

Sustainable Development Zones: India's New Urbanism?

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Abstract: Faced with dramatic growth, India's urban expansion offers numerous opportunities to experiment with and adapt planning theories from around the world. In the progressive southern state of Kerala, Jaigopal G. Rao has put forward what could be interpreted as an Indian approach to New Urbanism: Sustainable Development Zones (SDZs). This article examines the concept as envisioned by Rao and evaluates its viability in terms of economic, social and political realities. Deep concerns emerge over the apparent segregation between the low income residents and the general population and the impact this built-in separation would have on the urban landscape and dynamic.

The rapid growth of the Information Technology sector in India has led to a number of technoparks and Special Economic Zones (SEZs). By virtue of their size and siting, such technoparks are significant drivers behind much of the urban sprawl that characterizes many of India's growing cities: location of these technoparks on the urban periphery requires numerous employees to commute long distances for work and simultaneously feeds land speculation near the sites.

Is there a more sustainable method to nurture this technical as well as population growth? Jaigopal G. Rao has developed the concept of Sustainable Development Zones (SDZs) as a holistic and healthier alternative to SEZs. Building upon basic New Urbanist tenets promoting walkable communities, SDZs feature mixed-use, high-density urban centers with more low-density outer rings. Are these SDZs the Indian solution to unsustainable growth? This paper outlines development patterns in India, reviews the details of SDZs as described by Rao, and assesses whether SDZs and their alternative built environment have the potential to reshape India's continued development in terms of environmental sustainability through improved urban form. In so doing, the author identifies several obstacles to an otherwise forward-looking vision: political will, financial support, and most, problematically, the deliberate segregation of lower-income citizens through the creation of an Economically Weaker Section (EWS) Zone away from the dense central core.

Current Development Patterns in India

India has witnessed incredible growth in the last century: its population increased fourfold to over 1200 million between 1947 and 2009 (Jain, 2010). Much of that growth has also shifted from the village to the

city: India is expected to have 75 metropolitan cities by 2021, six of which will have populations exceeding 10 million people (Jain, 2010).

Long-established urban centers are hard-pressed to meet the infrastructural needs of this influx of residents, and emerging urban cities are similarly unprepared. Jain (2010) identifies single-use zoning as incapable of meeting India's increasingly dynamic development and calls for a total re-examination of zoning and land use. Amiya Kumar Das highlights the issue of infrastructure: "Plenty of obstacles remain [to India's economic growth], notably India's weak infrastructure[...]blackouts are frequent and dirt roads are common even in Bangalore, the center of the country's sophisticated computer industry" (2007, 162). In urban India, only 28% of households are connected to public sewerage and 66% are covered by stormwater drainage (Jain, 2010). The housing shortage is estimated to be 24 million units, and while vehicle population increased 80 times over in the past 40 years, road area only increased by five percent (Jain, 2010). Calls for increased planning are getting steadily louder, with strong emphasis on the overarching issues of housing, transportation and water-related issues (Das, 2007).

Much of the existing growth has taken the form of Special Economic Zones (SEZs) – large campuses featuring more liberal economic laws designed to attract foreign investment (Dohrmann, 2007). In addition to significant tax incentives, SEZs are also permitted to use up to 50% of their land for facilities such as shopping malls or universities. In this way, SEZs become edge cities with major implications on a metropolitan area *without* being integrated into a master plan. The side effects of this ad-hoc development, Rao argues, are to set off a massive land-grab in which land values skyrocket and force lower-income residents to relocate (January, 2011).

Sustainable Development Zones: Conceptual Structure

Sustainable Development Zones (SDZs) may be the answer to this demand for a new approach to land use. SDZs are envisioned to be parcels of land (30 to 50 acres) that contain a High Density Pedestrianized Core (HDPC) in the center, with Low Development Zones (LDZs), No Development Zones (NDZs) and an Economic Weaker Section (EWS) Zone emanating outwards. Feeder buses within an SDZ will provide transportation from all parts of the SDZ to the HDPC, where mass transit lines or buses will shuttle commuters beyond the SDZ boundary. Figure 1 illustrates:

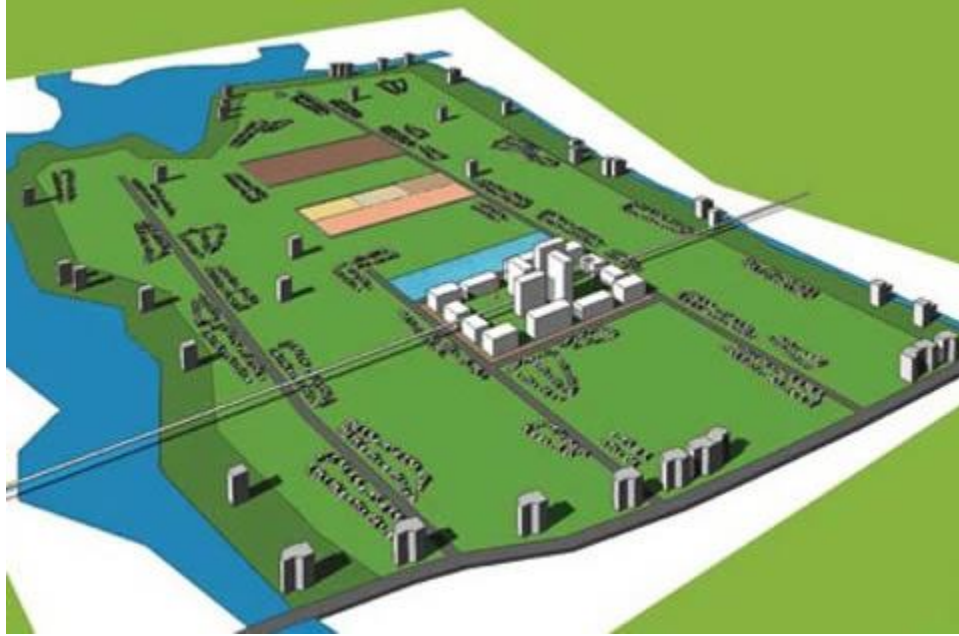


Figure 1 - SDZ Conceptual Design. The HDPC is featured in the center, with NDZs bordering the space in dark green. LDZs are marked by light green. The EWS Zone is the orange, yellow, beige and tan block, and the industrial services are dark brown. Additional SDZ needs/services are marked by the blue block next to the HDPC. <http://www.inspire-india.com/concept1a.htm>

The HDPC would be the functional and physical center of the SDZ, fulfilling the employment, academic, recreational, shopping and service needs of 60% of the SDZ's population, all from within a walking distance of 500m (0.3 miles) or less. While parking facilities would be available outside of the HDPC, the area itself would be car-free, with mass transit options (such as rail stations and bus stops) also centrally located. The structures within the HDPC would be mixed-use, combining residential with commercial and recreational uses. An estimated 12,000 people would live within the HDPC, with approximately 3,000 others commuting inside for work. Achieving this mixture would require a minimum Floor-Area Ratio (FAR) of five and coverage of less than 25% available space, leaving ample green area for community use.

At the opposite end of the spectrum would be the NDZs, which would act to preserve natural amenities, religiously important areas, and culturally/historically valuable spaces by prohibiting development in them.

Provisions for the EWS population would be made through dedicated EWS Zones near areas of high EWS employment. Because 15% of India's population is classified as EWS, these zones should have a FAR of two and would include "reasonably comfortable space for accommodation, recreation, education,

etc...near their work places” (<http://www.inspire-india.com/concept1a.htm>). Concerns about this Zone will be discussed later in the paper.

Areas neither falling into the above zones nor being utilized for infrastructural services would default as *LDZs*, with a FAR of one.

How can India pay for SDZs?

All land for an SDZ will be purchased at market price by local governing bodies, and Transfer of Development Rights (TDRs) will be utilized to redistribute FAR levels to conform to the conceptual design. The local governments will then sell the HDPC properties with high FARs to developers, who will populate the densely-zoned HDPCs with housing units and mixed-use facilities. In addition, Rao suggests that the government could allocate some of the remittances it receives annually (an estimated 53,151 million USD in 2010¹), as seed capital.

SDZs as sustainable growth

A primary advantage of the SDZ concept is its integration of residential and workplace, and its potential ability to decrease traffic congestion. New Urbanism communities are structured around the same belief in reducing commuter distance through high-density, mixed-use developments. Indeed, the walkable community emphasized in the HDPC perfectly aligns with New Urbanism’s call to “be compact, pedestrian-friendly, and mixed use” (Charter, Congress for the New Urbanism, 1996)

SDZs as economic development

Touted on the website as a “land-use-cum-financial-model,” Rao anticipates high-density growth to provide many opportunities for commercial as well as residential enterprises. Establishing necessary infrastructure will generate employment, as will the buildup of services in the HDPCs. Areas under development will attract large pools of workers, and with increased densification comes opportunity for either localization economies (an unlikely expectation from the isolated silos of technoparks) or urbanization economies.

¹ “Remittances Profile: India.” Remittances data, Development Prospects Group, World Bank, 2011.

A new way of marginalizing the poor?

The *deliberate* segregation of the Indian poor in the SDZ through a separate and isolated EWS section (see Figure 1) is the most troubling aspect of the SDZ concept. This intention to delimit an all-inclusive area for the poor evokes images of ethnic ghettos that also contrast heavily with New Urbanism's belief that "affordable housing should be distributed throughout the region to [...] avoid concentrations of poverty" (Charter, Congress for the New Urbanism, 1996). Many criticisms of zoning policies in the United States highlight their use as a means of exclusion for disadvantaged groups (Pulido, 2000), and the EWS Zone appears to be no different.

Of course, provisions need be made in an SDZ for housing the lower-income population. However, the creation of an all-inclusive zone removed from the activity center seems unnecessary and discriminating. The application of inclusionary zoning requirements for all buildings that have a FAR of a certain number or above is one potential alternative.

According to Figure 1, the EWS Zone will be nearer the Industrial Zone than the HDPC, indicating that Rao assumes most residents of the EWS Zone will be employed there. However, Shailaja Nair of the Indian architectural non-profit, COSTFORD, notes that slums rise in certain areas because of their central location and proximity to the type of work slum dwellers are more likely to do (2011). Therefore, recognizing that cities and the urban landscape are "complex organisms, evolving and changing according to local rules and conditions which manifest more global order across many scales and times" (Batty and Longley 1994), allowing slums to spring up where the need manifests itself is, arguably, a more healthy approach that fulfills certain voids in the urban architecture. Building the slum into the Plan at once prevents this gap from being filled AND relegates an already disadvantaged group to a higher degree of isolation. In his study of Roma ghettos in Turkey, Nevin Gültekin (2009) notes that, according to human capital theory, "it is not economically rational to invest in poverty stricken areas for the betterment of either the individuals or the communities." Designating the low-income area in advance will discourage enrichment of those facilities, further discriminating against the poor.

Further evidence that segregating a EWS zone and keeping it away from the dense urban core is detrimental to the city can be taken from India's own history of dealing with slums. Nair (2011) describes the evolution of Indian slum theory as having changed drastically after government officials razed slums across India during the "Emergency" period of 1975. Indians learned the hard way that demolishing central slums and relocating the tenants to the periphery prevents those workers from

getting to their jobs, thus disrupting the employer as well as the worker. Furthermore, slums develop on lands that, despite their central location, are generally undesirable (i.e. flood-prone or noisy); where others would not choose to live. As a result, more contemporary approaches to slum communities focus on *renewal*, not removal. Slums are as much a part of the urban fabric as the Central Business District and should be accepted as such.

What cannot be ignored in the Indian context is the role that the caste system inevitably plays in the self-segregation of households and communities. As such, affordable housing policies as implemented in the US that seek to integrate people of different socio-economic positions may meet with serious contention and/or outright rejection, thus making the New Urbanist ideal of diversity extremely difficult to achieve. However, acknowledging that difference as a barrier to be overcome, rather than accepting the status quo as unchangeable, is an important role for the architect of a new way forward in design and place-making.

The Indian non-profit mentioned above, the Centre of Science and Technology for Rural Development (COSTFORD) is an example of grassroots architecture that also seeks to advance society. While many of their projects focus on slum upgrading, the design of many of their slum communities incorporate small shopping areas that will, hopefully, attract consumers outside of community residents. "The idea is show the outside that these people [living in slums] are not so bad or different – to introduce them slowly to the idea" explained Nair (2011). Working slowly to initiate the changes in attitude and behavior that can eventually lead to the true New Urbanist values of diversity and integration is a model that should be carefully considered when appropriating New Urbanism abroad: working within a culture to help shape the new direction of urbanism and growth.

Concerns regarding SDZs: Is reorganization possible?

An existing city would be divided into a given number of SDZs based upon expected investment opportunity, present land use, current population density, and carrying capacity. Before this, however, Rao calls for a study that compares a SDZ and a SEZ. Meanwhile, a lot of data will need to be computerized, all areas desired for conservation identified, and a cutoff date established beyond which time the state building codes are adjusted to a FAR of one on all structures so that everyone "starts" evenly. This sounds like a logistical nightmare that will require intense support and political will to realize, especially because land reform has been an extremely sensitive issue in India after SEZ land

acquisition ignited a series of protests in the early 2000's (Dohrmann, 2007). Land reconstitution (otherwise known as land readjustment) has been utilized successfully in some parts of India, so perhaps there might be more of a readiness to accept its new distribution (Center for Good Governance, 2010). However, all instances of successful land reconstitution require a high level of participation from the affected community. This begs the question, where is public participation in this process? The conversion of existing space into an SDZ is unlikely to be popular if the process does not engage the community.

Finally, Rao is extremely confident that remittances from abroad will fund the majority of necessary infrastructural works, but that requires the State to divert a lot of money from its budget, or for individuals to give from their own pockets.

Conclusion: SDZs as way of the future?

Sustainable Development Zones (SDZs) seek to reorganize urban India into communities with dense, mixed-use centers and low development emanating outwards. Corresponding with New Urbanism ideals, SDZs decrease commuting by integrating where people live and work. SDZ visionary, Jaigopal G. Rao, foresees dense urban cores made possible through TDR. He also predicts that SDZs will spur economic development.

The concept is generally good, but Rao's concept is based on a number of assumptions that leave serious holes to be filled:

Building a separate Economically Weaker Section Zone away from the dense urban core essentially legitimizes segregation and second-class citizens. Such a distinction is unacceptable in democratic countries and also obstructs the potential of more organic slums emerging in response to a need, both of which would be a glaring tear in a city's urban fabric. The impediment that the caste system places on societal integration is something that should be dealt with as an obstacle to be overcome.

The sheer logistical overhaul of existing systems that would be needed to reorganize an urban landscape and built environment seems overwhelming. Political will and popular support will need to be abundantly present in order to start the transition process.

Although Rao is confident that the expenses of converting to SDZs will be borne largely by remittances, a more comprehensive financial plan needs to be developed.

As a concept that has the potential to enable urban spaces to embrace growth in a sustainable way, SDZs are an intriguing possibility that combine elements of New Urbanism with economic development. If executed properly, SDZs have good potential to supplant existing technoparks in SEZs as a means of building high-tech service industries into the urban fabric of cities rather than promoting sprawl and the associated dislocation of residents on the periphery where these technoparks currently locate. Studies of feasibility and popular acceptance of the system need to be undertaken, however, and public response gauged. A more inclusive design that integrates all socio-economic classes into the same high-density central core should be incorporated, and clear financial plans and implementation details must be developed. It appears that SDZs, like their New Urbanist parents, are better reserved for new developments rather than retrofits. However, new solutions must be found: India is rapidly growing and urbanizing, and long-term sustainability is at stake.

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