

Approach Paper for Reciprocal Design Index

The Design Innovation Council Network, of the WEF at Abu Dabhi, 2011 supported that Urban Design of Cities could be rated for holistic sustainability by a “Reciprocal Design Index,” (RDI) that strives for:

- A balanced approach to establish, document and incentivize sustainable design.
- An objective accreditation system of reciprocity indices that are monitored, compared and recognised.

OBJECTIVES: The Design Innovation Council Network, of the WEF at Abu Dabhi, 2011 recommended to:

- Establish Attributes for Holistic Urban Design of cities
- Establish Benchmarks for the Attributes
- Identify a Reciprocal Design Index (RDI) Metric by which cities can be measured for holistic sustainability
- Compute the RDI of any City
- Rank the RDI of a City globally

Principle 8 of the RIO DECLARATION ON ENVIRONMENT AND DEVELOPMENT proclaims that, “to achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies. (Source: REPORT OF THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT, Rio de Janeiro, 3-14 June 1992), Annex I)

For dealing with environmental issues, special efforts will be required. Global and local environmental issues are interrelated. The United Nations Framework Convention on Climate Change, Durban 2011 principled that members “should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.” The Biodiversity Convention, Nagoya, 2010 reminds decision-makers that natural resources are not infinite and sets out a philosophy of sustainable use of ecosystems, species and genes for the benefit of humans in a way and at a rate that does not lead to the long-term decline of biological diversity.

For operational and analytical purposes, the World Bank’s main criterion for classifying economies is gross national income (GNI) per capita. Based on its GNI per capita, every economy is classified as low income, middle income (subdivided into lower middle and upper middle), or high income.

(Source:<http://data.worldbank.org/about/country-classifications>)

Social indicators covering a wide range of subject-matter fields are compiled by the Statistics Division, Department of Economic and Social Affairs of the United Nations Secretariat, from many national and international sources. Their minimum list contained in the Report of the Expert Group on the Statistical Implications of Recent Major United Nations Conferences (E/CN.3/AC.1/1996/R.4).has been proposed for follow-up and monitoring implementation of major United Nations conferences on children, population and development, social development and women. This minimum list with key social indicators address:

- Child Bearing,
- Child & Elderly Populations,
- Contraceptive Use,
- Education,

- Health,
- Housing,
- Human Settlements,
- Income & Economic Activity,
- Literacy,
- Population,
- Unemployment,
- Water Supply & Sanitation.

The significant parameters for Urban Design are:

- Enforcement of Development Rules
- Density and Land Use
- Open Space Use
- Transportation & Connectivity
 - Loops – Roads, Pedestrian, Bicycles,
 - Modes – Motorways, Tramways, Waterways, Mass Transit (Metro), Monorail
 - Intermodal Transport
 - Communication
- Permeability - To achieve a high level of permeability a street network should contain a high proportion of four-way intersections, few cul-de-sacs, and small street block sizes. *(Source: http://www.humanspacelab.com/UploadedFiles/PA2005_01.pdf)*
- Infrastructure Resources
 - Water
 - Power
 - Storm Water Drainage
- Waste Disposal & Pollution Handling
 - Solid Waste
 - E-waste
 - Water
 - Air
- Security & Safety
- Risk Mitigation
 - Seismic - Earthquake & Tidal
 - Land fall & Erosion
 - Nuclear
 - Precipitation – Flooding & Snow fall

The Reciprocal Design Index (RDI) is a synthesis of the social indicator and the urban design indicator. Cities of the world in a segment of the countries categorized by their gross national income (GNI) per capita become comparable. The social and urban design indicators of a city can be compared with the country's indicators and / or that of the segment of countries to which a city belongs.