 1993; UNDP 1996).

The extent of urban agriculture varies widely depending on land availability and legal restrictions. The green spaces available in Kampala, Uganda, for example, are not so prevalent in Accra, Ghana, and very few urban households in Accra farm (Maxwell, Levin, and Csete 1998). But even where widely practiced it is rarely the household's primary source of food. For instance, approximately 55 percent of poor urban households in peri-urban Dar es Salaam farm, but they report they rely on production from their plots for only 2 or 3 months each year (CARE/Tanzania 1998). Still, even if the proportion of total household food supply coming from own production is small, it is important in the sense that the household can access this food at critical times when income falls. A recent study from Kampala, for example, demonstrates that urban agriculture can have an important impact on nutrition, especially among poorer households (Maxwell, Levin, and Csete 1998).

STRONGER FORMAL SAFETY NETS AND WEAKER INFORMAL SAFETY NETS?

It is difficult to define safety net programs. Pure safety net programs are in place to prevent the most vulnerable groups from falling into poverty. Factors exacerbating vulnerability in urban areas include crime (including domestic violence) drugs, overcrowding, and a lack of permanence of housing structure (Moser 1996). Good examples of safety nets include disability pensions and emergency feeding programs. Often, poverty reducing programs for the less vulnerable are included in the definition. Programs that are brought into this expanded definition of safety nets include food transfers, public works, and even informal credit and savings schemes (Subbarao et al. 1997).

An important question for this review is whether urban populations tend to have better access to formal safety nets than rural populations. Two factors that suggest that they do would be (1) the ease of reaching urban populations in contrast with the difficult logistics of reaching the rural poor, and (2) the proximity and visibility of the urban poor to those in power. To get some idea of the best estimate of the picture, we used World Bank Poverty Assessments from Sub-Saharan Africa to document the existence of different types of safety net programs in rural and urban areas. The result of our search is summarized in Table 1. In the table, the existence of a safety net program in an urban or rural area is indicated by an "*X*." Each *X* corresponds to a program. Where it is not possible to determine if a program is rural or urban, we assign a "?" to the rural and urban columns. Based on these simple data, Table 1 indicates a very weak bias towards urban

areas in terms of formal safety net coverage. There are 88 programs in urban areas and 76 in rural areas. Removing the programs where we are not sure as to location results in 36 programs in urban areas and 31 in rural areas.[4] It would be useful to conduct this exercise for other regions.

The next question is whether urban areas have weaker informal safety nets. Again, there has been very little work on this issue. Informal safety nets take on a number of forms such as food sharing, child fostering, loans, membership in groups, the receipt and provision of remittances, the sharing of housing, the lending of land and livestock, to name only a few. These links tend to be most extensive and strong within immediate and extended family, because they rely heavily on social trust and reciprocity.

Informal safety nets are mechanisms that evolve so as to minimize exposure to adverse shocks, and to maximize the ability to cope, ex-post, with shock. They are underpinned by social capital. Social capital refers to "features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (Putnam 1995, p. 67). Fukuyama (1995) refers to social capital as a "radius of trust" and "associations beyond the family." Putnam (1993) and Fukuyama (1995) suggest that social capital allows "dilemmas of collective action to be resolved." This is because high social capital (1) leads to well-known norms of reciprocity and social trust that facilitate communication and coordination, and amplify reputations; (2) reduces

[4] Obviously not all programs are the same size and have the same coverage. Unfortunately expenditure figures were unavailable for most of the programs and in any case it was not possible to verify the accuracy of these reported figures.

incentives for opportunism; (3) embodies past success at collaboration that can serve as a cultural template for future collaboration, and (4) broadens taste for collective benefits.

Are stocks of social capital lower in urban areas? This is an open question. Factors associated with urban life that might be expected to diminish social capital include (1) a looser definition of community and hence less identification with it, (2) a greater incidence of violence that rapidly diminishes the trust necessary for nonfamily collective action, and (3) the nonproximity of family members from different generations, which reduces the ability to undertake activities that do not rely on immediate reciprocity. On the other hand, information flows are better, so opportunities for collective action for mutual benefit will be greater. Also, nongovernmental organizations (NGOs) and community-based organizations are often more active in urban areas, and can serve as important catalysts for improved social cooperation. It may also be the case that access to formal safety nets diminishes the demand for social capital formation and hence the use of informal safety nets. Haddad and Zeller (1997) summarize several studies that indicate that formal safety nets have partially crowded out private informal safety nets. On the other hand, Singerman (1995) reports that informal networks in Cairo and the social capital embodied within them have been strengthened as a response to the large public safety net program represented by Egypt's food price subsidy system. Clearly, much more work needs to be done on social capital in urban and rural areas (see Frankenberger and Garrett 1998 for a recent review).

THE INCREASED LABOR FORCE PARTICIPATION OF WOMEN AND ITS CONSEQUENCES FOR CHILD CARE

It is thought that urban living generally implies greater female labor force participation and a more distinct separation of dwelling location and work location for both men and women. Other stylized facts suggest that the higher proportion of female-headed households and the smaller household sizes in urban areas reduce the household's supply of alternate caregivers and result in harsher trade-offs for women between time spent in income generation (their productive role) and time spent in their reproductive, maternal, and caring roles. Employment conditions are often not flexible enough to reduce the sharpness of these trade-offs. Evidence from the literature on these stylized facts and their consequences is reviewed next.

The Numbers

The steady increase in female labor force participation throughout the developing world over the last 20 years is well recognized (UNDP 1997), but the urban-rural breakdown of these numbers is less well documented. According to Chant (1989), the percentage of women in the urban labor force increased by 10 to 15 percent in most Southeast Asian countries between 1970 and 1990, whereas in Latin America, the proportion went from 37 in 1980 to 45 percent in 1994 (CEPAL 1996). In Africa, data on the trends in female labor force participation by rural and urban areas are hard to find. Becker et al. (1994) report that more than 60 percent of total female employment in the majority of West African cities is in the informal sector, an area dominated by women.

Women s Work and Child Care

In general, the characteristics of urban employment make the provision of adequate child care difficult. Unlike in rural areas where mothers can take their young child with them to work in the field, urban occupations, which often involve long hours in the streets or in an office, are less compatible with taking the child along. In the Philippines, women in urban areas worked longer hours than rural women and were more likely to be wage-employed than self-employed (Doan and Popkin 1993). The consequence for child care and nutrition depends on the delicate balance between increased income and reduced time for food preparation and child care. Evidence suggests that although the overall impact of maternal employment on child health and nutritional status is linked to the amount of income generated, other factors such as the type and conditions of work, the availability and quality of child care alternatives and the child's age are more important (Engle, Menon, and Haddad 1997; Moser 1989).

High quality alternative child care is obviously key to tempering the potentially negative impact of mothers' labor force participation on children's well-being. Little information exists, however, on the supply and use of different child care arrangements in urban areas of the developing world and on the availability of informal alternatives such as older siblings, other relatives or neighbors. Anecdotal reports of children left alone, locked inside their home in urban slums, are frequently heard, but systematic data to document this phenomenon are not available. A growing number of governments, particularly in Latin America, have instituted community day care programs, but the extent

of their impact and coverage of the very poor is not yet clear (Myers 1992; Young 1995; IDB 1997).

One source of information on these issues is demographic health surveys (DHS). Table 2 presents our analysis of DHS data from 11 countries (2 in Asia, 4 in Africa and 5 in Latin America) that had an urban sample greater than 500 mother/child pairs, and for which data were available on maternal employment and use of alternative child care. We compared women's patterns of employment and use of child care alternatives between rural and urban areas and also looked at differences in the percentage of women-headed households. The hypothesis that urban areas host greater percentages of women-headed households was confirmed for Latin American and for two of four African countries, but not for Asia. In Bangladesh and Pakistan, women-headed households represented only about 8 and 6 percent of households, respectively, and there were no urban/rural differences. Our second hypothesis that more women worked, and particularly away from home, in urban areas was confirmed only for Latin America (except for Peru). In Asia and Africa, the percentage of women working was consistently greater in rural areas, and even the percentage working away from home was higher in most of the African and Asian countries studied.

In terms of child care arrangements, a smaller percentage of urban mothers took their child to work with them, probably because they tend to work in the streets, in markets or in factories rather than in agriculture like rural women do. In Latin America, a greater percentage of urban mothers used relatives as alternative child caregivers

compared to rural dwellers, but no consistent pattern was found in Asia and Africa. Hired help and institutional care were consistently higher in urban areas in all three regions, although institutional care use was almost nonexistent in Asia and very uncommon in three of the four African countries studied. It is likely that such low reported use of institutional care is related to lack of availability of these services in the countries studied.

In sum, the DHS data indicate that more than half of the women in both urban and rural areas of Africa and Latin America are involved in income generating activities. The greater proportion of women working outside the home in urban areas is confirmed only for Latin American countries. In Africa more rural women work outside the home than urban women in three of the four countries studied. The main difference between rural and urban areas is in the use of hired help and institutional care, both of which are consistently higher in urban areas. Urban mothers are also less likely than rural mothers to take their child along when they go to work.

The greatest threat of maternal employment to child caring is its potential negative impact on breast-feeding practices. It is generally believed that urban mothers are less likely to initiate breast-feeding and more likely to wean earlier if they do breast-feed. Our analysis of DHS data from 35 countries, however, does not indicate such clear patterns (Ruel et al. 1998). We found that, although the percentage of children ever breast-fed tends to be lower in urban areas, the pattern is not fully consistent and differences are generally of small magnitude. Urban mothers were found to initiate breast-feeding at a surprisingly high rate (greater than 90 percent). The median duration of breast-feeding on

the other hand was consistently shorter in urban areas, with maximum urban/rural differences of 4-6 months. Exclusive and full breast-feeding duration was much shorter than the recommended 4-6 months, without much urban/rural differences.

Recent work based on a household survey of Accra shows that mothers tend to adapt their working patterns and use of child care alternatives to their child's age and related caring needs (Armar-Klemesu et al. 1999). We found that the younger the child, the less likely mothers were to work full-time, to leave their child when they go to work, and to use alternative child care. The number of hours worked was also strongly associated with the age of the child: the younger the child the less likely mothers were to work full-time. This probably explains why maternal employment was not negatively associated with either breast-feeding or children's nutritional status in this population.

Similar strategies were reported previously in a comparative study across four cities (Nairobi, Bogota, Bangkok, and Java) (Winikoff, Castle, and Hight Laukaran 1988), where maternal employment was also not associated with an increased use of infant formula nor with breast-feeding duration. As was the case for Accra, it appears that, to the extent possible, mothers adapted their work conditions and schedule to respond to the special caring needs of their young infants, rather than modifying their caring behaviors to accommodate their work requirements.

These findings are reassuring because they imply that mothers give a high priority to the caring needs and well-being of their young infants. The adaptations that mothers have to make in their work patterns such as reduced hours, informal work or engaging in work

at home, however, may jeopardize their ability to generate sufficient income to maintain the food and livelihood security of their household.

Women s Work and Processed Food Consumption

Women's time constraints in urban areas also result in a shift from traditional staple diets towards purchasing and consuming processed or prepared foods or the purchase of food from street vendors, the so-called "street foods."

Street foods are a significant source of food (and income generation) for many urban dwellers, both in terms of energy intake and food expenditure. In some settings, this may be particularly true for poorer urban dwellers compared to the more wealthy group. A recent Accra-wide study (Maxwell et al. 1999) finds that households in the poorest expenditure quintile spend on average 39 percent of their total food budget on food purchased away from home, compared to 26 percent for the top quintile. Tinker in her study of street foods in seven countries of Asia and Africa, shows expenditures on street foods ranging from 16 percent in Manikgani (Bangladesh) to 50 percent in Ile-Ife (Nigeria), and higher street foods expenditures among poorest quartiles in both Bangladesh and the Philippines (Iloilo) (Tinker 1997).

Very little information is available on the contribution of street foods to the daily nutrient intake of consumers. In the Philippines, commercially prepared foods were found to contribute 25 percent of the energy intake of urban working women and 45 percent of their fat intake (Bisgrove and Popkin 1996). Webb and Hyatt (1988) report that in Haiti,

street food consumption contributed, on average, 25 percent of school children's daily energy and 15 percent of their protein requirements. Similar results were obtained in Nigeria where adolescents obtained 25 percent of their daily energy from street foods, as well as more than half their total intakes of protein, iron, calcium, vitamins A and C, and thiamin (Oguntona and Kanye 1995).

In many cases, street foods are cheaper than home-prepared meals, especially when time spent shopping and cooking, and the cost of transport and fuel are factored in (Tinker 1997). This is especially true for traditional food staples that require long preparation times (Atkinson 1992; Tinker 1997). A food consumption survey in Dakar showed that while 32 percent of families eat couscous daily, only 12 percent prepare it themselves (CILSS 1980, cited in Tinker 1997). Smaller families also tend to rely more on street foods than larger families because both food and fuel costs are greater per capita when cooking for only a few people. Small families in an urban area of Thailand spent 58 percent of their food expenditures on street foods, compared to 36 percent in families of 8 members or more (Tinker 1997). Street foods also avoid wastage from left-over food, in conditions where proper refrigeration is not available.

Street foods present a nutritional concern because of their tendency to have high sugar, salt, and fat content, and because of their potentially high levels of contamination. According to an Expert Consultation of the United Nations Food and Agriculture Organization, the types of pathogens found in street foods are similar to those found in foods prepared and served indoors, but the microbial load and incidence tend to be greater

(FAO 1990). More recent studies showed that food sold on the streets was generally not more contaminated than food sold in local restaurants. The levels of contamination found in both types of establishments, however, were clearly potentially harmful for the health of consumers (Tinker 1997; Kulkarni 1992).

LIFESTYLE CHANGES

The nutrition transition has been defined as the shifts in dietary patterns and lifestyle that have resulted from urbanization and rapid economic development (Popkin 1994). This phenomenon is accompanied by demographic shifts—changes in life expectancy and fertility rates—as well as an epidemiological transition, whereby patterns of diseases shift away from infectious diseases to higher prevalences of obesity and chronic diseases (Drewnowski and Popkin 1997; Popkin 1998).

Dietary Patterns

The nutrition transition, which is characterized by changes from diets rich in complex carbohydrates and fiber (mainly from food staples) to more varied diets with higher proportions of fat, refined sugars, and meat products as populations move from rural to urban areas, is well-documented both globally and in a number of individual countries.

At the global level, a classic study using data from 85 countries showed a positive linear relationship between GNP per capita and energy intake from refined sugars and

from vegetable and animal fats (Périssé, Sizaret, and François 1969). Whereas the poorer nations derived approximately 5 percent of their energy from animal fat in 1962, richer countries reached 38 percent. A recent similar analysis using data from 133 countries in 1990 gave an interesting twist to these findings. Drewnowski and Popkin (1997) show that the income-fat relationship has changed over time, and that total fat consumption is less strongly associated with GNP than before. Overall, richer countries have decreased their total fat intake, whereas poorer countries are now consuming diets much higher in fat than three decades ago. An independent effect of urbanization on changes in diet structure was also apparent in these data, as well as a significant interaction between GNP and urbanization, which indicated a greater effect of urbanization on refined sugars and total fat consumption among lower income countries compared to richer nations. These results suggest that the accelerated rates of urbanization currently found in many developing countries are likely to generate rapid and most likely negative shifts in dietary patterns over the next few years.

At the individual country level, important qualitative and quantitative differences between urban and rural dietary patterns are found when reviewing case country studies from various regions of the developing world (Alarcón and Adrino 1991; Périssé and Kamoun 1987; Kennedy and Reardon 1994; Hassan and Ahmad 1991; Gencaga 1985; Government of Pakistan 1979). Urban diets are generally higher in refined cereals and sugars and in animal products, and lower in staple foods, which in turn results in higher

intakes of saturated and total fat, refined carbohydrates and animal proteins, and greater intake (and possibly higher bioavailability) of at least some micronutrients.

There are various reasons why urban diets tend to be more diverse than rural diets, namely higher income, changing values and norms, and cultural diversity. As discussed earlier, the greater consumption of processed and prepared foods in urban areas is also largely driven by the opportunity cost of women's time. Evidence supporting this latter point is provided by a study in Sri Lanka, where the value of time of the primary woman had a positive effect on bread consumption and a negative impact on rice consumption (which requires longer preparation and cooking time) (Senauer, Sahn, and Alderman 1986).

A study by Bouis and Huang (1996) in China and Taiwan gives us a sense of the importance of the non-income factors that drive food consumption patterns in urban areas. Using rural and urban data at the household and provincial levels, they attribute about 20 percent of the increases in consumption of meat, fish, and dairy products to the non-income or structural factors associated with moving from a rural to an urban residence.

Other factors affecting dietary change include the cost of food products. Musgrove (1988) showed that in northeast Brazil, traditional staples are more expensive in urban areas than in rural areas, while the opposite is true for processed foods: this means that it is relatively less expensive to shift away from traditional staples to processed foods in urban areas. Furthermore, because of the greater availability of different foodstuffs in the urban market, urban consumers (especially those at low incomes) tend to be more price

sensitive than rural consumers, and to switch between substitute foods more easily (Musgrove 1988). An example from Guayaquil shows that in times of crises, poor urban households replaced fresh fruit juices for nonnutritious fruit-flavored drinks (Moser 1989), thereby reducing the micronutrient content of their diet.

Activity Patterns

Shifts in activity patterns as populations migrate from rural to urban areas are not well documented, although it is well recognized that urbanization is accompanied by trends towards less physically demanding occupations on a worldwide basis. Popkin and Doak (1998) document the shift in the structure of employment that has been occurring in lower-income countries between 1972 and 1993. They show a consistent increase in the less physically demanding types of employment such as manufacturing and services, and a decrease in the more labor-intensive agricultural employment. Even within employment categories, new technologies have tended to reduce the physical effort involved. A unique example from China shows reductions in physical activity levels over a period of only 2 years (1989-1991) among urban residents from all income groups, whereas this pattern was not observed among the rural population (Popkin 1994). This rapid decline in activity levels in urban areas was accompanied by increases in BMI and obesity.

Other factors related to urban living that are also responsible for reductions in activity levels include the increased use of public and private transportation, of technology and paid help for domestic activities, and the shift to more passive leisure activities such as

television and computer games. Whereas shifts in employment affect mainly adults, technology, transportation, and leisure also affect children and may be responsible to some extent for the dramatic increase in childhood obesity observed worldwide (Caballero and Rubinstein 1997).

Health Implications

The health implications of the changes in dietary and activity patterns associated with urbanization are obvious. Greater dietary diversity may have a positive impact on micronutrient status and malnutrition, but the higher fat and refined sugar content of diets, combined with the more sedentary lifestyle, increases the risks of obesity, cardiovascular diseases, certain forms of cancers, and other chronic diseases. Increased rates of smoking, stress, substance abuse and the overall environmental contamination found in large cities further exacerbate these risks.

Obesity, and childhood obesity in particular, has increased so rapidly worldwide in the last few decades that it has been declared a public health problem in many countries and even an epidemic in some (Popkin and Doak 1998; Pelletier and Gage 1999; WHO 1990; WHO 1998). The coexistence of obesity and stunting in young children (Popkin, Richards, and Monteiro 1996) as well as the coexistence of obese parents and malnourished children are also surprisingly common in many large urban areas of the developing world (Maxwell et al. 1999).

A hypothesis that has been put forward as a potential contributing factor in the etiology of obesity and chronic diseases risks and as a consequence of the nutrition transition is Barker's "programming" (also called the "fetal origin") hypothesis. The basic rationale of this hypothesis is that nutritional insults during critical periods of gestation and early infancy, followed by relative affluence, increase the risks of chronic diseases at adulthood (Forsdal 1977; Barker 1992; Barker 1994). In this respect, it has been speculated that urbanization and the nutrition transition provide the necessary conditions for the complications of early malnutrition to emerge (Popkin, Richards, and Monteiro 1996). Although the evidence regarding the association between early malnutrition and obesity at adulthood is weak, there is some indication of an association between intra-uterine growth retardation and abdominal fatness (or high waist-hip ratio) (Ravelli, Stein, and Susser 1976), a well-established risk factor for cardiovascular diseases, non-insulin dependent diabetes, and stroke (Bjorntorp 1993; WHO 1998).

The rapid increase in obesity worldwide and in urban areas in particular is rapidly becoming a serious public health concern even for low and middle-income countries. Considering the unequivocal link between obesity and a large number of chronic diseases risks, the obesity epidemic has to be taken seriously.

INCREASED AVAILABILITY OF SERVICES, BUT QUESTIONABLE ACCESS BY POOR HOUSEHOLDS

The conventional wisdom is that public sector health and education services, potable water, sanitation facilities, and garbage disposal are more available in urban rather

than rural areas. Worldwide country data gathered by the World Resources Institute confirm that this is generally true in developing countries at least for access to safe drinking water and sanitation services (WRI et al. 1996).

The rapid population growth experienced by a large number of cities in the developing world, however, has caused a breakdown in the provision of urban services such as water and sanitation. Governments are unable to respond to these population pressures, and statistics show that although up to 80 percent of the rich in developing countries' urban areas have access to water, less than 20 percent of the poorer households do (WHO and UNICEF 1993). In many cases poor urban dwellers have to buy water at an extravagant cost. An example from Lima showed that poor families pay 20 times more per unit of water than middle-class families (Briscoe 1993). Poor urban dwellers are also much less likely to have access to adequate sanitation and garbage collection facilities, even in cities where wealthier households all have private bathrooms and regular garbage pick-up.

Health services are also thought to be more available in urban areas and most countries will show greater numbers of health facilities and health personnel per capita in urban compared to rural areas. Use, however, as opposed to availability of health services, should be examined since high user fees, high transport and time costs, or poor quality of services could all discourage and ration actual use, despite the greater presence of these facilities in urban areas. Our review of DHS data from 35 countries confirmed that overall, urban dwellers are more likely to use health services for curative

purposes—when children have acute respiratory infections, fever, or diarrhea; there is a consistently smaller percentage of children from urban areas who received no treatment at all for these symptoms compared to rural children (Ruel et al. 1998). Similarly, the coverage of childhood immunization is consistently greater in urban compared to rural areas: the DHS data show that children in urban areas are more likely to have received all of their immunizations, and a lower percentage of them has received no vaccination at all as compared to rural children (Ruel et al. 1998). Similar findings were reported previously from data compiled by WHO for 56 countries (Atkinson and Cheyne 1994).

As indicated in the preceding chapter of this supplement, simple urban/rural comparisons have limitations because they mask the enormous differentials found within each of these areas. Pockets of undercovered population are known to exist in poor shantytowns, and these populations are also those that experience the greatest risks of infectious diseases (Atkinson and Cheyne 1994). Lower education levels and greater time constraints, combined with limited knowledge and awareness of the existence and potential benefits of these services, make the urban poor less likely to use the facilities even if they are available. Additionally, the lack of supplies, the unfriendly attitude of some health workers, the unsanitary conditions, and the overcrowding of the facilities as well as their inconvenient open hours may discourage poor families from using them. In Sierra Leone, distance was a common constraint expressed by rural women for not attending immunization clinics, whereas urban women were more likely to report that they did not attend for lack of time (Atkinson and Cheyne 1994). In peri-urban areas of South

Africa, a marked drop in immunization coverage between the second and third doses of DPT/oral poliomyelitis vaccine was associated with mothers' return to work when their children were between 5 and 8 months of age (Solarsh and Dammann 1992 in Atkinson and Cheyne 1994).

ENVIRONMENTAL CONTAMINATION

The lack of access to basic water, sanitation, drainage, and solid waste disposal services described above make it almost impossible for poor urban dwellers to prevent contamination of water and food, maintain adequate levels of hygiene, or control insect-vectors of disease (such as malaria). In addition, they are exposed to excessive air pollution (both outdoor and indoor). This results in high rates of infectious diseases among both adults and young children in these areas. In fact, infants and young children living in urban slums die from the same infectious diseases as their rural counterparts—acute respiratory infections (ARI), diarrhea, malaria, and measles—all preventable diseases associated with poverty, overcrowding, and contamination.

Air Pollution

Worldwide, more than 1.1 billion people live in cities with levels of air contamination in excess of the standards established by the World Health Organization (D. Schwela, cited in WRI et al. 1996). This affects both the poor and the rich alike. Poor urban dwellers, however, are likely to be more exposed to two additional sources of air

pollution—indoor air pollution from cooking stoves and contaminants from industrial sites (WRI et al. 1996). The former is due to the fact that poor households are more likely to use poorly functioning wood stoves or open fires for cooking, whereas richer households use smoke-free electric or gas stoves. Contamination from industrial sites is due to the fact that urban squatters are often established close to pollution industries, in sectors of the city that wealthier groups tend to avoid. In addition, poor urban dwellers are also more likely to work in these industries and to be exposed directly to toxic chemicals.

Air pollution (both indoor and outdoor) is associated with increased acute respiratory infections, asthma, and mortality from pneumonia in children as well as chronic lung diseases and cancers in adults (Smith and Liu 1994). In Mexico City, air pollution is estimated to cause 12,500 extra deaths and 11.2 million lost workdays per year due to respiratory illnesses (Bartone et al. 1994).

The toxicity of lead, one of the main environmental contaminants, is well documented. Lead is particularly toxic during the fetal life and early childhood and causes long-term impairments of the neural system (Goyer 1996; Peraza et al. 1998). In Mexico City, exposure to lead is thought to be responsible for the reduced intellectual performance of 140,000 children, and up to 29 percent of all children living in Mexico City have unhealthy blood lead levels (Bartone et al. 1994).

There is growing evidence that low intake and deficiency of certain micronutrients (calcium, iron, and zinc, in particular) predispose to toxicity from nonessential metals such as lead, cadmium, and mercury (Goyer 1995; Goyer 1996; Peraza et al. 1998). Because

poor urban dwellers are likely to combine both micronutrient deficient diets and greater levels of exposure to contaminants, their overall risk of metal intoxication is likely to be much higher than that of wealthier population groups.

Water and Food Contamination

Water borne diarrheal diseases are known to be highly prevalent in urban areas, mainly as a result of contaminated water and food, crowding, limited access to water, and poor food and household hygiene (Bradley et al. 1992). Prevalence of diarrhea among young children in urban areas is often as high as in rural areas. Our review of DHS data from 35 countries (total of 42 data sets) showed higher prevalences of diarrhea in urban compared to rural areas in up to one-third of the data sets reviewed (Ruel et al. 1998). In a follow-up analysis, we examined the magnitude of within-urban and within-rural differentials in diarrhea prevalence for a subset of 11 countries (Table 3). We created a socioeconomic index score using data on quality of housing and household assets. The score was created separately for rural and urban areas of each country using principal components analysis. The factor scores obtained were ranked to divide the sample in socioeconomic status (SES) quintiles. Within-urban differentials between the lower and higher SES quintile were consistently larger in urban areas compared to rural areas, and the low SES/high SES ratios in urban areas were also larger than the overall rural/urban differences. The prevalence of diarrhea among the **urban** low SES group was also greater than among the **rural** low SES group in 7 of the 11 countries studied. Thus,

overall diarrhea prevalence rates in urban areas rival those found in rural areas, and poor urban dwellers are often worst off than the rural poor in that regard.

A number of urban studies have shown a strong negative association between morbidity and mortality from diarrheal diseases, and the quality of the water consumed and the quantity available for personal and domestic needs (Bradley et al. 1992). Street food consumption in urban areas is also likely to be responsible for a significant proportion of gastrointestinal infections, given the high levels of contamination found in these foods. Water and sanitation as well as hygiene education have been found to be very effective interventions in reducing diarrheal morbidity, but most of the evidence comes from rural areas (Esrey, Feachem, and Hughes 1985; Martines, Phillips, and Feachem 1993). This literature is important, however, in showing that the potential exists for hygiene and sanitation interventions to dramatically reduce diarrheal infections, and examples of successful applications in urban areas are urgently needed.

LEGAL RIGHTS

How do legal rights in the areas of employment, land, residence and water use vary between rural and urban areas? While employment rights are likely to be well-defined in the urban formal sector, the extent of their enforcement is unclear. In addition, the formality and strength of land and water user rights in rural areas will vary by region, by time and by the gender of potential owner or user (Meinzen-Dick et al. 1997). Newcomers to urban areas, if not linked to well-established urban families, may find

themselves literally on the periphery of the city and relying on a shaky or nonexistent set of rights in the above domains. These underdeveloped rights will likely have costly effects. We provide three examples where legal and regulatory changes may be needed to promote food and nutrition security in urban areas: urban agriculture, street foods, and land and housing tenure.

Urban Agriculture

In many cities, agriculture remains technically illegal despite its potential benefits for household food security and nutrition. In Nairobi after World War II, the government passed a law ordering all crops within the city to be cut down. Livestock and horticulture remain illegal today. In Kampala, more than one-fourth of farmers face harassment and eviction from the city council or landowners (UNDP 1996).

Hence, urban agriculture in most cities is a precarious enterprise. Frequently, urban farmers do not own the land but use public space or use vacant lots of private owners, with or without their permission. Landowners and farmers may enter into informal agreements but, because of lack of an adequate legal framework governing tenancy, lease, and appropriate use, private landowners will not formally lease their land or not lease their land at all. With low tenure security and questionable legality, the farmer is not motivated either to be efficient or to care for the land.

These constraints are often exacerbated by the fact that in many cities, it is mostly women who are involved in urban agriculture. Legal and cultural biases against women

owning or even leasing land make their attempts at urban farming even more difficult. Property rights could be designed to give landowners and farmers the security of tenancy they need to be more productive and to farm in an environmentally friendly way, but negative planning and cultural attitudes toward urban agriculture mean there is little movement to remove existing policy, administrative, and legal hurdles for urban agriculture (UNDP 1996).

The uncertain legal status of urban agriculture is such that official projects or programs aimed at improving urban agriculture have been rare. Typically, urban agriculture is not taken into account in the urban planning process. In combination with a weak legal framework, the lack of awareness and of government recognition means planners often do not think about how to provide water and drainage infrastructure to handle urban farming and governments make little provision for research and extension of urban farming techniques (UNDP 1996). For instance, Tanzania's National Urban Water Agency strongly opposed the use of water for urban farming, and imposed a fine for use of water for agriculture in the city (Schippers and Lewcock 1994).

Success with urban agriculture does exist, however. For decades, city authorities in Lusaka, Zambia, enforced laws against crop production in the city as a health hazard. Farming of vacant land was illegal. Legal action was rarely taken but authorities often cleared land of crops. Faced with economic decline in the 1970s, however, in 1977 the president urged urban dwellers to grow their own food. In response, the Lusaka City Council stopped enforcing the anti-urban agriculture laws. Government stores even made

subsidized seeds for fruits and vegetables available. In 1977, 43 percent of Chawama, one of the largest slums in Lusaka, had home gardens. And a decade later 40 percent of households still had home plots (UNDP 1996).

Informal Marketing Activities Such as Street Foods

Street food vendors are ubiquitous in the developing world. They represent an important informal sector activity. We have already discussed the positive and negative aspects of street foods for the diet, but it should be remembered that street food vending is primarily an income generation activity. In fact, successful vendors may earn an income equivalent to that of a school teacher or a government official (Tinker 1997). Despite wanting to stimulate microenterprises, the response of many governments is to either sweep mobile sellers off the street into malls or back alleys; prohibit selling altogether; or subject it to strict regulation. Vendors stay mobile because they cannot afford the start up capital to establish themselves in a permanent market where they are subject to inspection and they have to pay fees and taxes. Alternatively, the supply of rights or permits to permanent spaces may be severely restricted (Tinker 1997).

Strict regulation of mobile vendors may be detrimental. FAO and WHO warn that if vendors are banned only for the sake of traffic requirements or modernization plans, mobile street food vendors would simply go "underground." It would become much more difficult to reach vendors through official channels to introduce safety measures or provide key environmental infrastructures and services to reduce health hazards (Tinker 1997).

Insecurity of Tenure and Development Activity

The NGO and research communities are becoming more aware of the need to understand the determinants of the placement of various development interventions and projects. An improved understanding can (1) improve estimates of project impact (Pitt, Rosenzweig, and Gibbons 1995), (2) identify mismatches between community need and project location, and (3) provide some insight into the political and institutional factors that drive the development process. Recent work by IFPRI and CARE indicates that one of the key determinants of NGO intervention and civic engagement may be the security of tenure of individuals in the community (CARE/Bangladesh 1998).

3. IMPLICATIONS FOR POLICY AND RESEARCH

Policymakers need to address the above issues to promote the welfare of their urban citizens and the stability of government. They need to find policy and program instruments that can (1) reduce the cost of food to urban consumers and create income generating opportunities for them, (2) provide low-cost efficient safety nets for those who cannot help themselves and stimulate the generation of social capital, (3) ease the trade-offs for mothers by providing acceptable and affordable child care substitutes and ensuring the safety of prepared and processed foods sold in the streets, (4) increase resources to primary health care and nutrition in an attempt to reduce tertiary health expenditures, (5) improve water and sanitation services that are so important to households and to food

vendors, (6) reduce the general level of contamination, and (7) redefine, respect, and enforce property rights that balance the needs of consumers and producers.

Good information and analysis will shorten the process of trial and error in the design of effective policies and interventions. However, the relatively slow awakening of the policy research community to urban poverty, food insecurity, and malnutrition has left many questions unanswered.

MEASUREMENT OF TRENDS IN URBAN POVERTY AND NUTRITION

First and most basic, what is the state of urban poverty, food security, and undernutrition? What are the absolute numbers of the poor and malnourished in urban and rural areas for countries that do not have currently available data? What are the trends over time for other countries? Will the share of poverty and undernutrition that is urban continue to increase for those countries where this pattern is already seen? To answer these questions, we need to collect more data on urban areas and we need to do a better job in addressing some of the difficulties faced in getting accurate numbers on urban poverty and undernutrition.

DETERMINANTS OF URBAN POVERTY AND UNDERNUTRITION

In addition, we need to explore the reasons for these levels and trends. Why, for example, does the share of poverty in urban areas appear to be *decreasing* in some countries? What are the main determinants of current levels and trends in urban poverty

and undernutrition? What are the main constraints to urban income and nutrition generation and how do they differ by country, city size,[5] the competence of local governance, the length of residence, the strength of property rights, the maturity of the community, the number of income sources, education levels, health status, and land access? This paper discusses some of the challenges to income generation, food security and nutrition that are probably exacerbated in an urban area: the dependence on food by purchase, access to formal and informal safety nets, the dislocation of work and home, a more contaminated environment, lifestyle changes in diet and exercise, different access to services, and the adaptation to a new or nonexistent set of property rights. Many questions are raised for which there are no ready answers, but as the problems of urban poverty and undernutrition increase, so too will the clamor for answers.

LEARNING FROM EXISTING URBAN INTERVENTIONS

Third, where are the models of successful interventions in the policy and program arena? De Haan (1997) notes that compared to rural areas, there are fewer examples of successful public policies in urban environments. Whether there truly are fewer examples or whether they have simply not been recorded, best practices in local and national government need to be documented and analyzed. Examples of successful programs and policies that we can learn from are hard to find and there have been few systematic attempts to draw out commonalities. The following vignettes—one for each of the seven

[5] As suggested by Brockerhoff and Brennan (1997).

"urban facts of life" that we have described—provide a flavor of how we can learn from both more and less successful policy and program experiences.

As urban communities grow so does the demand for *food purchases*, and the challenge for food distribution systems to respond. This response needs to be facilitated by governments in the form of improved wholesale and retail food marketing infrastructure—roads, transport, market areas—and reinvestment of trader taxes and fees into market facilities. This kind of a response can only come if the city's food distribution is well understood. For example, the Mayor of Accra wrote to the Director General of FAO in 1998 that "in November 1997, I moved a large number of market traders into two newly built markets in the city of Accra. This move was accompanied by a great deal of political turmoil" (Argenti 1998). It turns out that the new markets were far from the old markets and the traders were worried about losing their customers to the street vendors who moved into the old market space.

An example of a fairly successful *urban safety net* is the Government of Mozambique's GAPVU program. The program began in 1990 and by 1995 had reached 16 percent of all urban households. On average, the value of the cash transfer was equal to 13 percent of per capita household expenditure. Despite well defined targeting criteria, approximately 30 percent of the transfers leaked to the nonpoor (Datt et al. 1997). What are the lessons learned from this program? Although clearly defined, some of the targeting criteria were not realistic. For example, a means test income for households at one-quarter of the reference poverty line is clearly unenforceable and a potential waste of

screening resources. On the other hand, administrative targeting based on location is often not an option in urban areas because urban poverty does not necessarily cluster in well defined pockets (Morris et al. 1999). This poses a methodological challenge to the effective targeting of social safety net programs in urban areas.

An example of interventions that have an enormous potential to release some of the pressures on *working mothers time* are the community day care centers that have emerged in many cities of Latin America as well as in some parts of Africa and Asia (Young 1995; Colletta and Reinhold 1997). Increasing female employment, particularly in urban centers has created a demand for child care that cannot be met by extended families and other informal arrangements. As a response, many governments are currently subsidizing community day care programs, as a nontraditional child care alternative to assist working parents. A woman from the community is selected to take care in her home of a certain number of children living in the neighborhood (usually between 10-15 children). Usually both parents and the government share the cost of supplies and salary to the day care provider and food donations are often provided for child feeding. Early child stimulation activities and basic hygiene are also provided. The extent of program coverage varies widely between countries, but in Latin American, the range is between a low 3,500 children in Guatemala City to up to 800,000 in urban areas of Colombia (Ruel, Hallman, and de la Brière 1999). Little information is available on the cost and benefit of these programs, but the high demand for the program and its popularity in Latin America

suggest that this can be a successful approach to providing alternative child care arrangements for working parents, and especially for single mothers.

The emergence of obesity as a world wide phenomenon, now affecting both the poor and the rich countries alike and both the low and high socioeconomic groups within many countries, is creating a new paradigm for public health interventions. As a result of the *nutrition transition and changes in lifestyle*, many low and middle-income countries are now faced with the coexistence of diseases of poverty, food insecurity, and undernutrition along with diseases of affluence such as obesity and chronic diseases. Few examples exist of countries that have even started to design nutrition policies that address simultaneously the problems of over- and underconsumption. Norway is famous for its effective nutrition policy and its success in addressing problems of excessive fat intake and chronic diseases risks, but the country was not simultaneously pursuing a fight against childhood malnutrition (Oshaug 1991; Milio 1990). China is probably the first country that has issued official dietary guidelines that focus both on reducing undernutrition and on preventing dietary excesses leading to obesity and chronic diseases (Popkin 1994). This is an example of a country that has established new priorities to adequately address the changes in disease patterns caused by urbanization and the nutrition transition.

The provision of free *basic services* is often thought to be the government's responsibility. In the late 1970s in Orangi, a large unplanned settlement in Karachi, sanitation provision was out of control and the government was not responsive. The Orangi Pilot Project (OPP) was introduced in 1980 as a low-cost sanitation program,

which gradually became a large community-based integrated urban development program. Between 1981 and 1993, Orangi residents installed sewers serving 72,070 of 94,122 houses, which cost more than $2 million to residents and $15,000 to OPP in research and development of new technologies (Environment and Urbanization 1995, p. 229). Various components were successfully added to the program since its initiation, including a basic health and family planning program, a credit program for small family enterprises, a low-cost housing upgrade program, a school infrastructure and quality improvement program and a women's work center program. The OPP is thought to thrive on participation, the development of low-cost technology, organization of action by small groups of residents, research into effectiveness of OPP, partnerships with government, and the support and development of community activists. Replication of the experience, however, has generated mixed results, and it is not clear how critical it was for OPP's success to have strong leadership at the top.

A similar initiative was implemented recently in Rio de Janeiro State in Brazil, called the *favela*—or slum—upgrading program, with the assistance of IDB funds. The program uses a decentralized urban management model with community involvement to improve garbage collection, urban maintenance and other municipal services, a specific component to improve *environmental management* such as sanitation and health care services and thereby reducing infectious diseases, and an integrated urban development approach to expand physical and social infrastructure. The program has been very successful so far and project staff claim to be "on the way to proving that upgrading slums and low-income

neighborhoods with basic infrastructure and services is the most cost-effective way to serve our cities" (IDB EXTRA 1997, p. 8). This is an intriguing assertion, and one that should be tested through systematic cost-effectiveness analysis.

That government has a role in defining the *legal framework*, setting laws and enforcing them with regard to safety standards is not such a contentious issue. The same cannot be said for what the regulations look like, whom they benefit, and the process by which they were developed. Street food vending is a case where creative regulations are needed to balance and protect the rights of pedestrians, market place and store vendors, street vendors and consumers. The attitude shift from confrontation and harassment of street vendors to a realization that street foods are an important income generation activity and a way for working mothers to provide potentially safe and nutritious food to their families in a time saving manner has begun. Case studies from Nigeria and Senegal (in Tinker 1997) provide good examples of how local government and the different types of traders were brought together by a body perceived to have no vested interest to jointly analyze the problem and to come up with ways to solve it. The building of more and cleaner markets in areas where traders want them to be located and the development of group-based incentives for the development and enforcement of rules defining good behavior were deemed crucial, as was the need to encourage consumers to demand more hygienic food. The problems caused by the more mobile types of street traders remain unresolved.

IMPROVING METHODS OF INQUIRY IN AN URBAN ENVIRONMENT

Last but not least, a whole range of questions and problems remain unanswered and unsolved in relation to our current methods of inquiry in urban areas. First, urban populations are much more spatially mobile than rural populations. This discourages local authorities from drawing up listings of households, and it makes it difficult to rely on existing listings for survey sampling. The larger number of homeless people in urban areas also makes them susceptible to underrepresentation in any survey. This mobility makes it difficult to track households and individuals over time, which is important if we want to understand the dynamics of poverty and undernutrition. The act of enumerating a questionnaire is much more complex in an environment where there is a dislocation of work and home. Mobility also makes it more difficult to control for community-level effects on household behavior, and indeed to even define what we mean by a community. Mobility also affects the ease of defining a household unit. The presence of a large proportion of nonfamily household members such as tenants and seasonal residents may be more important for urban households and adds to the complexity of household definition.

Second, and related to mobility, time is more scarce in an urban setting and this makes it much more difficult to administer a questionnaire that may take more than an hour to complete. Third, in the area of income generation, the relative anonymity of the urban center is likely to make illegal income generation more widespread and this type of income generation activity is notoriously difficult to capture in a questionnaire. In addition, the urban environment can make it much less safe for enumerators to collect

information on all aspects of household welfare including these non-income aspects such as freedom from violence and drug use.[6]

4. CONCLUSIONS

The economic reforms of the past 15 years have probably reduced urban bias, and may have even removed it in some countries. The legacy of urban bias remains however, and there is a greater need than ever to stimulate agricultural intensification, particularly in the poorer countries of Sub-Saharan Africa and South Asia (Pinstrup-Andersen, Pandya-Lorch, and Rosegrant 1997).

Nevertheless, as we have shown, the best available data indicates that urban poverty and undernutrition are increasing and are doing so at a faster rate than rural poverty and undernutrition. We view this closing of the rural-urban gap as a sufficient basis to call for more research on urban poverty, food and nutrition issues and in this paper we have indicated the areas in which we think more work is needed.

It is important to remember however, that there is still a poverty and undernutrition gap and in the least urbanized countries it is wide. Can those who influence development policy and programs avoid the temptation to spend more money on urban problems and instead revisit how the existing envelope of urban resources is allocated? Given political

[6] More on the methodological problems associated with research in urban areas can be found in MP14 Team (1997).

realities, this temptation will be difficult to resist and that is why the documentation of success stories of urban governance will be so important. Is it even reasonable to ask policymakers to respond to increased data and analysis on urban problems without drawing development resources away from rural areas? This is a question that is impossible to answer at this stage. It is our strong prior that much more can be done with existing resources, but this, like all the other questions posed in this paper, is a researchable issue and one that should challenge policy researchers and policymakers over the next generation.

TABLES

Table 1 The incidence of formal safety net programs in selected Sub-Saharan countries

Country	Urban						Rural					
	Public works	Food transfers	Credit-based liveli-hood programs	Family assistance and/or cash social assistance	Housing subsidies	Social funds	Public works	Food transfers	Credit-based liveli-hood programs	Family assistance and/or cash social assistance	Housing subsidy	Social funds
Namibia	??	X	X	XXXXX	X		??	X		XXX		
Lesotho	?X	X	?	?		???	?XX	XX	?	?		???X
Gabon	X			?X		??				?X		??
Eritrea	?	X					?	X				
Cote d'Ivoire					X	X					X	X
Botswana	?					?	?					?
Mali	X		?			?			?			?
Togo	X		?			XXX			?			XXXX
Guinea						X						X
Niger	X	X				XX		XX				
Tanzania		?	?		X	??	X	?	?			??
Malawi	?					?	?					?
Madagascar	XX		?			?X	XXX		?			?XX
The Gambia	X	?						?				
Chad	X											
Cameroon	?						?					
Ghana	?	?	?		X	?	?	?	?			?
Ethiopia	?	?				?	?	?				?
Mozambique	?			X			?					
Nigeria	?		??		?	XXX	?		??		?	XXXX X
Senegal	?	?	?				?	?	?			
Somalia			?			?			?			?
Zambia		?	?		?			?	?		?	
Zimbabwe		?				?		?				?
Kenya	?	?	?				?	?	?			
Total 'X' and '?'	22	12	13	9	6	26	12	14	12	6	3	29
TOTAL 'X'	9	4	1	7	4	11	6	6	0	4	1	14

Sources: See Subbarao et al. 1997; Subbarao 1997a, 1997b; and the respective World Bank Poverty Assessments (World Bank 1994, 1995, 1996a-g, 1997a-b).

Key: X = existence of a safety net program that can be located in an urban/rural area
? = existence of a safety net program for which location cannot be established

Table 2 Comparison of women s work and child care arrangements in urban and rural areas (data from DHS surveys)

Country/ year	% Women household heads		% Mothers who work		% Mothers who work outside of home (wage or self-employed)		Child care arrangements							
							% mothers who take care of child at all time		% using relatives for child care		% using hired help		% using day care centers	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Asia														
Bangladesh 93	8.6	8.0	27.7	38.2	13.9	6.0	47.7	71.6	40.2	25.4	3.7	0.3	0.0	0.5
Pakistan 91	6.2	6.3	12.9	18.4	4.1	7.1	65.0	62.6	31.9	34.5	0.7	0.4	0.0	0.0
Africa														
Ghana 93	35.1	36.0	66.3	79.2	43.4	50.7	47.6	54.5	32.6	38.0	1.1	0.3	13.8	4.7
Tanzania 91/92	25.0	14.4	59.7	69.0	38.0	42.2	34.3	42.4	52.0	54.1	9.7	1.1	0.3	0.1
Senegal 92/93	25.4	9.2	41.9	46.0	28.5	36.4	47.0	52.4	41.3	45.2	8.6	0.6	1.3	0.3
Zambia 92	14.8	15.8	46.4	50.5	33.1	32.2	46.4	63.1	47.0	35.4	4.9	0.8	0.6	0.1
Latin America														
Brazil 96	20.5	11.0	62.0	56.1	48.4	42.2	20.2	22.0	43.9	33.9	12.4	3.9	9.8	2.2
Dominican Republic 91	29.6	17.6	53.6	46.4	30.0	14.8	43.8	60.8	40.8	35.1	7.2	1.5	0.5	0
Peru 92	15.5	10.4	50.6	57.3	33.2	14.0	45.0	75.6	44.2	21.6	7.2	0.9	1.4	0.1
Colombia 95	26.3	15.6	62.2	50.0	46.4	27.6	22.6	37.8	41.7	33.1	8.4	1.7	5.2	1.0
Guatemala 95	22.2	17.1	47.1	27.6	27.3	11.3	37.2	51.0	26.3	18.9	6.3	1.9	1.2	0

Table 3 A comparison of the magnitude of rural/urban, within-urban and within-rural differences in the prevalence of diarrhea in 2 weeks preceding survey (DHS data)

Country/year	Rural/urban differences			Within-urban differences[a]			Within-rural differences[a]		
	Rural	Urban	Rural to urban ratio	Low SES	High SES	Low to high SES ratio	Low SES	High SES	Low to high SES ratio
Asia									
Bangladesh 93	7.6	8.1	**0.94**	12.6	3.4	**3.70**	8.7	6.9	**1.26**
Pakistan 91	14.2	15.2	**0.93**	20.1	12.3	**1.63**	19.8	14.1	**1.40**
Africa									
Tanzania 91/92	13.2	15.7	**0.84**	18.2	7.0	**2.60**	14.7	14.5	**1.01**
Ghana 93	21.1	17.5	**1.20**	19.4	13.6	**1.43**	23.9	18.7	**1.28**
Senegal 92/93	23.8	16.2	**1.47**	15.7	11.9	**1.38**	23.5	21.7	**1.08**
Zambia 92	25.7	20.6	**1.25**	26.3	11.9	**2.21**	29.6	23.6	**1.25**
Latin America									
Brazil 96	14.7	12.7	**1.16**	18.1	7.3	**2.48**	14.1	5.9	**2.39**
Colombia 95	17.3	16.7	**1.03**	23.1	14.2	**1.63**	17.5	16.7	**1.05**
Dominican Republic 91	16.7	17.3	**1.03**	23.4	11.3	**2.07**	14.9	21.9	**0.68**
Peru 92	21.9	16.4	**1.33**	22.0	5.4	**4.07**	22.8	19.0	**1.20**
Guatemala 95	21.4	20.2	**1.06**	27.7	14.4	**1.72**	23.8	20.3	**1.17**

[a] A socioeconomic index based on data available in DHS data sets on quality of housing and household assets was created separately for rural and urban areas in each country using principal components analysis. The factor scores obtained were ranked to divide the sample in socioeconomic status (SES) quintiles. Low and high SES in this table refer to the 1st and 5th quintile.

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