"Summary of article by Sai Felicia Krishna-Hensel: Population and Urbanization in the Twenty-First Century: India's Megacities"

Megacity growth is a central feature of Indian development. Cities which were already large at the time of independence, such as Calcutta, Bombay and Madras, have continued to increase in size until they have reached the category of megacities -- urban areas with populations exceeding eight million[1]. The same locational and economic forces which drove the original growth of cities at favorable geographic sites have continued to attract migrants in search of opportunities. While urban agglomeration is often seen as evidence of successful modernization, there are increasing problems associated with growth.

The difficulties facing megacities are potentially overwhelming. They appear to be too large to be efficiently administered through one central agency, requiring the development of effective local institutions to provide education, health, hygiene, and other services. But in addition to being a huge challenge for administrators, megacities are also laboratories for ingenious local experimentation.

Patterns of Growth

The shift from an agrarian to an industrial economy has encouraged population movement towards urban areas engaged in industrial activity and trade. Small-scale manufacturing enterprises provide many job opportunities. People also come to the city seeking skills and education. While the growth of megacities is partly a function of natural population increase, large-scale migration is a more important cause. The partitioning of the subcontinent in 1947 and the partition of Pakistan in 1971 also led to large refugee movements to cities such as Calcutta.

Civic authorities in Calcutta and Bombay were generally poorly prepared to handle large influxes of migrants. In Calcutta, "pavement residents" create major health and safety problems. Bombay has nearly half its population residing in squatter or slum housing. In Madras and Delhi, the record is somewhat better. Madras, with growth more evenly divided between in-migration and natural increase, has a relatively small proportion of slum housing. In Delhi, regional planning authorities have consistently encouraged dispersal of growth into surrounding townships.

Urban Problems

Serious problems surround the expansion of shanty towns in urban areas. Residents often pirate electricity from power lines and illegally tap into public hydrants. Flimsy construction poses fire and health hazards, and untreated sewage often enters the general water supply. Education and health-care facilities are generally lacking. Crowded conditions are a breeding ground for disease, environmental degradation, and crime. Between 40 and 70 per cent of urban residents reside in slums or poor-quality tenement housing.

Megacities are characterized by "high land prices, air and water pollution, and a growing climate of corruption and extortion." (162). Organized crime is active in the real estate market, extorting a 10% levy on building projects. The absence of housing codes means that many renters live in derelict and unsafe housing. Legal restrictions often prevent effective property development, while creating opportunities for bribery and illegal profiteering.

Urban air pollution has become a major health hazard, leading to a rising rate of respiratory disease. Vehicular emissions are steadily increasing, with 700 new vehicles added daily in Delhi alone. World Health Organization pollutant limits are regularly exceeded. The use of biomass fuels and wood contributes both to air pollution and to regional deforestation, which in turn lessens vegetal absorption capacity and thus worsens pollution. Data on air quality is often unreliable or lacking entirely.

Water supply is a serious problem, with demand far exceeding supply. About half the sewage in Delhi is completely untreated; only about 20% is fully treated. Solid waste is dumped outside the city in open pits, posing a further health hazard. Local rivers have high levels of untreated sewage pollution. These conditions are conducive to the spread of diseases including cholera, diarrhea, gastroenteritis, and malaria. In 1993 an outbreak of plague in northern India created widespread alarm, and spurred some improvement in sanitation measures.

The enormous problems of the megacities have led to the emergence of locally-based initiatives attempting to respond to social, health, and environmental issues. Some positive examples include:

• The UNICEF project for improving the nutritional quality of infant feeding in Delhi, emphasizing the importance of early intervention in preventing malnutrition.

• The Exnora International organization, which collects about 20% of Madras's garbage for a low fee.

• Cities like Bombay and Calcutta have been able to almost double their investment in sewage management projects, with assistance from the World Bank.

As international agencies have provided more support for community projects, creative grassroots movements have emerged among the residents of severely stressed urban communities. This awakening of self-reliance among the urban poor is a global phenomenon, and is a source of hope for the future of megacities.

The Planning Challenge

Rapidly growing populations provide a major challenge for urban planners. Census data only reflects changes long after their impact has been felt in terms of exacerbated urban problems. For example, the population of Calcutta doubled from 4.4 million in 1950 to 9 million in 1980, and during the next 10 years added another 2.8 million inhabitants. The population was estimated to reach 15.7 million in 2000. Improved medical care and "green revolution" food supplies have reduced death rates, but these very successes magnify the problems of urban growth.

Planners are finding that decentralization, privatization of services, and the development of community-based support groups are the best strategies for providing basic services and improving the quality of urban life. A concerted effort by the public and private sectors is needed. Development permits should be linked to the provision of necessary services in low-income and unplanned neighborhoods.

Authorities in Bombay and Calcutta have attempted to decentralize urban activities, developing small townships to relieve central city congestion. Delhi planning includes a National Capital region including outlying districts and counter-magnet cities to draw growth away from the center.

There is a need for the harnessing of technology to improve urban transportation systems. A more extensive underground transportation network in Calcutta would relieve surface congestion and pollution. Urban food supply systems are also inefficient. Decentralized markets and kitchen gardens are helping to meet needs of outlying developments and shorten supply chains. However, many of these efforts are temporary or lack legal property rights.

Accurate assessment of growth trends is crucial for effective megacity planning. More reliable data collection is needed, especially in the area of pollution. Cooperation between NGO's and municipal agencies will be needed to promote effective decentralized development. Finally, the importance of education in mobilizing popular support is an essential component of urban sustainability strategies.

Notes

1. Some authorities use a figure of ten million to define a megacity. See e.g. O'Meara, this volume.