1. Introduction

Urbanisation is defined as a movement of people from rural to urban areas with population growth equal to urban migration. According to a report by the United Nations (2010), the ratio of urban populations rose from 13% in 1900, to 29% in 1950, to 50% in 2009, and it is projected to be 69% in 2050. Urbanisation brings many benefits, such as diversity, market efficiency, jobs, education, and health improvement (Christopher, 2008). It is these benefits that attract a continuous flow of people from rural to urban areas. However, due to the rapid pace of urbanisation, natural ecosystems are increasingly replaced by cities (Attwell, 2000 and United Nations Population Fund, 2007).

Urban sustainability can be considered a measure for assessing the extent to which a city has achieved a desirable state of sustainability. This state is described as a practice that uses resources efficiently and improves the quality of life in an excellent environment within the constraints of our earth (Banister, 1998).

This phenomenon is also observed in Mauritius where about 52% of the population lives in urban areas. Agricultural land is being replaced by construction and actually only 43% of the land remains under agriculture (Stats Mauritius, 2011).

Mauritius is one of the Small Island Developing States (SIDs) which is known to be more vulnerable to environmental degradation, climate change, overexploitation of fisheries, land and sea pollutions and natural disasters compared to larger countries (UNEP). The small size and the geographical isolation of Mauritius, makes it extremely vulnerable to natural disasters, food security and rising fossil fuel cost (Green Paper 2011, p.3).

2. Risks of Urbanisation

It has been noted that urbanisation leads to many problems, such as air and water pollution, depletion of cultivated land due to urban sprawl, global climate change, and others (Li et al., 2009). These problems present barriers to achieving sustainable development and are threats to the urban population:

- Intensive urban growth can lead to greater poverty, with local governments unable to provide services for all people.
- Concentrated energy use leads to greater air pollution with significant impact on human health.
- Automobile exhaust produces elevated lead levels in urban air.
- Large volumes of uncollected waste create multiple health hazards.
- Urban development can magnify the risk of environmental hazards such as flash flooding.
- Pollution and physical barriers to root growth promote loss of urban tree cover.
- Animal populations are inhibited by toxic substances, vehicles, and the loss of habitat and food sources.

A study carried out in Port Harcourt metropolis, Nigeria, showed that most urban areas of the third world have experienced accelerated population
growth which has led to changes in the land use activities. Depth of flood water in affected areas has escalated significantly in the past years due to combined effect of uncoordinated, uncontrolled rapid urbanisation, development of swamps, flood plains and natural drainage channels. (Chiadikobi et al., 2011).

Another study carried out in The Yangtze River Delta (Xu Youpeng et al., 2010), which is one of the most developed regions in China, shows that the rapid rate of urbanisation has greatly influenced regional hydrology and water resources. The conclusions of the study are as follows:

1. The differences of annual precipitation and flood season precipitation between urban and suburban areas increased at the highest level of urbanisation.
2. The annual runoff depth and the runoff coefficient increased with the development of urbanisation, and the effect will be more notable when the urban areas expand to a certain size.
3. River network systems, especially low-grade rivers have been greatly destroyed in the process of urbanisation, which increases the risk of flood and water degradation, so it is very important to protect natural river systems.

A study carried out by the Department of Geography of the Delhi School of Economics shows that many areas of Delhi’s satellite town could end up under several metres of flood water if the runaway urbanisation is not controlled.

In 2010, the World Health Organisation had chosen the theme of ‘Urbanisation and Health’ for World Health Day, on 7 April 2010, in recognition of the effect urbanisation has on the health of the world population. According to WHO,

- Tuberculosis (TB) incidence is much higher in big cities. In New York City, TB incidence is four times the national average. In the Democratic Republic of the Congo, 83% of people with TB live in cities.
- Urban environments tend to discourage physical activity and promote unhealthy food consumption. Participation in physical activity is made difficult by a variety of urban factors including overcrowding, high-volume traffic, heavy use of motorized transportation, poor air quality and lack of safe public spaces and recreation/sports facilities.
- Globally, road traffic injuries are the ninth leading cause of death, and most road traffic deaths occur in low- and middle-income countries. Almost half of those who die in road traffic crashes are pedestrians, cyclists or users of motorized two-wheelers

In order to reduce the risks of urbanisation, it is important to promote sustainable urbanisation.

### 3. Sustainable urbanisation

**Local Agenda 21**

In order to achieve sustainable urbanisation worldwide the United Nations Action Plan (1996) had called upon local authorities to draw up Local Agenda 21 which encouraged them to find ways of conserving resources, minimising adverse impacts on the environment, on society, obtaining the maximum benefit in financial, social and environment terms. According to the agenda, Local Government policies had a very substantial influence on the definition, achievement of environmentally sustainable development regionally and locally. It is such because Local Authorities have a wide range of responsibilities, functions in relation to the environment, planning, development, housing, provision of other physical and personal services i.e activities which are controlled at local level regard to land use, waste disposal, water services, etc.
Some of the main goals of the plan included:

- Reducing the amount of energy, raw materials society consumes, as well as the pollution and waste it produces.
- Protecting fragile ecosystem and environment.
- Bringing about fairer distribution of wealth, both between countries and social group within countries, placing a special emphasis not just on the needs but on the right of poor and disadvantaged people.

The Local Agenda 21 is a process which facilitates sustainable development at community level and thus encourages the bottom-up approach.

4. The Bottom up approach

The classic approach to planning is Top down. This approach is logical mainly in new endeavours since it provides early and high level planning, but a bottom-up approach makes more sense where we already have a base which needs to be developed and made stronger with the help of some participation from the concerned stakeholders. Participation of multi stake holders in the urban and regional planning is an accepted phenomenon in current day practice, though the idea is not new. The bottom up approach in planning may be traced back in 60’s and started getting popularity among planners through decades. Many government programmes designed in the concept of self help in 60’s advocating the poor oppressed should be part of planning development. Current community participation theory suggests that politicians and bureaucrats have exploited ordinary people and they are excluded from community development process (Sanoff, 2000). In America citizen’s movement for the right in planning & development occurred in the inner city in the 1960’s. In the mid 60’s Paul Davidhoff, a planner & lawyer, challenged planners to promote participatory democracy & positive social challenge.

A new pragmatic approach to participation has emerged as citizen’s power. Community participation has been described by different persons differently in different timescale. Deshler and Sock (1985) identified two levels of participation. Pseudo participation was characterised as domestication and assistantisation which is nothing but informing, manipulation, placation and consultation respectively. Whereas genuine participation was categorised as cooperatives with partnership & delegation of power and citizens control, which implies empowerment. Burns (1979) classifies participation in four categories:

1. Awareness,
2. Perception,
3. Decision making &
4. Implementation.

Recent planning thinking has laid the foundations for a general sense of best practice, which is for an open and participatory process. But practitioners are aware of the large barriers in making this really work (Glasson & Marshall, 2007). Referring from a tracer study of participatory district planning Cooksey and Kikula (2005) suggests that participatory planning at the community level has the potential of providing the basis of district planning. Participatory rural appraisal (PRA) is expensive & time consuming but provides a higher chance of sustainability due to the ownership of the programme by the communities.

5. Conclusion

The process of growing of cities cannot be stopped due to the rapid rate of urbanisation in the world and due to the benefits of living in urban areas. As such, it is very important to find ways of promoting sustainable cities in order to find a proper balance in land use planning. Encouraging the bottom-up approach in the decision making process would be one step in the right direction to minimising the risks in urban areas.
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