Review Paper

# **Towards Sustainable City - Region in Developing Countries**

#### Muhammad AbdulRahman Seddeek

Department of Geography, Andhra University, Visakhapatnam-530003, India Regional Development Dept., Faculty of Urban and Regional Planning, Cairo University, Cairo, Egypt muhmad.abdulrhman@cu.edu.eg

Available online at: www.isca.in, www.isca.me

Received 6<sup>th</sup> September 2016, revised 24<sup>th</sup> September 2016, accepted 9<sup>th</sup> October 2016

#### **Abstract**

City-regions characterized as the optimize planning level where to clarify the relationships between urban and rural areas while developing countries, particularly lacking in the sustainable development planning approach to regulating these relations which contribute to promote the sustainability in city-regions level then all the country. The research showed the characteristics of sustainable city-regions and clarify the sustainable planning approach compared to the traditional planning approach which improves the sustainability in city-regions level. And to achieve such purpose in developing countries requires a set of tools that integrate with planning for sustainable development to ensure the success of the drive towards sustainable as shifting for spatial planning, with an emphasis on using regional planning guide besides relying on a comprehensive approach to estimating the urban capacity with the activation of urban renewal approach for rehabilitation of sustainability plus including the environmental measurement systems in regional planning, all in a range of administrative and legislative instruments geared to achieving sustainability in city-regions in Developing countries.

**Keywords**: City-regions, Sustainable development (SD), Sustainable Regional Development (SRD), Regional planning guidance (RPG), Urban capacity, Sustainable Regional Planning (SRP).

### Introduction

The concept of SD is reflected on many levels, ideas and planning approaches which striving for sustainability under many pressures on the developmental sectors, city-region considers as one of these levels not have changed in its developmental Status especially in developing countries are suffer from several problems lead to lose sustainability, and this generated Problems in light of the lack of orientation towards the tools and approaches that help to achieve SD and create losing of urban control, poor economic performance and declining development indicators of all sectors in the country, so by improving the sustainability of city-regions will improve development indicators on the national level.

City-region in the developing countries: City region consider as a middle planning level between the local and the regional planning, the importance of this level missed in the developing countries although the importance of this level which transport the local needs for the urban settlement (rural and urban) to the regional level and vice versa, so it helps the regional aspects to become clearer on the local level and translate the local relations in the regional plan, besides it's easy to apply the different approaches either bottom-up or up-down approach which gives more elasticity for the regional strategy. But firstly we need to put definition for city region as the following.

City-region definition: It's a region composed of a group of urban settlements around a City and produces internal

interactions and links they produced a set of urban, economic and social aspects that distinguish each region, the city-region differs from another in the area and population size and its geographic conditions and rich economic resources also to the technological support and the diversity of transportation.

Importance of City-region as planning level: i. The cityregion is the most appropriate planning levels which allow for spatial control of land uses to the development whether economic, social or environmental dimensions. ii. Considered one of the most important levels that accommodate direct and indirect global variables and dealing with environmental impacts and translated for spatially distributed projects and activities according to the possibilities and urban and rural development constraints. iii. The city-region planning to capture the aspects of urban expansions in large and medium-sized cities which happen at the expense of agricultural and rural areas with high economic value. iv. -Measuring sustainable development indicators for a sustainable regional development needs physical and economic regional level, clarifying the relations in physical form where it's easy to measure, monitor and evaluate the variables and the level of city-region is best suited for each of these requirements. v. The planning on the city-region helps to achieve a higher level of good governance and improve regional governance activities and projects. vi. The city-region regardless of the configurations and whatever future conditions must continue as the focus of integration activities and a hub of community activity concentrated in the integration

areas between city and its hinterland. vii. Is the best planning level, which can define the urban capacity and the capacity of the resources and activities at the regional level. viii. Using the city-region as a unit of analysis in urban studies increases the development dimension due to the instability of the spatial extent of cities. ix. Narrowing development disparities and inequalities between the city and neighboring communities within its influence led to serious social and economic problems and study these inequalities can't achieve with the individual study but require a planning study on the level of city-region.

The existing city-region problems in developing countries: In the developing countries, city-region faced a lot of problems and miscellaneous pressures became a burden of achieving the sustainability, as the following classification:

**Urban problems:** i. The continuous increase in the population without planning of its urban structure. ii. Most villages lack utilities. iii. The waste problem is the most major problems in villages and urban areas. iv. Existing services not sufficient to meet the requirements of the population. v. Poor communication between service locations and rural communities. vi. Lack of clear housing policies to address population growth leading to pressure on the Existing urban settlements. vii. Violations of laws by government agencies with providing services outside the boundaries of urban agglomeration and on the agricultural land<sup>1</sup>.

Economic problems: i. Differences in income levels between rural and urban areas. ii. Weak local development projects in absorbing labor surplus. iii. Rapid decline in the agricultural area exceeding the growth rate of reclaimed land. iv. Lack of funding for productive projects in harmony with the environment and materials available in the countryside<sup>2</sup>. v. The rural individual become consumer unit beside decline of the productive rural house. vi. Overlapping the land uses and the activities with the various residential blocks. vii. Shrinking the size and activity of agricultural enterprises. viii. Lack of vocational training leading to underutilization of available human resources.

**Environmental problems:** i. Wasteful use of chemical pesticides in agriculture. ii. Village not available yet garbage collection system and Persistence waste burning. iii. Some polluting heavy industries within the urban cluster. iv. Increased soil salinity and its effect on the quality of agricultural production. v. Lack of pure drinking water in some villages lead people to use unsafe sources. vii. Misallocation of land use resulting overlap some polluting uses within the urban block<sup>1</sup>. viii. Diminishing agricultural land towards the expansion in urban development.

**Social problems:** i. Still, internal migration from rural to urban areas, causing an imbalance of urban-rural. ii. Some social changes, especially as an urban manifestation of the changing pattern of daily life in the countryside<sup>2</sup>. iii. Social mobility as a

result of the change in the quality of education and professional installation and different distribution in the social areas within the countryside, and the diversity of sources of income for the family and the emergence of non-agricultural employment and employment under legal age. iv. Illiteracy still a significant obstacle to development.

**Problems of institutional and legislative framework:** i. Incompatibility between supervisors on urban development and the overlap between the different administrative organs. ii. The multiplicity of competent construction licensing and lack of coordination between different ministries<sup>3</sup>. iii. Deficiencies in cooperation between competent local organs of urban planning. iv. Local administrations ' lack of qualified personnel and local resources, coupled with the scarcity of resources from the Central Government.

# **Sustainable City Region**

To progress towards the sustainability we need to appoint the scientific comprehensive aspects which lead to achieving the sustainability, the first point to know about the concept and characteristics of the sustainable city region.

### **Sustainable City-region concept**

Coherent unit (geographically, socially and culturally) with spatial interaction taking into account sustainability of ecological, social and cultural systems all in light of Comprehensive urban capacity to be fitted with constituents and regional resources to reach the quality of urban and social life.

### **Sustainable City-region characteristics**

**Urban characteristics:** i. The spread of urban agglomerations is balanced at the city-region. ii. The Clear gradient in urban and rural settlements network. iii. Residential, service and economic consumption supported by renewable's energy. iv. Sustainable sites for landfill areas and respect their limits and ranges of protection. v. Facilities and infrastructure networks are sustainable systems with low impact on the environment<sup>4</sup>. vi. Respect the zones of separation and protection between urban areas that including green areas and green belts or may be in some cases the forests and parks. vii. Characterized by high rates of services access and respects the capacity of each service. viii. Availability of future urban areas to preserve the capacity of the existing urban structure<sup>5</sup>.

**Economic characteristics:** i. Lower inflation rates and higher GDP indexes for the city-region. ii. High rates generate jobs for extra non-polluting economic projects. iii. Lack of economic restrictions on cargo to and from the city-region. iv. Industrialization based on Local resources which are not contaminated and harmless to the vital system. v. Depend on domestic food production as long as sufficient people's needs in terms of safe amount of organic fertilizers and chemical<sup>6</sup>.

Environmental characteristics: i. A comprehensive survey plan for all areas to develop the resource according to its capacity. ii. Air pollution rates reduced carbon dioxide emissions down to zero. iii. A comprehensive assessment of various environmental zones and the vital systems and protected against urban and economic growth. iv. Environmental assessment programs for various types of economic projects and treat with any project threat to keep on environmental safety and public health. v. Natural water resources protection and purification of sources and measure contaminants per cubic of water. vi. Reduced solid and organic waste sources and using sustainable methods of recycling and sanitary burial<sup>7</sup>.

**Social characteristics:** i. Lower the poverty rate compared to the national and regional average and improve these rates to completely eliminate poverty. ii. Protection of heritage areas with historical and cultural valuable communities. iii. Higher life age and reach the global average. iv. High rates of health care and the availability of basic health services to all communities.

# Planning for Sustainable development

The shift from traditional planning approaches to SD planning approach: The most planning literature reviews, especially in developing countries pointed out the shifting in planning Concerns started with economic planning approach and its strategies (balanced and unbalanced growth)<sup>8</sup>. **Firstly:** the second phase of industrialization: the idea the development depend on increasing the individual income, the most countries relied on Economic Development Planning Approach which led to emergence a lot of developmental concentrations in specific areas in the regions surrounding with vast areas of poverty and backwardness.

As a result of economic dominance on all development Aspects a lot of voices asked to shift towards spatial approach for development planning as a basic tool to achieve a part of balance in development activities (industry, agriculture, housing and transportation.. etc.) between region zones, then decreasing the variance in development levels, whether in public service or production powers or population or individual income.

**Secondly:** Technological Renaissance phase: Spatial Development Planning Approach in drawing its policies deal with social and economic aspects by using the place as Geographical Location to determine the different kind of activities.

But the Expansion in the size of these activities for different reasons like overpopulation, change in consumption pattern, the desire in increasing the economic Profits and land use change lead to excretion multi-effects on environmental components in the region which had these activities.

**Thirdly:** SD confirmation phase: with confirmation the thought of SD as a result of adoption policies of environment Integration

as a concurrent aspect of the development process, appear the Environmental Development Planning approach which deals with Environmental aspects besides social and economic aspects of drawing plans and policies and the place become more maximal than the previous phase.

**Fourthly:** the effect of globalization on SD thought: The global changes resulting in growing and rapid effects on all development aspects which shifting to SRP approach as an important planning requirement for the sustainable city-region, because it merges the industry, agriculture, housing and transportation sectors by considering the ecological, social, economic and technological Input in planning.

The planning for SD consider a complete process with multi fields, its methodology seeks to establish and maintain the sustainable communities, also seeks to achieve the ideal balance of renewable and nonrenewable resources inside the city-region.

The planning for SD aims to solutions group for the problems which city-region suffered trying to remedy the negatives and maximizing the positives through the following: i. Accurate determination of the poor zones inside the region depending on poverty indicators with social support for these zones and suggest projects to improve its efficiency. ii. Determine the urban density and urban expansion areas away the ecological zones to protect them from unplanned urban growth. iii. Regulate the distribution of regional land use to achieve land use efficiency, which effect on the regional environmental sensitive. iv. Choose the economic projects to support the industrial infrastructure and geared the industrial investments which adjust with the industry development strategy and matched to the regional sustainable environmental situation. v. Helps to stop the land prices Speculation which leads to unplanned land uses and creates unneeded urban and economic powers, vi. Helps to create a clear gradation for service centers and its fair distribution in the city-region to support the accessibility between the regional zones. vii. Determine the development corridors to establish the required economic areas according to the regional plan for transportation and railway paths and far away from the complex ecological systems<sup>9</sup>. vii. Aim to reach the standard rates Per capita of the green areas and decrease the pollution rates by emergence clear gradation for the green zones. ix. Define the urban center's roles and functions using urban classification according to urban competitiveness and urban capacity and the level of infrastructure sustainability. x. Keep the ecology in the rural through determining the agricultural land around the urban settlements and put strategy to decrease the future negative environmental effects<sup>9</sup>. xi. Planning the urban areas to save its structures and patterns from the dispersion due to the urban growth, also choose the urban growth direction to protect the urban areas from the deterioration according to improve the urban environment indicators<sup>9</sup>. xii. Determine the population size depending on the regional urban capacity and regional potential and take into account the regional integration and the sustainability level of the transportation network.

The difference between the traditional planning and the planning for SD: i. The planning for SD depends on the local community complete participation in all planning stages start from set the planning goals and define the problems passing with choosing the projects and required activities to ensure matching with the region sustainability level and the environmental and economic Characteristics. ii. The planning for SD implement in the light of higher strategies for health, education, services and economic development. iii. The planning for SD establishes Executive watchdog committee to follow the performance of the comprehensive and subsidiary plans. iv. The traditional planning cares about population consumption and Meets their requirements while the planning for sustainability cares about the size of this consumption and its effect on the environment and resource capacity so this is the essence and difficulty of sustainable planning implementation<sup>9</sup>. v. Establish regional planning agencies to execute the regional integration strategies between the sustainable regions by fixing agency follow each sustainable city-region. vi. Set a group of distinguished solutions and alternative development projects in anticipation of non-matching with the required sustainability indicators. vii. Set an environmental strategy includes the population social aspects and economic aspects of commercial and industrial projects to execute against any emergency processes may cause any defect in the environmental and ecological systems. viii. Use more accurate methods to determine and assessment the environmental effects of the existing and the proposed projects to adjust with the environment sensitive degree and the sustainability level for the city-region.

## Sustainable city-region planning tools

Surely implement the planning for SD on the city-region level needs set of tools help to achieve the comprehensive sustainability concept in the following:

**Tool 1: Activating Spatial Strategic Planning Approach:** Before 1990 city-region planning depended on establishing the projects in need areas, but after this date becomes the spatial planning had a complete vision relying on Spatial Strategic Planning Approach because the failure of the first approach in the comprehensive view for the development sectors and the contradictions between the environment and community, for that there is shifting in the planning thought from (planning - order - control) to (planning - observation - management)<sup>10</sup>.

In this approach, Exceed the traditional land use plans to include multi sectors in the plan like housing, urban development, regional transportation and regional economic development sectors besides the environmental strategy with a social dimension to ensure the spatial dimensions of sustainable development.

The spatial planning approach provides a high-level vision for the regional SD where regional land uses planning to ensure the spatial involving and settlement the disputes which generated from the other regional strategy to achieve the sustainability.

The approach helps to introduce a better vision for a local government to assess the regional SD plan depending on the local community and local government participation plus provide observation reports to follow any changes in the plan.

It helps in merging different sectors in the planning for SD like regional transportation, biodiversity, environment, soil and air quality beside sectors of health and energy with giving the priority for the environment sector and protect the rural and economic development sectors.

Helps in developing the regional land use through merging in the regional and program policies as policies of demand management to mitigate the regional transportation issues.

The plan passing with four main stages: Preparation stage: Determine the issues and review the relevant regional goals and strategies with involving the local community and the governmental management in all steps.

Develop the Choices and policies stage: i. Peoples' participation in the plan according to a realistic assessment of the resources, infrastructure, and regional services, in addition, to review the regional strategies, plus study the social, economic, demographic changes as a part of the development process. ii. Sustainability assessment: should to remedy the regional issues from the Sustainability perspective and assess the situation of the regional sustainability by using the role of research institutions and the local community in this step, assess the effect of the plan developmental proposals and decisions on the sustainable development.

The primary plan assessment stage: Assess the primary plan and presents it to the regional management to give notes, and supplying them with all required documents which they need.

Examination in the public stage: publishing on the region's population in a public space to enthuse the inactive population and should consider the national or regional laws and the conditions to be matched with the higher policies of the sustainable development.

**Tool 2: Preparing the regional planning guidance (RPG):** To assess the regional problems of the SRDit should set measurement to determine the goals and indicators to follow the range of Commitment in achieving the planning goals.

The concept of RPG: It's composed of indicators which aimed to achieve in each developmental sector in the region and by the RPG we can measure the progress in implementing these indicators, strongest sectors will emerge and will draw the strategies for the weakest sectors<sup>11</sup>.

The system aims to direct the strategic plan on the regional level, which can deal with the main issues in all zones.

The importance of RPG system: Counsell and Haughton<sup>11</sup> mentioned the importance of using RPG in the planning for the sustainable development in the following lines: i. Determine stable visions for all agencies and institutions which work in each region to achieve the regional and national goals and plans to achieve the link between different sectors. ii. The system considers as an important document which success to direct the SRD and create the proper policy for each region. iii. It's important for any regional sustainable planning to prepare the RPG to direct the SRP for the most immediate and most needy zones which need to developmental interfere. iv. It helps the regional plans to decrease the improper land uses and ensure using the sustainability principles in the region.

**Tool 3:** Comprehensive approach to estimate the urban capacity: To set indicators to measure the urban capacity its crucial step to achieve the SRD for the sustainable city-region and reserves the natural and urban resources for a long time and working to reach the urban environment and economic behavior quality and the successful relation between the social aspects and economic development.

It must be stressed on each urban have a different local characteristic which made it distinct from others, the environmental indicators more important in a region have unique natural aspects, on the other hand, the social indicators more important in a region suffer from issues and social pressures.

The importance of urban capacity clarify by Amin and Abdulmaqsod<sup>12</sup> in the following: i. Identify the saturation urban zones which overpopulation. ii. Define overpopulation resulting from the inability of existing urban areas to accommodate more people. iii. Prioritize the development zones according to settlement urban capacity on city-region level. iv. The interaction with the social, economic, environmental and urban indicators intentionally to Visualize settlement population size to achieve population mobility.

The urban capacity reflected on related sectors in the urban system, the beginning with indicators focus on the environmental perspective, then the economic, social and infrastructure perspective and lastly the comprehensive urban capacity perspective.

# The urban capacity from the environmental perspective

The environmental capacity considers the first approach as a concept created from the SD to ensure the environment does not expose to pressures more than its ability depended on define the Pollutant size and kinds which it able to digest and dispose with no deterioration of its' components, all of this according to the

industrial, demographics and service activities in the urban settlement, but under a condition, the Contamination should be equal or less than the environmental capacity to preserve the environment Under a certain level of contaminants<sup>13</sup>.

# The urban capacity from infrastructure perspective

The infrastructure is the basis for providing the most important aspects of urban environment quality and it became a basis for the global competitor city-region.

Infrastructure must be planned in the light of future population size and developing the networks with the evolution of population size, but especially in the developing countries, the infrastructure developed less than the population increment or these networks haven't developed for a long time without consider the urban and population changes.

Therefore, the appropriate urban population size from the infrastructure perspective the most important aspect to define the urban capacity to avoid different pressures which can disrupt the urban system.

# The urban capacity from the economic perspective

The capacity known in this approach as the economic range which sustains the ecosystem in the city-region by does not generate unemployment or improper economic income and adjust In line with the size and sustainability of the resources eventually will serve the stability of urban economic system<sup>13</sup>.

The urban capacity from the social perspective: Interpreted as the population size that lives in high levels of life quality without exposure to risks and Social problems in the light of social safety with the goal of stabilizing the social urban system.

**The absolute urban capacity:** The maximum level of human activities, population growth, land uses, development and urban densities in light of preserving the urban environment quality without causing urban deterioration and unplanned growth<sup>13</sup>.

The urban capacity comprehensive perspective: Defined as the ecological and natural system's ability to absorb the population growth and the urban development without deterioration or damage to the environment and in light of the system's ability to provide the natural resources for the economic and social needs to keep on an appropriate level of urban environmental quality.

At the beginning of comprehensive urban capacity, the approach focused on urban environmental quality supposing if elevated it, that paving to increase the urban capacity.

And instead of focusing on the elements of the urban environment, the approach developed by taking into account the

Vol. **5(10)**, 52-60, October (**2016**)

next three key elements: i. Urban pattern. ii. Urban flows. iii. Urban environmental quality.

Those axes are major, including all systems which interacted with the urban system aimed to accurately measure the urban capacity by respecting the interaction between all development sectors with the urban sector through the next sub-systems<sup>13</sup>: i. socio-economic structure indicators. ii. the urban infrastructure indicators. iii. local and regional transport sector indicators. iv. environmental management indicators. v. Governance and local management indicators. vi. Indicators of the absolute urban environment.

Tool 4: Activate urban regeneration approach for rehabilitating city-region for sustainability: Newly developed this approach as a tool to address the deterioration of the urban zones which resulting from the demographics change, unbalanced population distribution, unemployment, and undesirable immigration besides the problem of urban environment degradation and uncontrolled urban sprawl, on the other hand, the obsolescence of the infrastructure networks in the urban settlement<sup>10</sup>.

All these problems can't be solved without comprehensive and integrated vision to improve the economic, physical and environmental sectors, all this would Strengthen and revitalize the city-region and activate different sectors.

The renewal of the areas process must be supported by a regional development strategy to change the individual projects to be uninformed regional projects.

This strategy should include the social, economic, environmental and urban dimensions which aim to open up better developmental prospects and stimulate regional relations.

The policies, activities and resources among the development stockholders must be taken on the horizontal and vertical level and take with them the direct participation of local communities to ensure Successful partnerships in regeneration system.

#### Urban regeneration approach methodology

It should work on all planning levels starting from the national level, which include the social and economic dimensions to put a national strategy plan with development targets that Being dropped At the regional level which helps with academic researches institutes which located inside the city-region, all the previous to define the city-regions that need to prioritize urban renewal by divided them in sectors under their regeneration requirements Whether in the urban infrastructure or urban centers depending on the development goals and development needs<sup>10</sup>.

After that suggest the projects on the local level through divided the sectors into zones and start with the priority projects. Tool 5: Incorporate environmental measurement systems into the sustainable city-region: First: Environmental threshold system: It's a method to "land use planning" depending on environmental assessment through define the high environmental pressures to avoid any damages to the environment.

This system consist of four dimensions: i. The proposed development site: study site naturally (coastal or mountain or desert) and maximum limit environmental potential to bear the development effects. ii. Define the development measure: national, regional or local level. iii. Development type: agricultural, industrial or tourism, etc. iv. Development time ranges: short term plan or immediate action or intermediate or long term plan.

The benefits of Environmental threshold system: select appropriate and adequate space for different existing or expected development in the city-region to maintain the ecological balance and environmentally sensitive areas and maintain the quality of air, water, and regional landscaping<sup>14</sup>.

**Second:** The environmental management integrated system

The main concept of the system: Development of an information system based on analysis of the interrelationships between the three parties in the planning process (The proposed location, development suggest aspects and environmental impacts)

**The system target:** Infer the expected environmental effects based on the proposed development and the proposed location for this development and examined the idea of establishing an information system on the interrelationships of development taking into account adverse environmental impact by evaluating these effects as a result of the proposed development<sup>14</sup>.

**Third:** System of determining the best locations for development activities

The main idea of the system depends on two steps:

**Firstly:** define the development possibilities and how to plan these possibilities.

**Secondly:** identify the potential uses and distribution function based on the possibilities of the site and the proposed development requirements.

**System target:** i. Identify the potentials of the location for the development. ii. Preparing the appropriate planning model for activities distribution. iii. Identify the land uses and available activities based on the possibilities of the site.

So the research monitoring indicators for the comprehensive approach of urban capacity in the following:

Int. Res. J. Social Sci.

Table-1 Comprehensive urban capacity indicators

Comprehensive urban capacity indicators			
The criterion	Sub indicator N	Iain indicator	
Urban pattern indicators			
The total density: the size of population / urban settlement area.		opulation	
The pure density: the size of population / urban blocks area.	densities in	ndicators	
-The number and area of unused lands applicable for urban development into urban	Urban cover indicators		
settlements			
-Area of the new urban zones applicable for urban development into the city-region.			
1-area of slums zones and its percentage to the urban settlement area.	Slums zones		
2-the slums population percentage to the total population.			
1- The area of urban renewal zones and its percentage to the urban settlement area.	Urban renewal zones.		
2- Urban renewal zones population percentage to the total population.			
Percentage of urban zones which not covered with basic services.	The needy urban zones		
-Per capita greenery.	Urban coverage indicators		
-Open areas per capita.			
-Per capita health service.			
-The density of classrooms students in the basic education.			
-Roads area percentage of the total settlement area.			
-The size of urban areas not serviced by major road network.			
Urban growth rate on the agricultural land and vegetation zones.	Undesirable urban grov	vth zones	
urban flows indicators			
-Per capita water (liter/day).			
-Groundwater supply percentage of total water supply.	Water consumption		
-Capacity of water stations.		Water	
-percentage of population connected to the sewage network.	Wasted water		
-The size and the capacity of treatment plants and their types.			
-Per capita electricity.	Electricity consumption	Electricity power	
- Electricity Grid design load.	Electricity production		
- Size of the reserves in the network.	Electricity production		
-Solid waste volume in tons per capita/year.	Solid waste production	Solid waste	
-Size of household waste-person/year.		Sona waste	
- Percentage of recycled waste.	Recycling		
-Number and size of the incinerators.	Waste treatment and		
-Number and landfills size.	disposal.		
Urban environmental quality indicators		_	
1. The number of days in the year which the concentrates increasing than the			
standard rates.	Drinking water	Water quality	
2. Size of microbes/per liter of water.			
The O2 concentration in drinking Mg per liter.	Surface water		
1. long term concentration measurement of both SO2 + TSP	Air quality		
2. Short term concentration measurement for O3 + SO2 + TSP.			
3-Concentration of nitrogen oxides, lead and carbon monoxide.			
-overcrowding rate: the number of individuals / number of rooms.	The quality of the living environment		
-Per capita residential space.	quanty of the firms environment		
-Population under poverty line.	The quality of social life		
-Per capita income.			
-Number of work hours to meet the basic needs.			
Measuring the exposure to noise for everyone / time through:	Relief indicators		
1. Exposure to noise above 65 DB.			
2. Exposure to noise higher than 75 DB.			
-The number of accidents on the roads / 1000 population.	Traffic safety		
-The number of crimes resulting from drugs and unemployment.	Social security		

Source: own work, based on Gao<sup>5</sup>, Varga & Kuehr<sup>7</sup>, Oh<sup>13</sup> et al.

**System stages:** The first stage: preliminary analytical study for the available development potentials (water - energy - land - investments).

The second stage: studying the needs of the proposed development through defining the land uses and available activities.

The third stage: prepare the distribution proper model for land uses and activities by examining the interrelations between the activities and its cost in the light of the cost/benefits for each activity and the cost of environment improvements resulting this activity<sup>14</sup>.

But to induct the previous tools to achieve sustainability in the city-region we need to but some instructions for the regional management to ensure its sustainability through knowing the integrated SRP levels to ensure the success of the planning process and development continues.

**Tool 6: Administrative and legislative tools to sustain the city-region development:** Experiencing urban regions managements in developing nations lacking managerial experience and poor decision making because of Central Government imposed by the country, and local units are not provided with technological tools which resource can't exploitation and helping attract local investments as a result of the reliance on the Central Government to establish the projects and the service activities <sup>15</sup>.

One of the most important requirements for achieving sustainable city-region the presence of good governance and management to achieve SD and the city-region consider the best spatial levels to achieve the maximum benefits on the local level. The regional strategic dimension required administrative agencies understand the dimensions of spatial planning and good governance besides maintaining the public resources inside of the city.

To success in planning for sustainable city-region should use the following administrative tools: i. Should to elect directly the local Councils to reflect the socio-political demographic composition. ii. Informal collaborative networks should be established between the regional and local governments with the private sectors and environmental groups as essential steps to formulate right developmental management for the sustainable city-region. iii. These managements should attract the business associations and national agencies which can appoint the resources and attract the investments besides stimulating the community participation, even at the level of regional issues to create a dialogue between citizens and other stakeholders. iv. It should be planning the cities and the villages after set cityregion developmental plan, determine the sustainability aims and the future comprehensive urban capacity. v. Should local administrations are trained cadres in the concepts and dimensions of the planning process and the role of technology in development management in the competent units. vi. Cityregions level should be visible in the country's budget not in the governorate budget to ensure fair distribution of finances and investments on all city-regions. vii. When switching from the central planning approach to decentralizing planning approach, the Central Government should delegate responsibilities of public services to local and municipal authorities which enjoy financial independence and regulate the process of transformation are as follows: Confirmation of the Government's commitment to implement the decentralization, Development of local government officials efficient to do the tasks and there's ability to decide the appropriate developmental decision.

#### Conclusion

Developing countries suffer from various sectorial development problems because of the economic and social pressures on environment and urban sectors, thereby losing the principle of sustainability, which advocated to achieve the Millennium development goals. Besides the lack of clear planning tools for sustainable development planning and to correct part this imbalance should highlight grandness of the city-region as a development level showing Economic and urban relationships clearly between urban and rural communities which easy to shape the sustainability goals in different sectors.

The sustainable development of the city-region is a fundamental step towards defining the requirements for sustainability planning framework, this framework includes identifying the different concepts of sustainable city-region and its characteristics And how to plan for a sustainable city region, but more importantly is projecting planning tools should Incorporated in the planning process include procedural tools and Administrative tools , the both will help in reaching sustainability all dimensions sustain the city region in the developing countries.

#### References

- Ministry of Housing, utilities and urban development. (2003). The rural development plan for markazOsim& the rural development plan for markazElaiat. Unpublished reports. Cairo, Egypt.
- **2.** Sami H. (2008). The role of spatial dimension in planning the program and projects of local-rural development. Unpublished master thesis Cairo University, Egypt.
- **3.** Democratic National Party (2004). Maintaining agricultural land and urban growth management in Egypt. Unpublished working paper, Cairo Egypt.
- **4.** Nef. (2007). The European Happy Planet Index. Retrieved from http://www.happyplanetindex.org, Retrieved on, 11/12/2014.

Int. Res. J. Social Sci.

- **5.** Gao H. (1999). Towards sustainable communities: Environmental and Resource Management in Liglang China. Ph.D. SIMON FRASER University, 1-350.
- **6.** HM Government (2005). Securing the future delivering UK sustainable development strategy. TSO (The Stationery Office), London, 43-49.
- Varga M. and Kuehr R. (2007). Integrative approaches towards Zero Emissions regional planning: synergies of concepts. *Journal of Cleaner Production*, 15(13-14), 1373-1381.
- **8.** Al-anbari M. (2008). Countries transformation in planning approaches towards environmental development planning approach. Retrievedfrom http://engineering.uobabylon.edu.iq/service\_showarticle.aspx?pubid=1374, Retrievedon, 25/08/2013.
- **9.** Næss P. (2001). Urban planning and sustainable development. *European Planning Studies*, 9(4), 503-524.
- **10.** Kidokoro T., Harata N., Subanu L.P., Jessen J., Motte A. and Seltzer E.P. (2008). Sustainable City Regions (space, place and governance). Springer library, 11-85.

- **11.** Counsell D. and Haughton G. (2002). Sustainable Development in Regional Planning Guidance. Centre for City and Regional Studies Department of Geography The University of Hull. Retrieved fromhttp://www2.hull.ac.uk/science/pdf/geogeang.pdf.Retrieved on, 21/09/2015.
- **12.** Amin S. and Abdulmaqsod F. (1995). Capacity of existing urban settlements as an indicator of the priorities for reconstruction and development- Unpublished research. Cairo, Egypt.
- **13.** Oh K., Jeong Y., Lee D., Lee W. and Choi J. (2005). Determining development density using the Urban Carrying CapacityAssessment System. *Landscape and Urban Planning*, 73(1), 1-15.
- **14.** Saudi Ministry of municipal and Rural Affairs (2005). Activation sustainable development guide in planning. Unpublished report, Riyadh, Saudi Arabia.
- **15.** UN-HABITAT., Urban planning general authority (2011). Strategic Planning for Markaz Level Model Terms of Reference. Unpublished report, Cairo, Egypt.