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URBANIZATION AND FOOD SECURITY IN SUB-SAHARAN AFRICA

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1. INTRODUCTION

1. Over the last few decades, the world has witnessed a dramatic growth of its urban population. In 2007, the world reached an invisible but momentous milestone: for the first time in history, more than half of the human population, 3.3 billion people, is living in urban areas (UNFPA, 2007). In this urban millennium, Sub-Saharan Africa (SSA) faces more development challenges than any other major region of the world. This region has a growing share of the world's absolute poor. In 1980, one out of every 10 poor people lived in SSA. In 2000, that ratio had risen to one in three. Future projections predict that soon it will be one in two, with increasing numbers of the poor living in urban areas (Cohen, 2006). In SSA, approximately 38 percent of the population currently lives in urban areas, with 75 percent of the poor in rural areas depending largely on agriculture for their livelihoods. By 2030, it is predicted that almost half (48.3 percent) of SSA's population will be urban (UNS, 2007). Most of these people will be living in slums, without access to adequate food, water, or sanitation.

2. Urban poverty in SSA has a broader meaning of cumulative deprivation, characterized by squalid living conditions, risk to health and life from poor sanitation, air pollution, natural disasters, and the breakdown of traditional family and community safety-networks. Food insecurity in cities in SSA has been relatively invisible. In fact, poverty and food insecurity in SSA were for decades considered as rural problems. Some analyses have shown however, that urban poverty is not only growing rapidly, but has tended to be underestimated in the past (Satterthwaite, 2005).

3. Although urbanization, as the process of transition from a rural to a more urban society, is a driving force for modernization, economic growth and development, there is increasing concern about the effects that expanding cities have on poverty, food security, human health and the environment in SSA. Baker and Pedersen (1992) noted that urbanization in SSA was not necessarily associated with industrialization and economic growth, but was an extractive (even "parasitic") process that undermined agriculture and rural development. High rates of overall population growth in SSA have contributed to the rapid and unplanned expansion of low-income settlements in the outskirts of many cities, which has occurred without a concomitant expansion of public services and facilities.

4. The phenomenon of urbanization, which will be one of the strongest social forces in the coming years, brings severe challenges to ensuring household food security in a context characterized by high rates of unemployment, increasing development of the informal sector, deteriorating infrastructure, overcrowding and environmental degradation. One major challenge will be how to provide adequate quantities of nutritious and affordable food for more urban inhabitants, with less water, land and labor. The first section of this paper presents current trends both in urbanization of population and poverty. In the second section of the paper, global food availability in SSA is examined, using case studies and FAO data. The paper also assesses the differential between urban and rural areas, both in terms of access to food, dietary and food quality. The third section of this paper describes the impacts of urbanization on both rural and peri-urban areas, especially with regard to the use of natural resources for food production.

2. URBANIZATION IN SUB-SAHARAN AFRICA

2.1 Urbanization of Sub-Saharan Africa's population

5. Definitions of urban vs. rural areas may vary from country to country. It may also vary over time even within the same country. However, urbanization can be considered as 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 patterns of organization and governance (Satterthwaite, 2005).
There are many causes of the accelerated urbanization process (among them but not limited to):

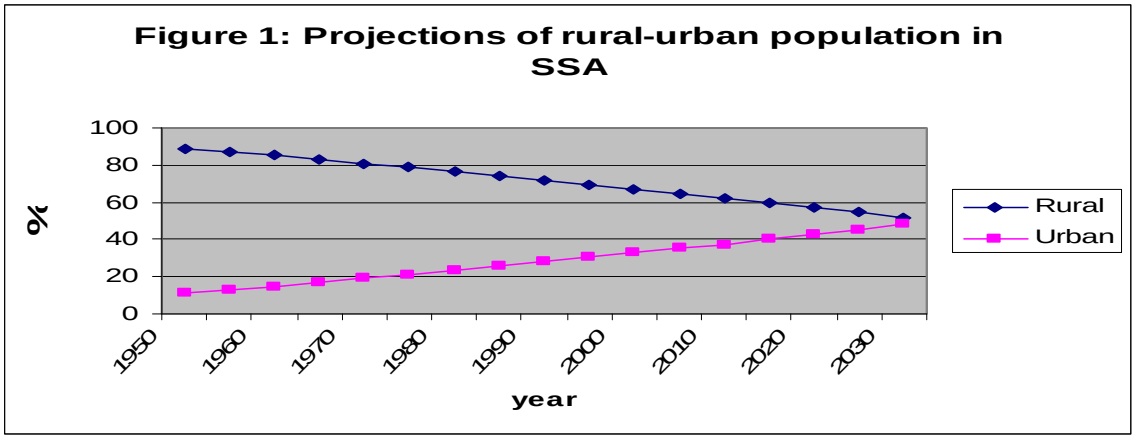
- Food insecurity and lack of employment in rural areas:
  - natural increases in population (more births than deaths);
  - land degradation and desertification;
  - people fleeing discrimination (e.g. HIV/AIDS)
- Attraction of cities
  - increased employment in manufacturing or services;
  - availability of better services (hospitals, schools, etc.);
  - social and cultural causes, such as the attraction of modern life in the towns;
- Contingent causes: people displaced by conflict, disasters, drought, etc.

6. According to UNFPA (2007), natural increases in population represent about 60 per cent of urban population growth in the median country. The remaining part of urban growth (roughly 40 per cent) is a combination of migration and reclassification.

7. The urbanization of the developing world's population has been viewed in different ways by different observers. To some, it has been seen as a positive force in economic development, as economic activity shifts out of agriculture to more remunerative activities. By this view, new economic opportunities in urban areas attract rural workers, who gain directly, and there may also be positive feedback effects in rural areas. To others, urbanization has been viewed in a somewhat less positive light, a largely unwelcome forbearer of new poverty problems. Advocates of this view often point to negative externalities of geographically concentrated poverty and irreversibility due to various costs of migration, which can mean that migrants to urban areas cannot easily return to their old standard of living in rural areas (Ravallion *et al.*, 2007). In any cases, urbanization in Sub-Saharan Africa has not led to any meaningful development, and urban residents are increasingly exposed to the daily challenges, such as lack of safe water, inadequate sanitation and environmental safeguards (air pollution, exposure to toxins and waste), and increased poverty and food insecurity. In SSA, urbanization has become virtually synonymous with slum growth; 72 per cent of the region's population lives under slum conditions. The slum population in this region almost doubled in 15 years, reaching 200 million in 2005 (UNFPA, 2007).

8. Currently, approximately 38 percent of SSA's population lives in urban areas (UNS, 2007). Although the global trend in SSA is an increasing urban population, the phenomenon of urbanization of population is not homogenous within SSA. Indeed, more than half (57 percent) of the Southern African population is currently urban, while only 22 percent of the East African population is urban. Central and Western Africa currently

have respectively 40 percent and 42 percent of their population in urban areas. The population of West Africa, will roughly double between 1995 and 2020, and about two-third of this growth is projected to take place in cities. By 2030, it is predicted that almost half of the SSA population will be urban (Figure 1), although the Eastern part of the continent will still be mostly rural.



Source: construction of the authors based on UNS (2007) data

2.2 Urban poverty

9. In 1996, 33 percent of urban Ethiopia was below the poverty line, based on a total poverty line which was 1.78 times the food poverty line and a 2,200 caloric intake of food. In 2000, the urban population below the poverty line rose to 37 percent. In 1998, official statistics from Burkina Faso showed that 16.5 percent of the urban population was below the poverty line, based only on the cost of food. For the same year 1998, official statistics from Malawi showed that 54.9 percent of urban population was below the poverty line, based on an estimate that is 1.5 times the cost of food. According to Satterthwaite (2005), many of the figures on levels of urban poverty for nations or for particular cities are much lower than the proportion of people living in very poor quality housing, lacking basic infrastructure or services.

10. Analyses of the extent of urban poverty have focused on the definition of poverty lines and quantification of the proportion of people below them. By using the income-based poverty line, it should reflect the real monetary cost for individuals or households for meeting their needs. Nevertheless, most authors on urban poverty agree that poverty is clearly becoming more urban. Although cities concentrate more and more poor, they also represent the best hope of escaping it for most of them.

11. Towards the achievement of MDGs, there is a need to consider more seriously urban poverty (that has been underestimated in most SSA countries) by both international development agencies and governments. Improving the lives of slum dwellers will require that more attention be given to urban poverty issues that were, or still are, considered less serious than rural poverty. Treating "rural" and "urban" poverty as separate and in competition for resources is not only a conceptual mistake, but a remarkably short-sighted view of the problem. According to Mandela (2000), we have to overcome the mindset which counterpoises rural and urban development. Poverty knows no boundaries. Rural and urban developments are two sides of the same coin.

3. URBAN FOOD SECURITY IN SUB-SAHARAN AFRICA

12. Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs, and food preferences for an active and healthy life (FAOa, 2003). Quantitative data on urban food demand and food security in SSA are scarce. The paper tried to review the existing literature and FAO data on:

- Global food availability in the region;
- Access to food in cities;
- Urban diet and food safety.

3.1 Global food availability in SSA

13. Food available for consumption in urban areas is primarily produced in rural and peri-urban areas or imported. As cities expand, they need more and more food, which has to be transported and distributed throughout the urban areas. In 1964, the total cereal production in SSA was 32 million tons, for a total cereal demand of only 33 million tons (Table 1). In 1999, total cereal demand exceeded production by 15 million tons. The number of undernourished people at this time was 194 million people. Projections show that in 2015, there will be a deficit of 25 million tons for cereals in SSA and the number of undernourished people will reach 205 million (FAO, 2003b). Among the cereals, rice is the most rapidly-growing food source. Rice consumption has grown by 5.3 percent between 1995 and 2001 in SSA, while production growth rate during the same period is only about 2 percent. To meet the high demand for rice especially in urban areas, imports increased over the same period by 8.4 percent per annum so that SSA now accounts for 20 percent of total world rice imports. Given this trend, SSA countries are spending more than US$ 1.2 billion annually on rice imports (FAOSTAT, 2007). In addition, subsidized food imports to feed cities compete with local products rendering local farming not profitable and therefore people abandoning farming as a livelihood.

Table 1*: Cereal balances and per capita food consumption in SSA*

	Demand (all uses in million of tons)	**Production (in million of tons)**	**Number of undernourished in million (excluding Nigeria)**	**Per capita food consumption (kcal/person/day)**
1964/66	**33**	**32**		**2058**
1974/76	**43**	**40**		**2079**
1984/86	**57**	**48**	**168**[1]	**2057**
1997/99	**86**	**71**	**194**	**2195**
2015	**139**	**114**	**205**	**2360**
2030	**208**	**168**	**183**	**2540**

Source: *adapted from FAO (2003b)*

14. Looking at the global level, SSA (excluding Nigeria) stands out as the only region that failed in raising per capita food consumption. Projections show that, by 2030, the per

[1] For 1990/92

capita food consumption for SSA will be 2540 kcal/person/day, while the rest of developing countries are above 2900 kcal/person/day (FAO, 2003b). In the mid-1980s, cereal yields were comparably low and poverty was comparably high in both South Asia and SSA. Fifteen years later in South Asia, yields had increased by more than 50 percent and poverty had declined by 30 percent. In SSA, yields and poverty were almost unchanged (World Bank, 2007).

15. Increasing quantities of food must be brought into cities and distributed within the expanding urban areas. This means that an increasing number of food-loaded trucks will come into cities. It also means that additional stress will be put on existing food distribution infrastructures and facilities, most of which are already inefficient. In developing countries, long distances, bad roads, poorly maintained trucks, and urban crowding cause spoilage of 10 to 30 percent of produce in transit (FAO, 2005). In addition, cities in SSA are expanding by increasing the distance between fringe and center. This situation could contribute to reduce food availability in some areas of expanding cities.

16. In West and Central Africa (WCA) most of the major cities are located within 500 km of the Atlantic coast. In East and Southern Africa (ESA) most of the major cities are spread throughout the landmass (often over 100 km from the Indian Ocean and Atlantic coast). The implications of this are that the WCA cities could be more easily supplied from overseas hence raising very serious challenges to the agricultural sector to set up efficient food supply chains from the interior of the continent which can feed these cities. Thus, improvements in infrastructure and logistics of food chains and movement from the interior will be of utmost importance in WCA over the next two decades. Likewise, in ESA while the cities are much further inland the supply of inputs from the coast to the hinterland will be the main challenge in order for the agricultural sector to meet its challenges. Currently countries such as Zambia and Malawi have found it expedient to subsidize their fertilizer inputs (largely by meeting the transportation and internal distribution costs).

17. In the context of a global deficit in agricultural production, there is a need to raise agricultural productivity by creating an enabling policy and economic environment. The maintenance of the infrastructure assets and improvement of marketing systems will contribute also to increase the food available to many cities in SSA.

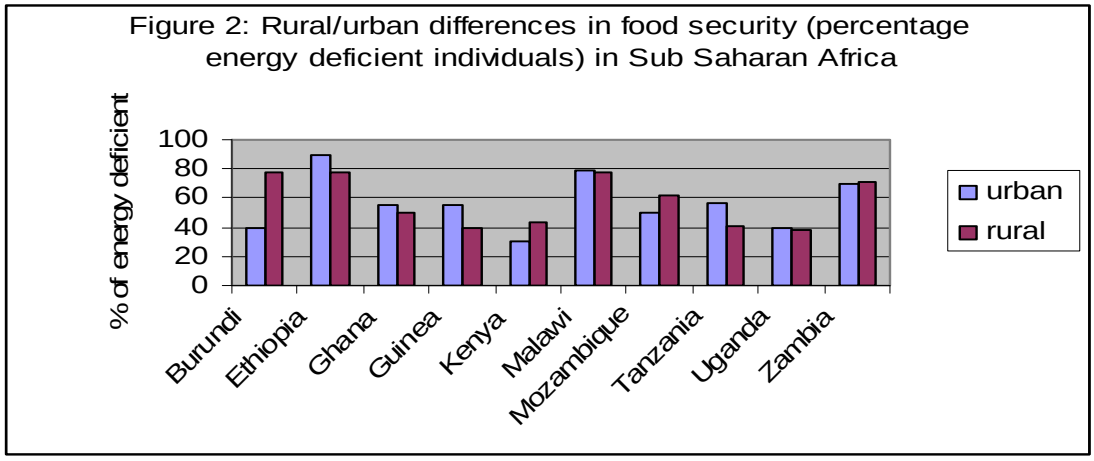
3.2 Access to food

18. In Accra, Ghana, households purchase on average 90 percent of their food (Maxwell *et al.*, 2000). They cannot exploit natural resources for their food, energy and drinks like their rural counterparts. In Ouagadougou, Burkina Faso, food accounts for a major share (averaging 40 percent) of the total cash expenditure (Savané, 1992). More disadvantaged urban households may have to devote an extremely high proportion of their disposable income to food, between 54 percent and 76 percent in the Sub-Saharan capital cities (Delishe, 1990). It is obvious that in this urban context, the higher the proportion of the income that is spent on food by low socio-economic groups, the more precarious their food situation is likely to be, although food budget shares in different cities may not be directly comparable.

19. The percentage of the population found to be energy deficient (in terms of kcal/person/day consumed) is high in urban areas in many SSA countries. At least 40 percent of the urban population is energy deficient in Burundi, Ghana, Guinea and Tanzania; with percentages reaching 90 percent in urban Ethiopia and 76 percent and 72 percent in urban Malawi and Zambia, respectively[2] (Figure 2). However, we should note that the absolute numbers of energy deficient people in rural areas still exceed the numbers in urban areas. By 2030, per capita food consumption in SSA will be 2540 Kcal/pers/day below the average 2900 Kcal/pers/day in the rest of developing regions. This does not reflect the rural/urban differences in food security.

20. Food insecurity in African cities is much more an individual or household-level phenomenon, and much less a community phenomenon, than in rural Africa. Vulnerable groups in cities often have fewer informal safety nets (kinship and community networks). Their dependence upon purchased food is further compounded by their incapacity to access and use natural resources to produce their food.

Figure 2: Rural/urban differences in food security (percentage energy deficient individuals) in Sub Saharan Africa



Source: Smith and Aduayom (2003)

21. Moreover, poor urban households are likely to reside in slums, without adequate roads, water or electricity. They are also located far from urban markets that are generally in cities' centers. The distance to markets offering the greatest variety of products poses a problem, i.e. either accept the long travel (time, cost and inconvenience), or go to the small local stores and accept a much higher price, as already noted by De Langen (1994) in the city of Dar es Salaam. In this city, the maximum distance from centre to fringe, only 6 to 10 km in 1969, rose to 15 km in 1978 and then to 30 km along certain roads in the middle of the 1990s (Diaz Olvera *et al.*, 2003). The daily constraints experienced by the poorest households in their fight against food insecurity are further compounded by the lack of water and sanitation.

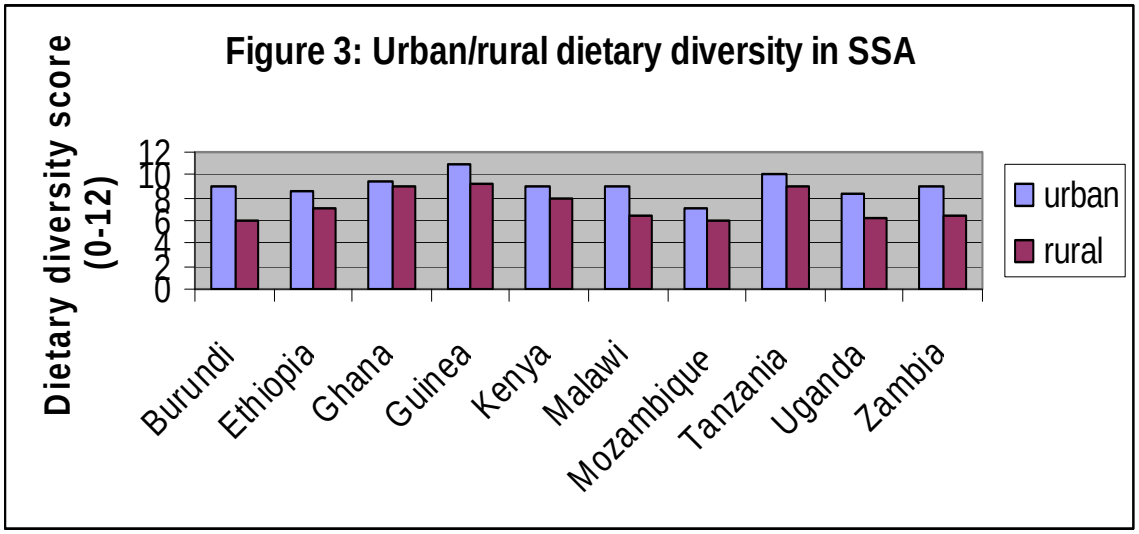
22. In urban areas, the main determinants of food availability at the household level are food prices, household income, access to home production (urban agriculture), and access to formal and informal transfers. In this context, individual access to food depends

[2] The methodology used to derive the statistics does not take into account potential differences in energy expenditures between individuals living in urban and rural areas.

on the ability to generate income. Unfortunately, the majority of urban residents in SSA are employed in the informal sector where wages are at the barest minimum and insufficient for poverty alleviation.

3.3 Urban diet and food safety

23. Household dietary diversity, defined as the number of foods or food groups consumed by households over a reference period, is found to be consistently higher in urban compared to rural areas (Figure 3), however, in many of these countries, especially Kenya, Mozambique, Uganda and Zambia, the urban poor had dietary diversity scores as low as the rural poor. According to Ruel *et al*. (2004), dietary diversity seemed to be strongly associated with income. Consumers in urban areas have less time to spend preparing food in comparison with rural areas. As the size of the cities is increasing, more time is spent in commuting, and less and less people can come back for lunch at home. They therefore demand more processed meals, close to work places (employers or institutions offering meals and catering facilities are almost non existing). Home-prepared meals have been gradually replaced by restaurant and street food. In Ibadan, Nigeria, 98 percent of schoolchildren buy their breakfast in the streets (Ruel *et al*., 1999).



Source: Smith and Aduayom (2003)

24. In Accra, female-headed households obtain 20 percent more calories from street foods than male-headed households (Levin *et al*., 1999). However, food safety is becoming a serious concern in many urban areas in SSA, where poor handling, inadequate refrigeration, lack of sanitation and safe water, can lead to contaminated food. Most vendors have little formal education and no formal training at all in the preparation of food under safe, hygienic conditions and most of them are individual operators: there are still very few organized associations of vendors and therefore no mechanism for accessing credit, nutrition information or ingredients of better nutritional quality, or for interacting with food quality control agencies

25. In a study carried out in Dakar, Senegal, from 2003 to 2004, Cardinale *et al.* (2005) isolated *Salmonella spp* in 20.1 percent of the 148 street-restaurants studied and in 10.1 percent samples of poultry dishes. In Harare, Zimbabwe, Gadaga *et al.*, (2007) found that fried vegetables had the highest incidence of samples that tested positive for

Bacillus cereus (31 percent), followed by salads (21 percent). Food safety studies conducted in the Ga District of Ghana in July 1998 showed that only 1.8 percent of "chop bars" met all the requirements (based on a five-point checklist) for basic hygiene (King *et al*., 2000).

26. Unfortunately, some of the food safety knowledge of the vendors in many SSA's cities could not be translated into practice due to the absence of basic facilities, such as water and toilets, at their vending sites. Most of the operators live in an unstable and precarious state because the sector lacks full legal recognition: they are therefore not in a position to make investments in their activity, nor to plan some development of it over time. The very low level of capital invested by the vendors as well as the financial limitations of some of their clients also raise limitations to the technical improvements that can be proposed.

27. Although urbanization seems to bring positive improvements in young children's diets, it also brings a number of unhealthy effects, such as increased consumption of saturated fats, sugar, and salt through the processed foods that contain excessive amounts of these components (FAO, 2004).

4. URBANIZATION AND THE USE OF NATURAL RESOURCES FOR FOOD PRODUCTION

4.1 Agricultural land in the context of urbanization

28. According to FAO (2003b), the harvested land expansion in SSA represented 66 percent of increases of crop production between 1966 and 1999, while for South Asia, for example, it represented only 20 percent. It will still represent 39 percent of the crop production growth in SSA between 1999 and 2030. Land, as one factor of production among others, is still playing a key role in SSA food production. Given the current agricultural productivity, the question could be whether land availability for food production is likely to become, or is already a significant constraint to solving problems of food insecurity? In 1997, SSA used 22 percent of its arable land potential and projections show that it will increase to 28 percent in 2030, for a balance of 743 million hectares of arable land (FAO, 2003b). In a global perspective, land, as a factor of production, will be available for crop production for many more decades. However, although rural areas might not be directly affected, the question is whether land availability for solving food insecurity problems poses a significant constraint at the local level, especially around cities in SSA?

29. The rate of land-use conversion from agriculture to housing is approximately 2,600 hectares per year in the peri-urban areas of Accra (Odame-Larbi, 1996)[3]. In the same way, the surface area of the city of Dar es Salem was multiplied by a factor of five from 1968 to 1982 (Diaz Olvera *et al.*, 2003). As urban areas expand the increased demand for land and the change in land use puts pressure on land tenure arrangements which are often customary or informal with no link to formal legal institutions. The rural poor in peri-urban areas are vulnerable to having their lands appropriated by others while migrants who carry out urban agriculture may have weak tenure security to the land they use. Land tenure is thus potentially a major constaint for UPA. The trend of land use

[3] Cited by Asomani-Boateng (2002).

conversion could impact the livelihoods of many urban poor. For example, at least 20 million people are engaged in different forms of urban agriculture in West Africa, and in many cities, 60-100 percent of the consumed perishable vegetables are produced within and around cities (Drechsel *et al.*, 2006). Many of these people will be kicked out from agricultural production in and around cities because of urbanization, which could increase the number of unemployed in cities.

30. Assuming that the current urbanization and agricultural productivity trends will continue, they will no doubt contribute to reducing the capacity of SSA agriculture to meet the growing food needs of its urban and peri-urban people, both in terms of quantity and diversity. As mentioned above, land is a key factor, among other agricultural production factors. Unfortunately, in SSA, land degradation is fast affecting the available arable land and crop yields have not been increasing significantly. Hence in reaffirming the strategic importance of fertilizer in achieving the African Green Revolution, the African Union Member States agreed to increase fertilizer use from the current average level of 8 kg/ha to at least 50 kg/ha by 2015 (Africa Fertilizer Summit, 2006). However, current estimates from FAO (2003b) show that fertilizer consumption will hardly exceed 10 kg/ha of arable land by 2015. If more targeted investments are not directed toward increasing agricultural productivity, land availability and land degradation will become a serious constraint in achieving food security in and around cities, and even in rural areas, in SSA.

31. The high rate of urban expansion in SSA, and, more importantly, how additional land is incorporated into the urban areas, also has significant social and environmental implications. The environmental challenges posed by the conversion of natural and agricultural ecosystems into urban use have important implications for the functioning of global and local systems. How serious they are depends on where and how urban localities will expand. The form and direction of future urban growth, as well as the way land is planned, are critical for economic growth and poverty reduction at the local level. Although there is no lack of land, there is lack of pro-active management policies for land towards food security and sustainable urbanization. Since land is so valuable in both urban and rural areas, combinations of different land use approaches, in order to safeguard and improve the generation of ecosystem services, is needed.

4.2 Water resources in the context of urbanization

32. Most of the cities in SSA rely on national and international surface water resources to meet their domestic and industrial water requirements. Showers (2002) showed that from 1970 until 1999, the number of cities in SSA reliant upon groundwater decreased from 58 to 47 percent while the number using surface water increased from 55 to 68 percent. Dependence upon nearby surface water decreased from 62 to 42 percent, while the use of rivers further than 25 km away increased from 39 to 58 percent. For example, there are plans to supply water to Nouakchott (Mauritania) and to Lomé (Togo) respectively from Senegal River and Volta River that are by far at more than 50 km away from these cities.

33. Surface water therefore, is increasingly becoming the water source for domestic and industrial uses. As African cities are fast growing, so are their water needs, thereby increasing the competition with agricultural use of water withdrawals. In some regions in SSA, such as Southern Africa and the Sahel, cities already compete with agriculture for

scarce water resources. Hence, urban and peri-urban agriculture is resorting to the use of wastewater with its associated health risks and nutrient benefits.

34. Urbanization does affect the quality and quantity of available water resources, and changes the hydrological cycle. The built-up of infrastructure, with concrete and tarmac covering the ground, results in alterations of water flow when compared to an equivalent rural catchment. A higher proportion of rainfall becomes run-off water, which results in increased peak flood water with degraded quality through the pick-up of urban street pollutants. Reduced infiltration, due to impervious surfaces, combined with high rates of extraction, causes the lowering of groundwater levels in many cities and saline intrusion of groundwater in coastal cities.

35. Due to inadequate infrastructure, between 20 and 80 percent of the solid waste in African cities is disposed of by dumping in open spaces, water bodies, and surface drains (UNEP, 1999). For example, Dar es Salaam generates an estimated 2,000 tons of refuse daily, yet the city's removal capacity is only 100 tons a day (Mosha, 1990)[4]. According to UNEP (1999), pollution from the rapidly expanding cities poses major threats to an estimated 38 percent of the entire African coastline.

4.3 Urban and peri-urban agriculture

36. Many rural migrants, seeking better livelihoods in cities, have agricultural backgrounds and often end up participating in informal activities, such as urban and peri-urban agriculture (UPA). According to Drechsel *et al.* (2006), there are at least 20 million people engaged in different forms of urban agriculture in West Africa, and in many cities, 60-100 percent of the consumed perishable vegetables are produced within the city boundaries. Data on urban agriculture in East Africa indicates that it makes an invaluable contribution to national development and food security. The annual gross output of over ten thousand urban agriculture enterprises in the city of Dar es Salaam totaled 27.4 million USD, with an annual added value amounting to 11.1 million USD. In 1991, the individual urban farmer's annual average profit was estimated at 1.6 times the annual minimum salary (Sawio, 1998).

37. UPA appears as a productive and income generating farming system which should be seen as an integral part of the urban system, as it provides food and jobs, contributes to the urban ecology and competes for natural resources with other urban functions. UPA can also contribute to urban sanitation by recycling of solid and liquid wastes. Effective participation and capacity-building of UPA actors is essential to poverty alleviation and food security in cities, as well as harmonious urban development.

38. However, there is an increasing inappropriate use of urban wastewater in many cities for food production. The associated health risks cannot be over-emphasised. The type, impact and gravity of such problems vary considerably from one city to another in SSA. The long-term viability of UPA as a livelihood strategy for sustainable urbanization depends therefore on how successful producers and municipal authorities are finding appropriate measures in minimizing its potential health and environmental risks. In this context, appropriate non-treatment options for the use of wastewater, such as safe water fetching techniques, the use of sedimentation traps, cessation of irrigation many days

[4] Cited by UNEP (1999)

before harvesting, the use of drip irrigation, etc could contribute in minimizing health and environmental risks.

4.4 Urban and peri-urban forestry

39. Urban and peri-urban forestry has an important potential role in addressing the social and environmental problems associated with rapid and uncontrolled urbanization in many parts of SSA. In many countries large parts of the urban population are still heavily dependent upon fuelwood for their domestic energy needs. For example, in Senegal, urban charcoal consumption alone is estimated to 900000 m^3 per year which would correspond to 3000 ha of savannah and steppe over a radius of 60 to 600 km from the town (FAO, 1993). Fuelwood production is therefore an obvious function that should not be ignored in the design of urban and peri-urban forest systems in SSA. Urban plantations and green areas can also provide non-wood forest products. The baobab (*Adansonia digitata*), the borassus (*Borassus aethiopum*) the doum palm (*Hyphaene thebaica*) are still found in and around many cities in West and East Africa. Among them, the baobab is one of the most used trees because of the high nutritional values of its leaves (rich in vitamin A, calcium, potassium, iron, magnesium, etc). According to Busson (1965) no single cultivated crop can replace the nutritional values of the baobab leaves in food diet in Sahelian countries. This tree is currently intensely cultivated around Segou in Mali and contributes to income generation (Fall, 2004). In peri-urban areas, the development of orchards is an important source of fruit supply to cities

40. Unfortunately, the urban demographic situation across SSA puts the environmental sustainability of the cities and the wellbeing of the inhabitants at stake. The intensification and extension of cities without taking into account the land-use capacity and the local need for woody building material and fuelwood, has contributed to a drastic depletion of tree and forest cover in and around cities. Cities consequently suffer from floods, dust encroachment, water shortage, soil erosion, etc. Sustainable development of urban and peri-urban forestry and the promotion of its contribution to food security at large require a bold and strategic approach. Development and promotion of practices taking into account the specific policy, legal and social environment of SSA cities to alleviate poverty call for a close dialogue between urban forestry, urban agriculture and urban development

5. CONCLUSION AND WAY FORWARD

41. The rapid urbanization of cities in Sub-Sahara Africa (SSA) has brought with it a wave of unprecedented problems. Although it may not even be economically desirable to stop urbanization, the main challenge remains how to manage urban growth in a more sustainable way. There is a need for a vision for sustainable urbanization in SSA in terms of planning, information and governance.

- Most urban growth is occurring in small and medium-sized cities. They have greater flexibility in dealing with rapid growth but fewer resources. Urban policies should put more emphasis on helping these cities grow sustainably especially in regard to water resources management and pollution prevention;
- Many cities could reduce social problems by planning ahead for the needs of the poor. It is therefore important to monitor urban poverty, its intensity and symptoms. There is a need for setting-up appropriate database for town and country planning, assessing the impact of macro-economic policies and development strategies on urban population and evaluating the impact of poverty reduction policies.
- There is also a need of improvements in infrastructure and logistics of food chains and movement from the interior especially in West and Central Africa over the next two decades.

42. Most of urban dwellers are employed in the informal sector in SSA with low wages. Unfortunately, individual access to food in urban areas depends on the ability to generate income.

- In this context, governments should recognize the role played by UPA and street food in making food available to poor families in urban areas and in generating income for women. These key sectors, dominated by women need to be regulated and assisted in the fight against increasing urban poverty, inequity, and food insecurity in cities in SSA.
- A specific approach for food control activities has to be developed by municipalities, as this sector is usually addressed at the decentralised level. However, there is a need for capacity building of municipal technical staff in implementing this approach.

43. Malnutrition in all its forms is a growing concern in SSA cities. It is essential that appropriate strategies be put in place to ensure availability and affordability of safe and healthy foods and encourage appropriate consumer behaviour, thereby also promoting the production of such foods in both rural and urban and peri-urban areas and enhancing livelihoods of actors along the value chain.

44. To become effective, policy designed to address urban poverty problems needs to involve rural development policy issues.

- It is critical to address land and basic services issues for the poor in order to secure improved tenure security and better homes, livelihoods strategies in urban areas and to give them the opportunity to participate in policy process to find solutions for their problems;
- A policy of improving rural development through agricultural investment is also advisable provided that it does not distort the urban economy;
- Food policies (including import) should be revisited to improve sustainability and improved livelihoods of rural and peri-urban farmers

45. Although sufficient arable land is still available for agriculture at a global level, urbanization in SSA has brought about growing arable land scarcity.

- It is critical, when planning the expansion of cities, to take due account of the needed agricultural development, integrated natural resources management and rural-urban migration. Land policies should recognize and provide for UPA. The aim should be to minimize the urban footprint by regulating and orienting expansion before it happens.
- Development and promotion of practices taking into account the specific policy legal and social environment of SSA cities to alleviate poverty call for a close dialogue between urban forestry, urban agriculture and urban development.
- The challenge of feeding cities consists therefore of creating the enabling environment for the investments needed to increase agricultural productivity, food processing and access to safe food. Meeting this challenge adequately will help also to promote the development of peri-urban and rural areas.

46. City authorities should also undertake city-wide strategic planning to design and implement integrated solid and liquid waste management systems (including recycling options) that are responsive to dynamic demographic and industrial growth. In addition, for town and country planning, city authorities should assess the social, economic, and environmental costs of sprawl and ensure that all stakeholders are involved.

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