United Nations E/CN.17/2008/13/Add.5

Economic and Social Council

Distr.: General
22 February 2008
Original: English

ADVANCED UNEDITED TEXT

Commission on Sustainable Development

Sixteenth session

5-16 May 2008

Item 3 of the provisional agenda [*]

Thematic cluster for the implementation cycle

2008-2009 – review session

Discussion papers submitted by major groups

Note by the Secretariat

Addendum

Contribution by ICLEI - Local Governments for Sustainability [**]

[*] E/CN.17/2008/1.

[**] The present paper was submitted by ICLEI – Local Governments for Sustainability and the views and opinions expressed do not necessarily represent those of the United Nations.

Table of Contents

I. Introduction

1. Local governments are key stakeholders in the implementation of Agenda 21 and the achievement of the Millennium Development Goals. They certainly are directly impacted by how sustainable development is addressed in the thematic issues of agriculture, land, drought, rural development and desertification. Local authorities in Africa are particularly vulnerable to these thematic issues.

2. Local authorities are not only in and of themselves impacted by agriculture, land management, drought and desertification, but directly impact these issues by virtue of their size and population.

3. Urban areas have a profound influence on the nature and extent of resource use and resource flows, in cities themselves and throughout the world. Urban form and the density of settlement determine an urban population's demand for energy in the transportation and buildings sector. Reflecting the proximity of cities to fresh water bodies, rich agricultural soils and sensitive coastal areas, urban land use practices have a dramatic impact on global fresh water resources, biodiversity, and patterns of food supply. The unsustainable land practices of the people in a city can impose demands not only in its rural periphery but on landscapes in distant regions and continents.

4. More than half of the global population now lives in cities, and it is predicted that by 2030, 60 percent of people will live in urban communities. Indeed, we are moving into the era of mega-cities of 10 million and more inhabitants. Today, there are 20 mega-cities, whose populations easily exceed that of countries.

5. This paper evaluates progress from a local authorities' perspective on the thematic issues, showcases best practices, identifies some of the constraints and obstacles to success, and offers some conditions needed for effective implementation.

II. Agriculture

A. Evaluation of Progress

6. Urban agriculture is critical in feeding a growing population. The UN Food and Agriculture Organization has estimated that as many as two-thirds of urban households practice urban food production on either land set aside for that purpose, or in vacant lots and other spaces.

7. The benefits of agricultural practices in urban environments are providing food sustenance that is fresh, providing employment in some cases, maintaining green spaces within the built-up environment, and reducing the energy used in transportation and

storage. This becomes even more important as urban centres expand, ironically by doing so, encroaching on valuable farmland.

B. Local Examples

Dakar, Senegal: Rooftop Agriculture

With the population of Dakar increasing by an average of 120,000 people per year, the demand for urban services has increased, as has the demand for food. As a result, urban agriculture has become more important, and it is now estimated that urban agriculture provides 60 percent of Dakar's consumption of vegetables.

In Dakar, flat concrete rooftops, which form a veritable city landscape, are being converted to rooftop gardens. Households therefore are planting these gardens to meet their own nutritional needs, but also to supplement their income by selling produce at local markets.

Website: www.fao.org/NEWS/2002/020102-e.htm

Rosario, Argentina: Urban Agriculture Programme

An urban agriculture programme was initiated in response to a deepening economic crisis whereby poverty levels were rising to 60 percent of the town's population.

The programme provided a sustainable means of food production by establishing community gardens that not only provide food for low income families, but also create a source of income, especially for women. A production plan has even been developed to supply fresh produce to soup kitchens and schools, through the framework of a common social network.

Urban agriculture has now become a local government public policy.

Website: www.bestpractices.org/bpbriefs/urbanrural.html

C. Constraints and Obstacles

8. Local Governments face the following challenges:

(a) Agricultural food production has typically been assumed to be a rural issue, thus not being a priority issue in relation to other urban issues such as housing, transportation, safety and infrastructure.

(b) In developed country cities, urban food production may be less sustainable in practice than its alternatives due to household-level energy consumption patterns, although there is much scope for changing practices towards sustainability.

(c) In developing countries, urban agriculture is often assumed to be a subsistence activity engaged in by poorer residents, but evidence suggests it is increasingly an activity of high- and middle-income households who farm for commercial purposes. This results in the disadvantaged not having access to land.

D. Conditions needed for effective implementation

(a) Urban agriculture needs to be integrated into urban planning and development.

(b) Urban agriculture needs to be promoted and recognized for the important role it plays in poverty reduction and proper nutrition, among others.

III. Land and Rural Development

A. Evaluation of Progress

9. Land use management directly impacts the use of resources – not only land but also water, energy, and air quality. Land development impacts local biodiversity, air quality and water flows. Water that is usually filtered through the soil to recharge aquifers and provide underground flows to rivers, streams and lakes becomes polluted run-off from the paved surfaces. Sprawling development therefore produces conditions that could lead to drought.

10. Additionally, the effects of sprawl extend beyond the use of energy for transportation and in buildings. Infrastructure costs are much higher than for compact development, as are the costs of delivering social services, including education. There are profound effects on the poor, the disabled, young people and the elderly, for example, who must find their homes within sprawling areas and who do not have ready access to transportation.

11. One solution has been creating higher densities. The development of dense, mixed-use neighbourhoods save green spaces and increase energy and transportation efficiencies, while reducing infrastructure and service delivery costs. Often, densification programs have taken place at the cost of green space, reducing space available for recreational purposes, and thereby increasing the heat island effect of

cities. Urbanization brings an urban lifestyle to more people; one that is more resource-consumptive and increases pressures on the natural environment.

12. Another is the development of urban growth boundaries, promoting the efficient use of land, public facilities and services inside the boundary. The lack of expansion opportunities can result in positive, thoughtful development of the urban centre.

B. Local Examples

Portland, Oregon, U.S.A.: Urban Growth Boundary

Portland's urban growth boundary (UGB) is a legal boundary that was established in 1979 to protect farm and forest lands from urban encroachment. The regulatory emphasis was, and continues to be, on protecting the economic viability of farms and farming.

Developed from this rural perspective, the boundaries undergo a periodic review to ensure that a 20-year supply of buildable land exists. By 1999, suburban development had reached the boundary in parts of the Portland metropolitan area, future suburban growth to be accommodated in either expanding the boundary or through higher density development. Therefore, while the boundary is not inflexible, in most locations it remains a fixed boundary.

Website: www.ci.portland.or.us

Greater Amman Municipality, Jordan: High Density Mixed Use Development

The Greater Amman Municipality has established an interim growth strategy policy for high density mixed use development that will provide a framework for the long term sustainability of the city.

The policy compliments the Vision for the Amman Master Plan, which is a city based on sustainable development principles that is green, livable and social, and importantly, preserves the city's culture and heritage. Elements of the growth strategy policy include:

- the identification of areas of the municipality suitable for high density mixed use development;
- the implementation of modern development guidelines and zoning controls that encourage new high density mixed use development;
- avenues for the participation of the public and private sectors and civil society into the design of high density mixed use developments; and
- a new framework whereby the cost of infrastructure is shared, in an equitable way, between the investor and the community.

Website: www.ammancity.gov.jo/english/master/m1.asp

Charlottesville, Virginia, U.S.A.: Conservation Development

Many developers in the U.S.A. are offering homes on working farms, creating communities on or adjoining farms, grazing livestock, and having available local food. These projects are a form of conservation development, a movement that aims to balance growth with preservation that has been accepted by local governments in recent years as a way to maintain open space or rural character.

The developers of Bundoran Farm purchased an existing cattle farm and apple orchard, reserving about 1,000 acres for agriculture. Homeowners agree to subsidize the farm in slow years but can also earn revenue when it does well. Located only 20 minutes out of the major city of Charlottesville, the community has 2,300 acres, riding trails, two ponds and over 100 heads of cattle.

Website: www.bundoranfarm.com

C. Constraints and Obstacles

13. Local Governments face the following challenges:

(a) Ineffective land use policies;

(b) Strong influence by developers; and

(c) In developing countries, the lack of effective urban investment, planning and management to deal with urban migration.

D. Conditions needed for Effective Implementation

(a) Support the infrastructure needs of a growing migration of rural dwellers to bigger communities.

(b) Urban planning that is based on sustainable development principles.

IV. Drought

A. Evaluation of Progress

14. While drought is a natural, recurrent climactic occurrence, their duration and severity – again a result of instability in the global climate – are increasing globally. In urban areas, droughts are not simply one of the devastating impacts of this changing

climate, but also are brought on as a result of wasteful water infrastructure, and a lack of water demand management practices.

15. When drought occurs, it can have many far-reaching impacts. These impacts are often grouped as economic, environmental, and social. The economic impacts include loss of income for urban agriculture, and increased power costs. Environmental impacts include soil erosion and loss of water tables. Social impacts include health problems and potential conflicts.

B. Local Examples

Laporiya, India: Rainwater Harvesting

This village in the northwest of India is a genuine oasis after miles of arid and barren land, the air thick with sand blown in from the Thar Desert located just 72 kilometres away.

Laporiya has adapted to the sparse water conditions and has become self-sufficient in water needs through traditional rainwater harvesting systems. Simple techniques have tapped every path that water follows along natural occurring watersheds. Villagers have rebuilt broken embankments, stored water in community ponds and repaired or constructed talaabs (masonry tanks for storing water) and earth percolation reservoirs (reservoirs built to store rainwater that percolates gradually into the nearby wells). These methods all serve to divert water to agricultural plots and pasturelands through simple canals and aqueducts.

To prevent waste and ensure ongoing water conservation, village leaders turned to local lore and the forgotten customs and rituals of the region to make villagers understand the need to conserve water. Shrines and small temples dedicated to Hindu gods and goddesses have been built at each little tank and well, cultivating an understanding of the need to protect, preserve and rejuvenate natural resources.

Website: www.indiatogether.org/agriculture/articles/rjndrght.htm.

Frisco, Texas, U.S.A.: Landscaping Ordinance

Frisco has a far-reaching landscaping ordinance that was the result of an extensive research and planning effort. Landscapes created and tended under the new legislation now use up to 50 percent less water than previously.

Elements of the landscaping ordinance include:

- Plant species that are native to North Texas or adapted to its climate are allowed.
- Three inches of mulch are required in shrub beds and around trees.
- Evapotranspiration controllers are required (these turn on irrigation systems only when water is needed and adjust the amount depending on the time of year).
- Plants installed by homebuilders are required to survive Stage 3 water restrictions, which mean one watering per week.
- Water allowances for mostly commercial developments are set based on the amount of landscaped area.

Website: www.ci.frisco.tx.us.

Hornsby Shire, Australia: Water Development Control Plan

The Council has helped the community reduce their water consumption through the implementation of their Sustainable Water Development Control Plan (DCP) and Best Practice Manual.

Since 1999, the Plan has effectively influenced over 9,500 development applications, including multi-unit dwellings and new houses. As a result, these dwellings have incorporated dual flush toilets, low flow showerheads, tap flow restrictors, water efficient dishwashers and washing machines. The Water Development Control Plan also promotes water efficient gardens and irrigation systems.

The installation of water efficient devices has saved the community approximately 980,000 kL in water use per year, and has stimulated community education regarding the need to conserve water resources.

Website: www.hornsby.nsw.gov.au

C. Constraints and Obstacles

16. Local authorities often respond to drought through disaster and emergency management measures, instead of effectively monitoring and preparing for drought.

D. Conditions needed for Effective Implementation

(a) Drought monitoring practices and policies, including early warning systems, need to be developed and implemented.

(b) Improvements need to be made in water service delivery, and to the infrastructure due to leakage and waste.

(c) Water demand management, including voluntary restraints and enforced water saving, need to be developed and enforced;

(d) Local drought plans needs to be developed. The Plan would include mitigation measures to reduce the impacts of drought, and establish a water rationing scheme when necessary.

(e) Land use planning must limit sprawl to protect underground aquifers and water tables.

(f) Xeriscaping, a type of landscaping around homes and businesses that uses a limited amount of water, needs to be promoted.

(g) Traditional rainwater harvesting methods need to be adopted, to store water when available and also to improve soil moisture management.

V. Desertification

A. Evaluation of Progress

17. Desertification affects 70 percent of all dry lands, amounting to 3.6 billion hectares, about one-quarter of the world's land area. Almost one in six of the world's population are affected – some 900 million people.

18. Desertification in rural areas is resulting in millions of rural dwellers in developing countries migrating to urban areas each year because their land can no longer support them. The UN's International Fund for Agricultural Development (IFAD) has stated that if nothing is done to stop the root cases of desertification, around

30 million rural dwellers could be forced out of their homes by 2009. Overwhelmingly, they make their way to the shanty areas of cities and put a huge strain on services such as housing, water supply, waste removal and treatment, health care and education.

19. The impacts of desertification – soil deterioration and the lack of water – have increasingly led to famine, disease, and conflicts.

20. Local authorities in developed countries factor into this problem, as developed country consumption patterns and lifestyles impose demands through the global economy on these dryland areas.

B. Local Examples

Mahbubnagar, India: Sustainable Agricultural Practices

Agriculture being the main livelihood in Mahbubnagar, the community has had to adopt sustainable agricultural practices to efficiently use dwindling water resources. Adaptive and coping strategies have been successfully established to cope with the drought conditions.

Women's groups have successfully established small-scale income generating projects, water harvesting schemes and have planted trees to protect the soil. Seed banks have been established to conserve the traditional indigenous seeds which are resistant to climate variability and a grain bank provide food security in times of need.

The results of these actions have been dramatic; there has been a 40 percent decline in the number of people in the district that migrate to larger towns every year.

Website: www.mahabubnagar.com.

Shenyang, China: Desertification Strategies

The arid north of China, the Mongolian Desert, is rapidly encroaching Shenyang; the distance between city and desert has shrunk to only 48 kilometres, down from 100 kilometres in the year 2000.

With the support of China's national action program to combat desertification, Shenyang and other Chinese cities are creating green shelterbelts, targeted planting, the planting of windbreak forests to protect farmlands, the establishment of a green corridor, the revegetation of sand sheets, and the reclaiming sandy land.

The city has established a wind-breaking and sand-fixing ecological function conservation area that covers an area of 2,300 square kilometres. Tree planting has increased the tree canopy by planting 19 million trees between 2000 and 2005.

Social participation is another important element, and includes soliciting recommendations from farmers and pastoralists and, mobilizing citizens – especially women and children - to participate in desertification combating activities such as plantings.

Website: www.shenyang.gov.cn.

C. Constraints and Obstacles

21. Local authorities face the following challenges:

(a) lack of the necessary infrastructure, mostly in a developing country context, to handle increases in urban migration as a result of desertification; and

(b) lack of effective water demand management and water conservation plans.

D. Conditions needed for Effective Implementation

(a) The United Nations Convention to Combat Desertification calls for a bottom-up and participatory approach in identifying, implementing, monitoring and evaluating projects that combat desertification and mitigate the effects of drought. Local authorities, therefore, need to be consulted on drought management.

(b) Local Authorities must develop and implement water-related drought mitigation and drought adaptation strategies, which include water infrastructure improvements, and water conservation efforts.

(c) Local authorities need to preserve natural resources and effectively manage their ecosystem.

(d) Developing country local authorities must better manage the growing influx of environmental refugees by providing basic infrastructure and services.

(e) Local authorities call on national governments to take proper account of land degradation within their environmental policies (1999 World Forum of Mayor on Cities and Desertification: Bonn, Germany)

VI. Africa

A. Introduction

22. While poverty remains the biggest challenge facing the African continent at present, Africa is especially vulnerable to each of the thematic issues of CSD-16.

23. With regards to agriculture, in Africa it is in many instances subsistence in nature with a high dependence on rainfall (over 96 percent) for irrigation. As a result, agriculture is highly vulnerable to changes in climate variability, seasonal shifts and precipitation patterns. As agricultural yields and food production are steadily declining,

while sprawling urban populations are growing rapidly, food security is significantly and increasingly under threat. A range of other compounding factors include the growing spread of invasive species, which is also closely linked to climate variability. The inter-linkages and compounding effects of these factors are important to note when seeking long-term and sustainable solutions.

24. With regards to land and rural development, Africa is rapidly urbanizing. Over half of the urban population, however, is without basic human needs of water, shelter and sanitation. Where infrastructure exists, it is often under severe strain.

25. With regards to drought, water scarcity is already increasing in Africa due to greater water demand. By 2025, it is projected that around 480 million people in Africa will face either water scarcity or accompanying stress with a subsequent potential increase of water conflicts – almost all of the fifty river basins in Africa are trans-boundary.

26. With regards to desertification, Africa is the most severely effected continent. Two-thirds of the continent is arid land, and this land mass is growing annually as a result of extreme weather events caused by climate change.

27. Sustainability in Africa is dependent on strong economic growth, poverty alleviation and environmental awareness and protection. In order for the three pillars

of sustainable development to be achieved, however, it is imperative that they are coupled with good political governance and efficient urban management and service delivery.

B. Agriculture

(a) Evaluation of Progress

28. Food insecurity in Africa has been attributed to the global trade regime, poverty, population growth, rapid urbanization, the spread of invasive species and climate change.

29. Urban food security in Africa tends to be obscured by what are considered more urgent urban problems such as unemployment, decaying infrastructure, housing shortages due to large-scale migration and inadequate service provision.

30. Urban agriculture can enhance food supply to the urban poor.

(b) Best Practice

Wabiduku, Kiwatule Parish, Uganda

The Wabiduku Peri-Urban Agricultural Project was implemented to enhance the productivity of food crops and animal production units as a source of income and for food security, and to maintain existing and establish new flower gardens.

Benefits of this project have been food security, nutritional improvement in the slum area, waste management from composting practices, improved soil fertility, and identifying and developing sustainable markets for food products and flowers.

Broadly speaking, the Project also improved livelihoods, made families healthier, created prosperous businesses, and fostered progressive communities.

Website: www.cityfarmer.org/wabiduku.html

(c) Constraints and Obstacles

31. Urban Local authorities in Africa face the following challenges:

i. urban agriculture is slow to gain acceptance as a legitimate land use practice; and

ii. there is little understanding of the important role urban agriculture can play in public health, gender issues and poverty reduction.

(d) Conditions needed for Effective Implementation

i. Support (or allow for) the formation of urban farmers' associations or cooperatives.

ii. Recognize formally the role of urban agriculture in the society.

iii. Establish (or allow for) local produce markets.

iv. Enable vacant land to be used for agricultural purposes.

v. Integrate urban agriculture into urban planning and development.

vi. Sub-regional famine early warning systems that are in place must provide urban centres with timely information on food supply, market prices and disaster preparedness.

vii. Urban planners must design housing areas that can accommodate urban agriculture.

viii. All levels of government in Africa need to collaborate on building and retaining agricultural capacity in Africa.

C. Land and Rural Development

(a) Evaluation of Progress

32. Urban Africa is urbanizing rapidly; in fact, by five percent a year. Africa is the fastest urbanizing continent; 40 percent of the continent's population now lives in cities.

33. Africa's urban population is growing at an alarming rate and this increase is placing a huge strain on the supply of adequate drinking water and increased pollution on water resources threatens the fragile balance of the water ecosystems.

34. Development in coastal regions is particularly worrying in Africa as a result of climate change. More than 25 percent of Africa's population lives within 100 kilometres of the coast, and projections suggest that the number of people at risk from coastal flooding will increase from the one million in 1990 to 70 million in 2080. Urban centres and ports such as Cape Town (South Africa), Maputo (Mozambique) and Dar es Salaam (Tanzania), for example, will be adversely impacted.

(b) Best Practice

Cairo, Egypt

To improve the living environment of more than 500,000 inhabitants by upgrading and rehabilitating the Manshiet Nasser Informal Settlement by relocating a percentage of inhabitants into a planned settlement equipped with all services and amenities.

The settlements are fully equipped with complete piped networks for water supply and sanitation, a road network, open space, vocational training and health care centres, libraries, schools, a phone service network, and environment-friendly crafts workshops. Additionally, residents are provided with a soft loan, 90 percent of which is required to be paid over 40 years giving the residents a sense of ownership.

The project is based on participatory socio-economic survey and mechanisms of transparent dialogue with local inhabitants in both the planning and management processes.

Website: www.bestpractices.org/bpbriefs/urban_development.html

(c) Constraints and Obstacles

35. Development Local authorities in Africa face the following challenges:

i. the lack of effective urban investment, planning and management to deal with urban migration.

(d) Conditions needed for Effective Implementation

i. Local authorities need to be engaged in public-private partnerships that prioritize small-scale community investments; private innovation and investment can provide a cost effective strategy.

ii. Local authorities need to meet the infrastructure needs of the growing migration of rural dwellers to bigger communities.

D. Drought

(a) Evaluation of Progress

36. Development Drought in Africa is a direct effect of climate change, but also a result of rapid urbanization across the continent. Cities such as Dakar, Johannesburg and Nairobi, for example, have overexploited local resources and are forced to convey

water from 200 to 600 kilometres away. Cities like Abidjan, Addis Ababa and Lusaka are virtually over-abstracting the ground aquifers as they dig deeper for water.

37. The scarcity of water resources has also sparked increased conflicts between cattle breeders who travel hundreds of kilometres and usually into rival community land, to find pasture for their animals.

(b) Best Practice

Siongiroi, Kenya

The Siongiroi community is classified as having a semi-arid ecosystem that has experienced sever droughts that have cost the community livestock and maize harvests, and forced community members to walk great distances to retrieve water.

In partnership with Waterlines and Kenya Rural Water Development, the community has implemented several water security programs to harvest the rain during the short and long rains. These projects include the construction and rehabilitation of dams, the survey and drilling of bore holes and shallow wells, and the construction of water catchment tanks for community use.

Website: www.unbestpractices.org/admin/public/templates/practice.php

(c) Constraints and Obstacles

38. Development Local authorities in Africa face the following challenges:

i. Ineffective (or lack of) drought monitoring and drought preparedness results in drought being handled as disaster management.

(c) Conditions needed for Effective Implementation

i. Local authorities need to improve water pollution and sanitation practices.

ii. Local authorities need to improve water service delivery by fixing leaks and stopping illegal connections.

iii. Local authorities need to support and promote traditional water collecting and storing methods.