

Journal of Studies in Social Sciences

ISSN 2201-4624

Volume 11, Number 1, 2015, 29-49



Urbanization: Its Implication for Sustainable Food Security, Health and Nutritional Nexus in Developing Economies - A Case Study of Nigeria

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Abstract: The population of the developing countries including Nigeria, is becoming increasingly urbanized as a result of both natural increase and rural-urban migration. The percent of urban residents in Nigeria as in other developing economies has risen rapidly in recent years. This rapid increase in urbanization poses new and different challenges for food security in the country. Reliance on purchased food is a leading factor in household food insecurity of poor urban populations, who lacked a fixed income. In spite of the availability of a wider variety of food, the food consumed in urban areas is not necessary of superior nutritional quality and food safety is a growing concern in many urban environments. There is limited knowledge of the similarities and differences in diets, nutrition status and health effects of diets and lifestyle between the traditional rural population and the emerging urban poor. This study therefore seeks to provide insight that will be useful for basic descriptive information as well as for assistance in the design and execution of health and nutrition projects for the urban poor.

Keywords: Urbanization, Food security, Poverty, Malnutrition, health, Nigeria.

BACKGROUND

Urbanization is increasing in both the developed and developing countries. In 1950, for instance 30 percent of the world's population lived in urban areas, by 2002, that figure had risen to 47 percent of the global population (UN population Division, 2002). Over three quarter of the population of industrialized countries presently live in urban areas, while rural to urban migration in developing countries is increasing at a rapid pace. This rapid-and often uncontrolled urbanization is unprecedented by historical standards (van Ginkel, 2008). Yet, urbanization rates in developing regions differ widely; while in Latin America and the Caribbean urbanization rates stand at 78 percent, only 34 percent of the African population lives in urban areas. By 2020, it is predicted that nearly half (46.2 percent) of the population will be urban (UN-Habitat, 2001). Nigeria since independence has become an increasingly urbanized and urban-oriented society in Africa. During the 1970s Nigeria had possibly the fastest urbanization growing rate in the world (<http://countrystudiesus/Nigeria/48.htm>). Because of the great influx of people into urban areas, the growth rate of urban population in Nigeria in 1986 was estimated to be close to 6 percent per year, more than twice that of the rural population. Between 1970 and 1980, the proportion of Nigerians living in urban was estimated to have grown from 16 to more than 20 percent, and by 2010, Urban population was expected to be more than 40 percent of the nation's total (<http://countrystudies.us/Nigeria>). The implications of rapid urbanization and demographic trends for employment, food security, water supply and sanitation are staggering (UNCED, 1992). The question that arises is whether the current trend in urban growth is sustainable considering the accompanying urban challenges for assuring household food security and access to basic services such as adequate housing, water, sanitation, education, health etc. especially in a developing economy as Nigeria.

URBANIZATION DEFINED

Urbanization, simply defined, is the shift from a rural to an urban society, and involves an increase in the number of people in urban areas during a particular year. National population increase (high births and than death) and migration are significant factors in the growth of cities in the developing countries. Urbanization is the outcome of social, economic and political developments that lead to urban concentration and growth of large cities, changes in land use and transformation from rural to metropolitan pattern of organization and governance (Cohen 2004:111)

FOOD SECURITY IN THE URBAN CONTEXT

The food and Agriculture organization of the united Nations (FAO) defines food security as a situation that exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 1996). This definition comprises four key dimensions to household food security: availability, stability, safety and access. Each of the four key aspects of food security can be analyzed in the context of urban environment. The first dimension (food availability) relates to the general availability of sufficient amounts of food. This is mainly a function of food production and supply. Both production and supply systems are different in rural and urban contexts.

Food stability requires that food can be accessed at all times. Food safety is linked to the quality of food. It is not enough that sufficient amount of food are available, if it cannot be consumed without risking major health problems. Numerous studies found that urbanization generally decrease child malnutrition and increase dietary diversity (e.g Ruel and Garrett 2004). However, in Urban areas food is increasingly consumed outside the house in sub-saharan Africa (FAO, 2004). In many developing countries the set-up of street stalls is unregulated. Stalls frequently lack adequate refrigeration, water, and sanitation facilities. Vendors are often not trained in preparing, handling, and storing food safely. Therefore, strong links between street foods and the prevalence of

gastrointestinal infections have been detected in developing countries (Maxwell et al, 2000; FAO 2003). Nigeria as a developing economy cannot be an exception. Globally, these Infections are a major cause of morbidity particularly among children. The final dimension, access to food is associated with the resources that an individual or household possesses to obtain food required for a healthy diet (Schmidhuber and Tubiello, 2007). Thus, for persons living in urban areas, food access hinges primarily on the household's ability to purchase food. Most urban poor neither have large food stores, nor do they have access to areas for own food production. The urban poor, often pay more for food purchases than do wealthier urban counterparts, as they are obliged to buy small quantities of food daily because they do not have the resources or living conditions which permit them to purchase and store large quantities of food at home (Maxwell, D. Levin, C., Amer-Klemesu, M., Morris, S. and Ahiadeke, C., 2000).

OBJECTIVE OF STUDY

The primary objective of this paper is to *identity* the different influencing factors which impact food security in urban population, particularly among the urban poor, which should be considered when designing policies and programmes to improve food security in a developing economy such as Nigeria. To achieve the above objective several questions need to be investigated in order to understand the issues of urban food and livelihood security in the country and make relevant policy recommendations.

- Is there potentially enough food at the national level to feed all people?
- What has happened to real urban food prices and real income over time?
- Is food of sufficient diversity and safety to promote good health?
- Are the care and health/sanitation/drinking water/ environments sufficiently good so that ingested nutritious food can be absorbed and contribute to good growth and development?
- What is the capacity of the food system to deliver and what is the capacity of individuals to realize their rights to food?

No general answers can be given to these questions. They have to be answered on a case-by -case basis. But answers to these questions are crucial to understanding food insecurity in the urban context in order to foster healthy and secured urban environments.

METHODOLOGY

With regards to the problem in context and objective(s) of the study, this paper is embellished in the descriptive research design. The paper thus relied mainly on secondary data that were generated through the growth analysis of relevant data from government and non-governmental agencies, such as National Bureau of Statistics (NBS), Statistical fact sheets on Economic and Social Development, Annual Abstract of Statistics, Central Bank of Nigeria Annual Report and Statement of Account, Journals, Newspapers and other periodicals. Data related to urbanization, population, food production, food security. Health and Nutrition were sought.

CAUSES AND CONSEQUENCES OF FOOD INSECURITY

Food insecurity is closely linked with issues of hunger and poverty (Omotor, 2009). Food insecurity as a working concept in this paper is the absence of food security and it is applied to describe situations where people do not have access to sufficient quality and quantity of food (Smith and Aduayom, 2003). The food health literature has that lack of access to quality and appropriate quantity of food has both individual and community (State or Country) impact. The impacts like a chain connection are interwoven with hunger, poverty and disease. Hunger for instance reduces natural defence against most diseases and is a major risk factor for illness worldwide (UN World Food Programme. Cited in Post Note, 2006). Hunger equally results to loose in labour productivity and thus hamper economic growth and promoted poverty. People who live in the poverty bracket are unable to produce or

make enough effective demand and are susceptible to disease which eventually also reduce their productivity, while inadequate labour productivity reduces per capita gross domestic product (GDP) of a Country (Oduro and Aryee, 2003). The results of all these adversely affect children.

Hungry children suffer poorer overall health status which compromises their ability to resist illness. Children who do not have access to quality and appropriate quantity of food (insecure) have elevated occurrence of health problems such as stomach aches, headaches, colds, ear infections and fatigue (Brown, 2002). Such children also record greater incidence of hospitalizations (Cook, Black, Casey Frank, Berkowitz and Cutts, 2001). Also, low income children who are hungry were more likely to exhibit impaired psychological functioning, including higher levels of anxiety, irritability, hyperactivity, aggressive and oppositional behaviours (Kleinnam, Murphy, Little, Pegemo, Wehler, Regal and Jellinak, 1998). Such children as further noted by (Brown, 2002:7), have difficulty in getting along with other children and need more mental health services. Academically and in learning hunger diminishes capacity to learn and impairs cognitive functioning. Lower test scores and poorer overall school achievement have also been associated with hungry children. Situations of this nature for a country pose gloomy predicaments and could result to a wasted future generation.

URBANIZATION AND POVERTY SPREAD

Nigeria has experienced in the last 30 to 40 years one of the highest population growth rate in Africa (near to 3 percent annually in the 1950-2000 period) and today more than 140 million in the country. The fertility rate is over 4 children per woman and if the increase is not checked, it is feared that the population may double in the next two decades. The geometrical progression in the rate of growth of the country's population has significantly affected the poverty spread.

In 1980 for instance, national poverty level was 27.2. The level of poverty increased to 42.7 in 1992 and doubled the 1980 level to 54.4 in 2004 (see table 1). In terms of spread, rural areas recorded higher levels of poverty than urban areas. Rural poverty level was 28.3 in 1980 and it almost tripled in 2004 at 63.3.

Table 1: Spread and Trend in Poverty Levels.

	1980	1985	1992	1996	2004
National	27.2	46.3	42.7	65.6	54.4
Urban	17.2	37.8	37.5	58.2	43.2
Rural	28.3	51.4	46.0	69.3	63.6
South-South	13.2	44.7	40.8	58.2	35.1
South-East	12.9	30.4	41.0	53.3	26.1
South-West	13.4	38.6	43.1	60.9	43.0
North- Central	32.2	50.8	46.0	64.7	67.0
North-East	35.6	54.9	54.0	70.1	72.2
North- West	37.7	52.1	36.5	77.2	71.2

Source: National Bureau of Statistics (2007) Annual Abstract of statistics, Abuja.

Although the rate of urban poverty is lower when compared with the rural areas, the rate in the urban areas has tripled, presumably due to rural -urban migration (Urban population as percentage of total increased from 44 percent in 2000 to 49 percent in 2006). As shown in the table above, urban poverty level was 17.2 and increased to 58.2 in 1996 and 43.2 in 2004. Incidentally, poverty level is worst in the North-East and North-West of the Country.

The gloomy increase in poverty level of Nigeria may not be very surprising. This is due to the over dependence of the economy on the oil sector at the expense of agricultural production (the main stay of the economy in the 1960s to mid 1970s) (Olayiwola and Atinmo, 2003). The economic active group in the agricultural sector has been on the decline since 1970. In 1970 over 70 percent of the economic active population was employed in the agricultural sector. This rate declined to 40.5 percent in

1985 and nose dived to 28.9 percent in 2005. The consequence of the declines is sharp shortage in food production and attendance increase of hunger and high poverty profile for Nigeria.

TRENDS IN HEALTH STATUS AS AN OUTCOME MEASURE OF FOOD SECURITY IN THE URBAN ENVIRONMENT.

The primary factor affecting food utilization is individual health status. Illness and diseases can lead to loss of appetite and poor absorption of the nutrients ingested. Child caring practices are another important component of food security for children as they are reliant on parents and other caretakers to provide safe and nutritious food of adequate quantity and quality (Ruel, Garrett, Morris, Maxwell, Oshang, Engle, Menon, stack and Haddad 1998). Environmental contamination is a large factor contributing to poor food utilization. The safety of food in the urban environment is a subject of concern. Street foods are often prepared under un- hygienic conditions, and can contribute to outbreaks of food illness. The health status of any group will be influenced by access to services including primary health care and education as well as portable water, sanitation systems and general environmental conditions. Analysis of data from DHS surveys conducted in Nigeria show that rural children's rate of stunting, wasting and underweight were consistently higher than urban rates from 1990 to 2003.

More than $\frac{1}{3}$ of the urban population has consistently suffered from chronic malnourishment since 1990. However, there is little contrast in urban wasting rates, which have been 7 to 10 percent since 1980. Urban underweight rates have increase from 20 percent in 1990 to 27 percent in 2003. In the context of urban women's nutritional status, based on height and thinness indices, 12 percent of urban women are currently under nourished (FGN et ai, 2003).

Micronutrient deficiency rates also vary along the urban rural continuum (FGN et ai, 2003). This is the only survey that has information on urban/rural Micronutrient

deficiency rates, so there are no other data for comparison or to establish trend. The data show that micronutrient deficiencies exist in the urban sector. Urban children have a vitamin A deficiency (VAD) of 20 percent and a slightly higher Iron deficiency anemia (IDA) rate of 37 percent. Urban women's VAD and iodine deficiency disorder (IDD) rates are 14 and 18 percent respectively.

Disease is another indicator of health status. Of particular interest are diarrhea, water-borne infections and non-communicable diseases. Lack of clean water, sanitation facilities and adequate shelter are associated with these diseases and this is an underlying cause of poor health status, which significantly affects productivity. According to the UN task force on Hunger (2005), more than 1 billion people (1 in 6 people globally) lack access to safe drinking water. In Nigeria, as reported in volume ix of the African Development Bank- Gender, Energy and environment (2008), the percentage of persons who have access to safe water has appreciably increased over the years in the urban areas, while the reverse is the case in the rural areas where most of the agricultural activities take place. In 1970- 1974 only 19 percent of the rural population had access to safe water. This rate increased to 56 percent in 2000 and decline to 36 percent in 2004. The national rate recorded similar trend. In 1975-79 (see the table below), 27 percent of the total population had access to safe water, while in 2000, the rate increased to 59 percent and decline to 46 percent in 2004.

TABLE 2: ACCESS TO SAFE WATER SANITATION

	1970-74	1975-79	1980-04	1985-89	1990-94	1995	2000	2003	2004	2005
Access to safe water (% of total population)	20.0	27.0		36.5	53.3	-	59.0	-	46.0	-
% Rural	19.0	26.00	40.00	34.20	55.00	-	56.000	-	36.00	-
% Urban	19.0	36.00	-	48.0	46.0	-	70.0	-	80.0	-
Access to sanitation (% of population)	-	-	-	8.5	15.0	-	20.0	-	13.0	-
A table land as (% of land area)	-	-	31.11	32.23	33.12	33.12	33.35	33.49	34.04	55.14
Irrigated land (% of land area)	-	-	0.22	0.22	0.26	0.26	0.27	0.31	0.31	0.31
Human development Index 0-1	0.230	0.317	0.376	0.387	0.348	0.419	0.433	0.433	0.448	0.447

Source: AOB

(a) Economic and social context: UIS and World Bank 2008.

Access to sanitation also has a mix- trend of growth. As reported in table 2, 8.5 percent of Nigeria's total population had access to sanitation in 1985-1989. The rate increased to 20 percent in 2000 and declined by 7 percent to 13 percent in 2004. The declines recorded in access to safe water and sanitation in recent times seems to project poor and harsh environmental situation in Nigeria. Lack of access to safe drinking water increases exposure to bacteria and parasites so also does poor situation increases vulnerability to sickness and low labour productivity.

The Nigeria epidemiological environment is dominated by the prevalence of malaria. In urban Nigeria, the incidence of sexually retransmitted infections (STIs) is on

the increase, especially in the slums. Gonorrhoea, genital herpes and warts were ranked among the ten most reported noticeable diseases in 1999 (DPC, 2002).

The incidence and burden of HIV/AIDS are on the increase in the country. *HIV/AIDS* is predicated to have a long term impact on food security in sub-Saharan African, including Nigeria. HIV/AIDS has affected each key dimension of the food security continuum. In the sub-Saharan countries most significantly affected, 20-25 percent of the productive agricultural labour force has died (FAO, 2001). In Nigeria, HIV prevalence has increased progressively among the general population, using antenatal clinic attendances as proxy, from 1.8 percent in 1991 to 5.4 percent in 1999. By the end of 1999, there were 2.7 million people living with HIV/AIDS (with a range of 2.1 to 3.2 million) including 1.4 million women and 120000 children (Lambo, 2003). In 2002, 7052 cases of HIV/AIDS were reported with 237 reported deaths.

In 2006, the reported cases of HIV/AIDSs increased to 20,661 (See table 3). This represents over 190 percent growth rate. One reason for this unprecedented increase is that poverty induces transactional sex and this could increase vulnerability to risk of infection (post note, 2006:210).

Table 3: Cases of HIV/AIDS

	2000	2003	2004	2005	2006
Reported cases of HIV/AIDS	7,052	8,318	5,529	16,661	29,661
Reported Deaths HIV/AIDS	237	406	234	505	398

Source: NBS (2007)

HIV/AIDS mainly affects the economically active group of the population (aged 20 to 49) and this hinders labour, productivity, food security and output growth. Thus, in Nigeria, as in other sub-Saharan countries, there has been a reduction in national agricultural productivity. Access to food becomes more difficult in households where one or more of the productive members can no longer bring income. Also, frequent

bouts of diarrhea and other infections which characterize AIDS, have a dramatic impact on the individuals ability to utilize the food consumed.

NUTRITIONAL STATUS AS AN OUTCOME

MEASURE OF FOOD SECURITY

Nutritional status is the ultimate measure of food security. Various factors contribute to the change in dietary pattern in urban areas. There are larger numbers of women in the work force with less time to prepare meals for the family, commuting distances are great, and a substantial amount of time is spent commuting to and from work, living spaces are smaller and often not equipped with kitchens or outdoor cooking spaces, and lastly, there is decreased access to natural fuel sources (Ginna Kennedy (2002). All of these factors influence how and why food is accessed in the urban context. Due to the fast paced urban lifestyle, many urban consumers rely on pre-prepared or convenient foods.

Street foods play a prominent role in food access strategies of the urban poor.

Street foods purchased are particularly high in urban areas of Africa. A study in Accra, Ghana found 32% of the household budget went to purchase street foods, half of this budget went to food purchases for children, who are often given money and decide on their own which type of food to purchase (Maxwell, D., Levin, C., Amer-Klemesu, M. Ruel, M., Morris, S. and Ahiadeke, C ... 2000). The cost of traditional staple foods is often higher in urban areas, while the cost of processed food is lower, contributing to the shift in dietary pattern observed in urban areas (Ruel, M., Haddad, 1 and Garrett, J 1'999). According to them, diets in urban areas based more heavily on processed food and pre-prepared foods generally contain more fat, sugar, salt and pre-prepared foods generally contain more fat, sugar, salt and preservation content. Reasons for the shift toward processed foods in urban areas include convenience, availability and price.

The information available on the nutritional status of the urban population in sub-saharan Africa with Nigeria inclusive is not yet fully comprehensive. Particularly lacking are anthropometric groups and indicators for micronutrient, malnutrition and nutritional status of adults. When urban populations are grouped together as a whole, the higher income bracket skew the overall picture of being one which is almost always brighter for urban compared to rural residents (Mennen et al 2000). While access to service and amenities may indeed be greater in urban areas, the urban poor are exposed to uniquely urban problems such as, insecure living tenure, air and noise pollution, exposure to open sewage and crime. Most of these features disproportionately affect the poor and can have a significant impact on food security and nutritional well being.

Food insecurity affects millions of people around the world, including children in Nigeria. The situation in Nigeria though has slightly improved, the progress is slow. This becomes more worrisome given the fact that inadequate safe and nutritious food availability does not ensure food accessibility. As observed by Rukandema and Gurken (2006), food insecurity and malnutrition increase suffering and account approximately for 60 percent of all childhood deaths in the developing world. Persistent under nutrition and malnutrition has a consequence of leaving children weak, stunted, wasted, vulnerable to disease attacks like diarrhea, measles, malaria and acute respiratory infections. Malnutrition in adolescent and adults can lead to decreased energy levels, growth failure, and decreased ability to resist infections, short life expectancy, powerlessness and even deaths. Some of the salient issues in the nutritious situation of Nigeria are discussed here under.

NUTRITIONAL STATUS OF CHILDREN UNDER 5 YEARS OF AGE

The most commonly collected indicators are anthropometric measurements of children under 5 years of age. Children are more vulnerable to infection and their rapid rate of growth is easily affected by poor nutrition, thus measures of children's nutritional status are good barometer of all community health. Table 4 below lists prevalence of

high or very high rates of underweight and chronic malnutrition (stunting) in urban areas of Nigeria for which there are available data. The table shows that many urban areas of Nigeria have a high or very high prevalence of underweight children, reflective of *overall* poor health and or inadequate food intake.

Table 4: trends in stunting and wasting in children 1990-2003

SURVEY YEAR	AGE	TOTAL	STUNTING (%)		WASTING (%)		
			Urban	Rural	Total	Urban	Rural
1990	5 years	43	35	46	9	7	10
1993	6 month - 5 years - 6 years	40	35	45	21	-	-
1994	5 years	52	-	-	-	-	-
1999	5 years	32	23	38	16	14	16
1999	3 years	46	42	44	12	11	13
2003	5 years	42	36	44	9	8	10

Source: Nigeria food consumption and Nutritional survey 2003.

Over 1/3 of children under 5 years of age in 2003 are moderately stunted (38.3 percent), while about one-fifth (19.2 percent) are severely stunted (height-for-age) (FAO, 2003). The analysis of stunting shows that the situation in Nigeria has not improved in the past decade. This is attributed to the problems of poverty and food security in the country.

WASTING.

According to FOS and IRD I Macro international (1992) report about 9 percent of preschool children were wasted with a higher prevalence rate in rural areas. The prevalence of wasting reported by the FMOH and social services, USAID (1998) data was 21 percent, twice as high as in 1994 and 1990. This increase reflects short term deficiencies in nutrition, and suggests a sudden worsening of food insecurity probably due to a sharp accentuation of poverty. FGN et al, (2003) also indicated a decline in the

national prevalence of wasting or acute under nutrition to the 1990 level of 9 percent as shown in Table 4 above. It can thus be concluded that, there has been a gradual decline in the prevalence from 1993 to 2003 although the 9 percent level is still not encouraging.

UNDERWEIGHT

FOS et al (1992) reported that 36 percent of school children were underweight with the prevalence rate of about 50 percent higher in the rural areas and the northern zones. FMOH and social services, USAID (1993) reported a higher rate of 39 percent and that regional disparities had worsened with one out of every two preschool children in the north under weight. With FGN and UNICEF (1994) data, the rate of under weight declined to 28 percent, while in FOS and UNICEF (1999), there was a decline from 36 percent in 1990 to 30 percent in 1999. The National population commission (NPC), UN population fund and US Agency for international Development (2000) found that 27 percent of children under three were under weight. FGN et al (2003) reported the rate to *decline* from 36 percent in 1990 to 25 percent in 2003. In summary, the prevalence of underweight among preschool children was reduced by about 30 percent between 1990 and 1993. According to the estimate, one out of every four preschool children is underweight.

MALNUTRITION IN ADOLESCENT AND ADULTS

The nutritional status of adolescents and adults is relatively poor in Nigeria. As shown in faostat (2003) report, prevalence of malnutrition in female adolescents and adults of 14-49 years depicts that over 20.5 percent of women using a national *level* are underweight. The urban areas have a record of 27.7 percent, while *rural* areas record 16.6 percent. The high level of urban female women may be due to sedentary lifestyles, eating habits and quality of food. Due to the fast paced urban lifestyle, many urban consumers rely on convenience foods. Akinyele (1998) reported that in Nigeria, two-thirds of the people's daily meals are brought from street vendors and fast food chains

and this is more prevalent in urban areas. Olayiwola, Soyibo and Atinno (2003) corroborated this in their empirical evidence that the number of registered fast food vendors astronomically increased from 1,342 in 1998 to 5,437 in 2003 in Nigeria.

Obesity is equally higher in urban than in rural areas of Nigeria. The 2003 report has shown that the national level for female stood at 5.9 percent, with the urban rate of 9.6 percent almost doubling it. Female obesity in the rural areas is 3.6 percent far below the national record. Two features which contribute to the increase in obesity in urban areas are changes in diet and a decreased in physical activity. Moving from a rural to an urban environment involves changing habitual patterns of exercise, due to less agricultural activity and different demands on time. Daily rural chores such as collecting water and firewood, no longer exists, or involves much less physical activity in urban areas. The structural layout of many cities in a developing economy such as Nigeria is not conducive to exercise, there are few side walks and limited parks and other green spaces. Levels of air pollution, traffic and crime further inhibit urban dwellers motivation to exercise. The factors highlighted above that may be responsible for overweight in urban dwellers may equally be responsible for the relatively higher urban resident obesity.

CONCLUDING REMARKS

The dramatic effects of rapid urbanization on food security in Nigeria are very clear in the cities and peri-urban areas. Food production, no-doubt has been on the increase, the pace however, has not been proportionate to the rapid urban population growth. The consequence is that more urban Nigerians live below the poverty line and are food insecure. These have attendant implications on health status of many Nigerians with high prevalence of under-nutrition and malnutrition.

Since the factors which influenced food security differ across urban and rural environments, urban planners and policy makers should recognize these difference

when designing programmes to meet the need of the urban poor. Lessons from successful agricultural and nutrition related policies and programmes in other societies can be useful in highlighting best practices. This paper therefore posits that as Nigerian society becomes more urban, the need to provide inexpensive, nutritious and convenient foods as well as employment to the urban poor become urgent.

THE WAY FORWARD

In the light of the above discussions, this study makes the following recommendations.

- A coordinated policy effort is needed to make the urban environment healthier for the growing number of urban inhabitants. Macro level policies related to agricultural production and infrastructure necessary to ensure an adequate and safe supply of food to cities must be pursued.
- Further data is required to assess the impact of changes in food availability and food choice, along with changing lifestyles, on the nutritional status and health of population groups in urban and rural areas in order to address both malnutrition and the emerging problem of overweight effectively.
- Urban residents must be encouraged to exercise, both through promoting healthier environments in which to do so and reinforcing the positive health benefit of regular exercise. These actions should be complemented with educational campaigns and community activities to advocate exercise.
- Educating women on key issues that affect child nutrition is essential for addressing widespread child malnutrition in Nigeria. This should include teaching women about the links between nutrition and disease.
- Nutrition and HIV/AIDS are two parts of a single problem that must be addressed in order to improve urban food security in the country. Thus, as the HIV/AIDS pandemic continues, there is need to monitor the impact this is *having*

on the food security of urban households and on the nutritional status of urban household by the Pandemic. An increasing number of data points over time will enable an assessment of trends in nutritional status and assists planers and programmers to better analyze the changes taking place.

- The particular strategies used by the urban poor to access food, including frequent small purchases from local shops and reliance on street food vendors should figure into municipal strategies. Therefore, improvements in terms of food safety, infrastructure and legal protection are required.

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