

ECONOMICS OF SUSTAINABILITY

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An Attempt to Understand the Aftermath of Economic Performance over Urbanism and Vice-Versa

The economy of any part of the World is evidently based on its contributing market sectors such as banking, industrial, infrastructure, energy, agriculture, education, transport, etc. Intriguingly, the micro and macro parameters driving the progress or downfall of either of these market sectors create an impact on the performance of the others. As an outcome of this correlation, the economic performance is meticulously analysed based upon the performance of its various market sectors as a whole.

The economic growth of a region plays a fundamental role in giving rise to Urbanism, which further gains pace with the contributions from other relevant disciplines such as geography, sociology and architecture. Urbanization is a historic yet rapid transformation of human societal origins on a global scale. It is a well-accepted fact that the impact of urbanisation will continue to bring about major global and local changes in the current century, as many countries in the developing world are presently in, or about to enter, the high-growth and rapid-transition phase of the urbanisation process. A total net addition of 2.2 billion people to the 2000 world population is forecasted by 2030 and it is expected that most of this additional population will be absorbed by the cities and towns of low-income countries, likely to rise from 1.9 billion in 2000 to 3.9 billion in 2030. By contrast, very small changes are predicted in the urban population of high-income countries, expected to increase from 0.9 billion in 2000 to 1 billion in 2030¹. The rapid urbanization in the past and present centuries has had the economists raise their concerns addressing the sustainability of this growth in the future. The United Nations World Commission on Environment and Development 1987 (the 'Brundtland' Commission) has defined "Sustainability" as:

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

In order to understand the impact of the economic growth over the rapid urbanization and vice versa, let us take a look at the past and present socio-economic development of Dubai, one of the constituents of the country United Arab Emirates (UAE). In the 1950s, the decision to build a huge cargo handling port in Dubai led to acquiring their position as a

major trading and re-export hub in the Middle East². After the discovery of oil reserves in 1966, the oil revenues generated were utilized to spur the infrastructure development². This was a giant leap taken towards growing their economy which paid off as the constituency quickly became a business and tourism hub for a region that stretches from Egypt to the Indian sub-continent and from South Africa to what are now called the CIS countries². Under the late Sheikh Zayed, the first President of UAE, the UAE has developed into one of the richest countries in the world with a per capita GDP in excess of US\$17,000 per annum². From beginning of the 21st century, the government's decision to diversify from a trade-based but oil-reliant economy to one that is service and tourism oriented resulted in the construction boom. Considering the past and potential future economic growth, huge funds were loaned from the International Monetary Fund (IMF) and World Banks were invested into the infrastructure developments giving rise to structures with remarkable architecture gaining recognition globally. But since 2009, Dubai's prospering economy started to see a downfall due to various socio-economic parameters included the maturing loans. These investments made towards the government's decision to showcase their ostentatious wealth did not payoff leaving the constituency to the total debt of US\$130 billion approximately in 2013³. Dubai's economic growth and rapid urbanization are exemplary but considering the current scenario the question that need to be answered is whether this growth is sustainable? Whether the parameters such as the maintenance costs, energy consumptions, ecological impacts, etc. of these structures were accounted during the planning phase?

The Ecological Footprint is a crucial factor that needs to be accounted in the course of action for building a sustainable economic growth and urbanization. It can be understood as the nation's resource accounting tool giving a clear picture to manage their resources and to identify the risks associated with ecological deficits. A developed nation like the United State of America (USA) has an Ecological Footprint of 8.0 (Global Hectares per Capita) against the total Biocapacity of 3.9 (Global Hectares per Capita) for 2007⁴. From this data it is concluded that the consumption of the resources per capita is almost double the nature's ability to regenerate these resources. One of the key variables responsible in accounting the Ecological Footprint is the carbon emission. The increased carbon emissions can be directly linked to the urbanization of any region. As per the data from the U.S. Energy Information

Administration (EIA), the Building Sector consumes nearly half (47.6%) of all energy produced in the United States and as a result it is responsible for nearly half (44.6%) of U.S. CO₂ emissions in 2010⁵. This example clearly explains that in order to fulfil the growing energy needs due to rapid urbanism, the developed and developing nations have fired up a vast amount of their fossil reserves, further directly affecting the ecological sustainability from their day by day increasing contributions towards the growing carbon emission globally.

The performance of the Building sector of any nation has had a fundamental impact on the overall economy, as this sector virtually links almost all markets at the micro and macro levels. The crisis in this sector has proven to have devastating effects leading to the downfall of the region's economy and hindering its urban growth. In order to make the growth of this sector sustainable, proper assessment of the variables pertaining to its growth and breakdown needs to be done and implement strategic measures while maintaining the balance of the social-economic development. One of the fundamental variables responsible for the growth is design/architecture of the structure. To counter the current and future urban challenges, implementation of ecosystem based management approaches, sustainable and climate adaptable designs, etc. are some of the much needed strategies.

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