

Working paper

Urbanization of Everybody and Social Sustainability

Hassan H. Karrar
Mohammad A. Qadeer

March 2013



International
Growth Centre



DIRECTED BY



FUNDED BY



Urbanization of Everybody and Social Sustainability

Mohammad A. Qadeer
Professor Emeritus, Urban and Regional Planning ,
Queen's University, Canada.

ABSTRACT

Urbanization of everybody and social sustainability

This paper focuses on the ushering of the urban habitat in a spatial-ecological rubric as urbanization envelops the majority of Pakistanis. By the census definition, 36% of the population lives in cities, towns and other designated urban places. But by applying the population density of 400 persons per sq. km. as the defining criterion – a near universal standard - large rural regions of Pakistan qualify as urban areas. This unorganized form of urbanization resulting from the implosion of population, joined with the growth of cities and towns, has produced mega-urban regions where the countryside is dotted with villages, suburbs, homesteads and factories, centred around cities and towns, the merger of ruralopolis with megalopolis. This landscape and habitat contains about 56% of Pakistan's population. India, Bangladesh, Java, Indonesia and Southern China are other mega-urban regions growing with the population pressure in rural areas.

The ecological impacts of urbanization bring about a change in the landscape and settlement pattern, usually resulting in sprawled development across the countryside. It results in the loss of agricultural land, deforestation, disappearance of wildlife and depletion of water resources. It precipitates thresholds for infrastructure, facilities and public services. The needs are urgent but their neglect lowers the quality of life and breeds urban crises. These impacts mutually reinforce each other to produce a symbiotic environment of underserved urbanization.

The ecological impacts affect social, economic and political institutions. They call for technological and institutional responses. This is the basis of urban problems in Pakistan that now extend to almost the whole country. To respond to these challenges five institutional imperatives of urbanization have to be met. Those are: (1) The establishment of participatory and responsive local governments to maintain order, guide development, provide services and conserve the environment; (2) Instituting urban land reforms, defining respective private and public rights in the use, valuation, servicing and control of land for urban purposes; (3) Implementing a system of producing, distributing, maintaining and managing collective goods in the form of utilities, facilities, services and regulations; (4) Reconstruction of social institutions and the promotion of urban moral order; and, (5) Organizing a professional, accountable, transparent and ethical public administration.

Two forms of urbanization

In Pakistan, everybody's life has been touched by urban modes of living, which largely reflect modern economic and social ethos. Modern medicine, automobiles, cell-phones, television, the internet as well as the national economy and politics have enveloped everybody, no matter where one lives. The historical distinctions of rural-urban differences have narrowed. A convergence of modes of living is underway between the village and city. In the socio-cultural sense, everybody has been swept by urbanism as a way of life to varying degrees. Yet by the phrase "urbanization of everybody," borrowed from Janet Abu-Lughod, I am arguing that Pakistanis are not only enmeshed in urban ways of life, but also live in an urban habitat, that is, physical environment made up of concentrated buildings and their supportive infrastructure.ⁱ

Urbanization is a spatial and ecological concept. It refers to an area of large population, high density, non-agricultural economy and often some form of municipal organization. The proportion of a country's population that lives in such habitats is a measure of its urbanization. Urbanization as a spatial-ecological habitat lays the ground for urbanism, which refers to urban ways of life in socio-cultural terms.

A majority of the world's population now lives in urban areas. In Pakistan, officially 36% of the population lives in cities, towns and other designated urban areas. This is the recognized and organized form of urbanization that occurs with the growth of cities and the migration of people from rural to urban areas. Yet this is just one form of urbanization.

Another less-frequently analyzed urbanization is the in-place growth of population in villages and the countryside leading to the emergence of urban densities and the corresponding spatial habitat. This is the process of unorganized urbanization, which is the result of implosion of population.ⁱⁱ This process is very extensive in the population-heavy parts of Asia, particularly China, India, Pakistan, Indonesia and Bangladesh. Other observers affirm this form of urbanization in the aforementioned countries. McGee's concept of "Desakota" and Afshar's notion of "Rurban" point to distinct forms of settlement emerging from the convergence of city and country under the influence of population explosion and infusion of industries and housing in rural corridors radiating out of cities.ⁱⁱⁱ Zhu draws attention to the in-situ urbanization resulting from the growth of population, which is extensive in Southern China.^{iv} Population density is the driving force of this form of urbanization.

I will discuss below how urbanization by implosion or unorganized urbanization is transforming the landscape of Pakistan; I also draw on illustrative examples from India and Bangladesh. The point to note is that on taking into account the contribution of urbanization by implosion, about 57% of Pakistan's population was

found living in urban habitats in 1998.^v Today (2013) almost two-third to three-fourth of Pakistan's population is urbanized and the rest drawn into urban socio-cultural milieus. Except for the remote parts of Baluchistan and the dry lands of Sindh and Southern Punjab, almost everywhere else one or the other form of urbanization or urbanism prevails; as a result, everybody has been urbanized in Pakistan.

Given the pervasiveness of urbanization, the following questions need to be asked: what ecological and social imperatives arise from the urbanization of everybody?; and, what institutions and infrastructure are necessary to make urbanized regions socially and environmentally sustainable? In this paper, these questions will be addressed, primarily from the point of view of the urbanization of extended regions stretching over hundreds of miles. These regions are formed with the spilling out of cities and the spread of overgrown villages, homesteads and workshops in the countryside. The sustainability of cities and towns, the historical form of urbanization, has been widely studied and continues to be extensively researched. The urbanization by implosion in the countryside is an issue that has been neither recognized nor explored. Yet this unorganized form of urbanization is an urgent ecological challenge for Pakistan, India and Bangladesh, as will become evident in the following sections. The foregoing two questions will be primarily addressed from the perspective of this form of urbanization that results in rural regions growing in population to reach urban thresholds.

Ruralopolises in South Asia: Urban densities in mega -regions

Louis Wirth identifies three defining variables of urbanization, namely population size, density, and heterogeneity, which in turn germinate segmented social relations, specialized occupations and roles as well as the division of labour, albeit the urban ways of life.^{vi} His theory of urbanism evolved out of a long line of theoretical formulations holding urban social organization to be of a different cast than rural or tribal modes of living.^{vii} In most of these formulations, a large population concentrated in an area living in high density is the first order condition of urbanization.

Ecologically, the most critical characteristic defining urbanization is the density of population and human activities. Density is the motor that drives urbanization. The size or heterogeneity of a population as determinants of urbanization ultimately revolve around density, as both have to occur within a defined area to have any meaning. Density captures both the dimensions of size and area.

The census definitions of urban areas in most countries give premier weight to the population size and density of a place. A density of 400 persons per square-kilometer (1000 persons per square-mile) is the census criterion for designating rural areas as urban. The US, Canada, India, the Philippines explicitly lay out this

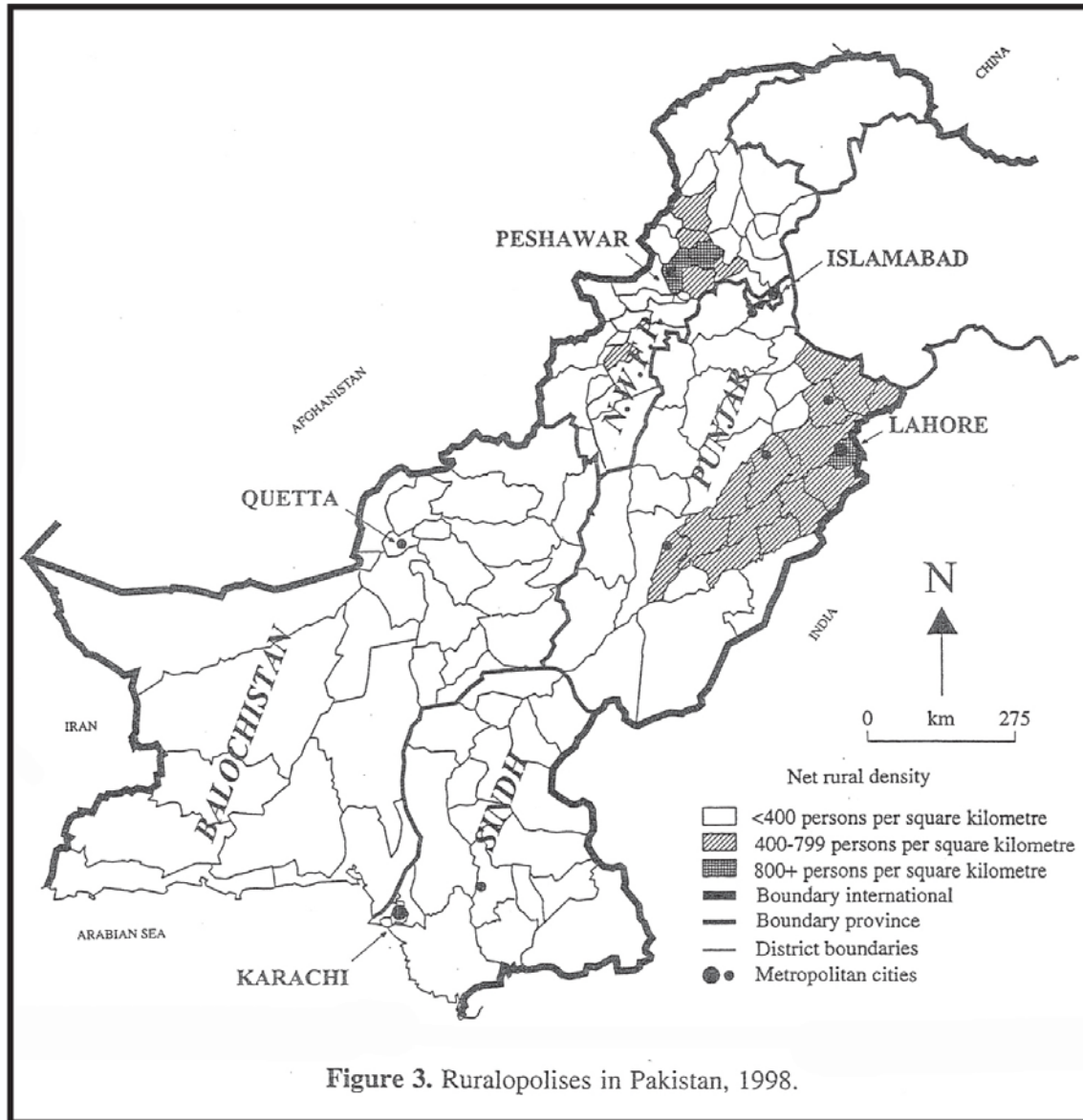
criterion to define a census urban locality, along with other measures, that is, a minimum population size and a municipal structure (The United Nations Population Fund also subscribes to the density criteria).^{viii} This density is the threshold for the precipitation of an urban landscape, ecology and (needed) community infrastructure.

On applying the density criterion of 400 persons or more per sq. km to the rural populations in Pakistan, Indian and Bangladesh, extended clusters of districts appear as clusters of urban-level concentrations in rural areas. Focusing on Pakistan, Map-1 shows that the eastern half of the Punjab province, an extended region of 15 contiguous districts, about 50,000 sq. km. in area, had a rural population density of 400 or more persons per sq. km in 1998. Similarly six districts centred around the Peshawar valley in the Khyber-Pukhtunkhwa province, about 9500 sq. km in contiguous area, formed a region of urban level densities in the countryside. The Karachi-Hyderabad-Thatta triangle is Sindh's region of high population density. I describe these extended rural regions of urban level population concentrations "ruralopolises." In the Punjab, a region forming a rough rectangle of Gujrat-Sargodha-Khanewal-Sialkot had reached urban thresholds in rural population densities.

The extent of urbanization by the in-place growth of a rural population is all the more striking in India and Bangladesh. Gross population density by provinces, based on the total rather than the rural population, in India has been plotted on Map-2 prepared by the Census Commissioner of India for 2011.^{ix} The map shows a band of high-density districts/ provinces extending from India's eastern border with Bangladesh to the western border with Pakistan. In addition, two southern provinces, Tamil Nadu and Kerala have densities far above the urban thresholds. The fertile Ganges plain extending over the entire length of the country in the north has become a mega ruralopolis dotted with metropolitan cities, towns, and other designated urban localities. Similarly the southern tip of the subcontinent has high densities, largely due to the concentrated population in the countryside. A solid band of high density regions, about 2000 kilometers in length and 300 to 500 kilometers in breadth, has emerged in northern India.

Bangladesh is similar. The entire country, except a district in Sunderbans, has a population density considerably above the 400 persons per sq. km. threshold (Map-3). In fact, the national density of population was 1015 persons per sq. km. in 2011. Only 27.1% of the population in Bangladesh lived in urban localities. Its high density is reflective of the heavy concentration of population in rural areas. By the conventional measures of urbanization, Bangladesh is a rural country (72.9% rural). But by the density criterion, it is an urbanized

MAP 1



Pakistan
Population Density by Districts, 1998

country of ruralopolitan characteristics. Urbanization by implosion is a pervasive condition of the country.

A subcontinent wide band of high-density territories spans from the east to west along the Indus-Ganges plain. The urban-level densities link the rural landscape with cities and towns that dot the landscape. This is a new form of human settlement, which is ecologically urban but officially and socio-culturally rural. Yet it is being transformed into incipient mega-urban regions. What ecological changes are being brought by this process of urbanization? This question will be addressed below.

Ecological impacts of high- density in rural regions.

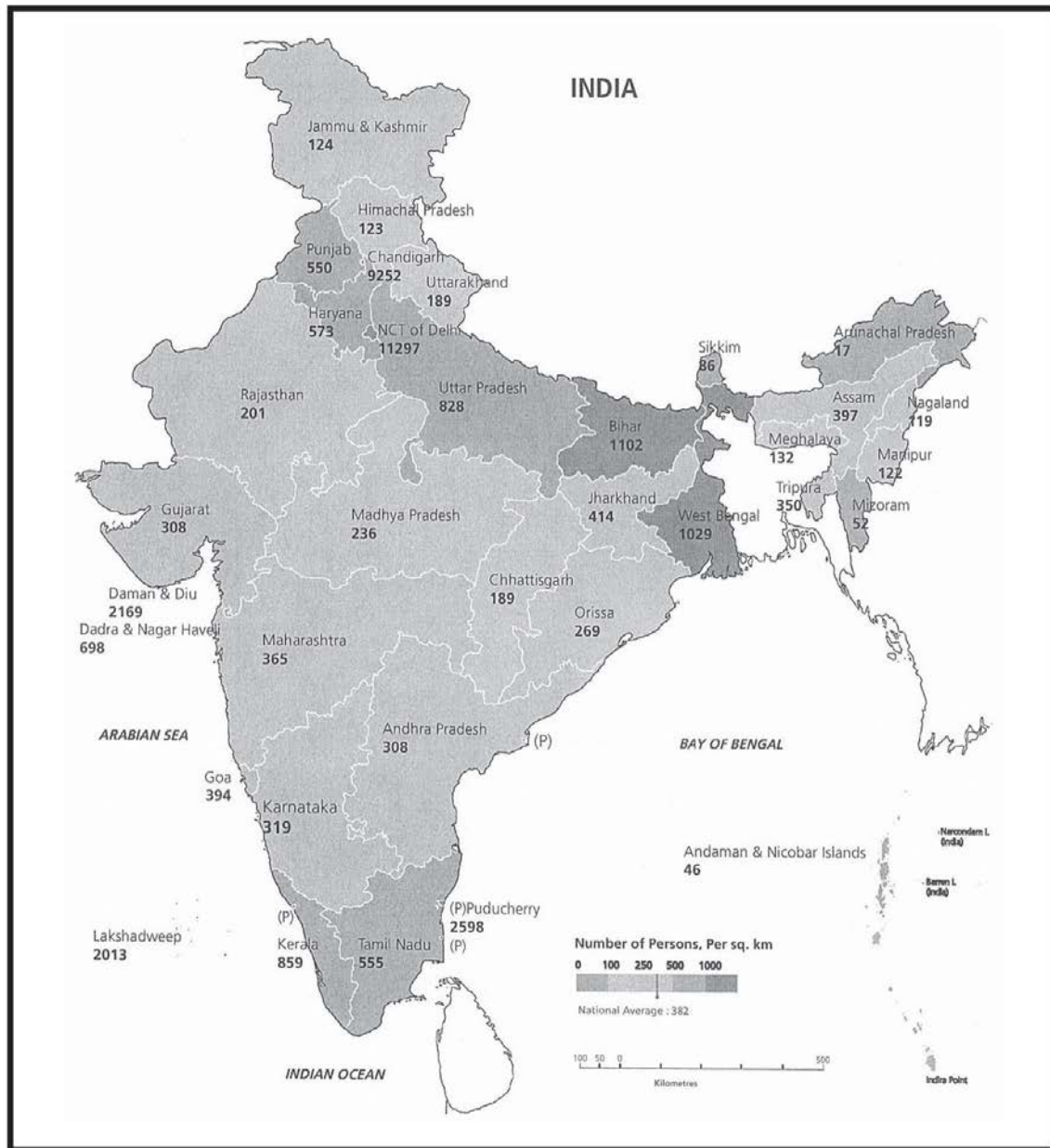
The dynamic ways in which human populations interrelate with the natural environment, including other species, bring about changes not only in ecosystems, but also reflect back on human institutions and technological practices. Broadly speaking, ecology focuses on the study of the two-way interrelations between the human social and economic organizations and natural environments. It is in this perspective that the ecological impacts of high-density rural settlements will have to be examined.

The first round of impacts arise from the concentration of a large population and its activities on the land uses, settlement pattern, water supply, agriculture and forestry, species and infrastructure of an area. The second round of impacts appear in the form of restructuring of social institutions, economic organization and technological regimes, albeit human responses to the challenges of changing natural environment and human habitat. In this section, I will discuss the first round of impacts, while the second round impacts consisting of the required institutional changes will be examined later.

The in-place growth of population is one of the forces that transform a rural area into an urban habitat. It results in the building of houses, carving of streets and paths, boring of wells, development of drains and construction of shops and stores. This is how the population density implants an urban landscape, which affects water resources, land usage, environment quality, wildlife, forests and agriculture, open space and air quality. The following is a generalized overview of the environmental impacts of the urbanization resulting from the high-density in rural areas.

These impacts are contingent on local conditions; at some places they may be very strong and at others, relatively feeble. The following are general examples - and not their incidence in every situation - of ecological changes that urbanization brings about:

MAP 2



Source: Provisional Population Totals, Part1-2011 Series
Office of the Registrar
General and Census Commissioner, India

1) Changing landscape and settlement pattern

The population pressure in rural areas leads to increasing household size on the one hand, and densification of villages with the building of more houses and structures, on the other. The result is the growth and expansion of villages and hamlets and the emergence of satellite settlements (called *dhoks*, *deras* or *chota* villages in the Punjab, Pakistan) around large villages. In high-density rural areas of Pakistan and northern India, villages may grow into veritable towns without being classified as urban. Yet a striking change in the landscape comes from the sprouting of houses, workshops and shops amidst fields. These diffused inkblots of development spread across hundreds of sq. km. forming bands of rural sprawl, which link up with the residential estates, squatter colonies, factories and subdivisions fanning out of cities and towns.

The landscape emerging from the densification of rural settlements is visible travelling through the high-density rural districts. One is seldom without the sight of houses, villages or workshops dotting the fields, alternating with farms and pools of stagnant water for mile after mile. Google Earth satellite imagery provides the visual evidence of this landscape and settlement pattern.

Consider Narowal, Mandi Bahaudin or Swabi district. These are high rural-density districts, which do not have large cities; thus their rural sprawl is not primarily the result of an urban spillover. On satellite imagery, entire districts appear pockmarked with towns, villages, hamlets and homesteads. This is a landscape produced by the concentration of population in rural areas.

In high density districts near the large cities and metropolitan areas (such as Lahore, Faisalabad, Gujranwala, Peshawar) rural sprawl merges with leapfrogged exurban development radiating out of these centers. This is a rectangular ruralopolitan landscape in the heart of central Punjab, from Gujarat to Lahore along the west-east axis and from Sialkot to Sahiwal and Sargodha along the north-south axis.

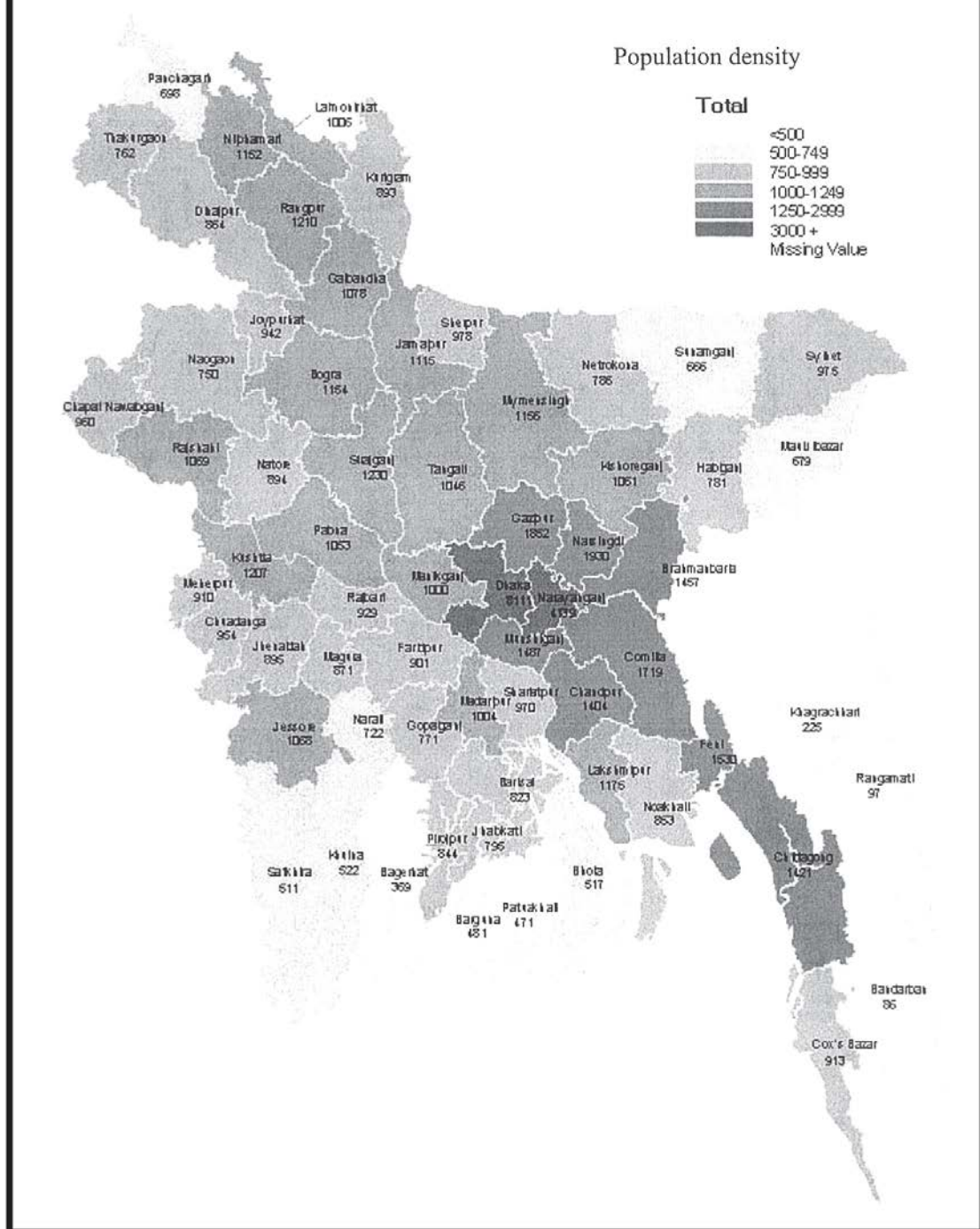
India and Bangladesh have even larger swaths of territories of high-density rural landscapes interspersed with urban regions. From Bangladesh to eastern UP, almost the whole of the Ganges Plain and delta is now a ruralopolitan landscape. Here it is difficult to distinguish between the rural and urban settlements in terms of landscape. Where one ends and the other begins is hard to delineate.

The landscape of mixed settlements results in a sprawled region. It has implications for the land economy, water supply, infrastructure, wilderness and pollution.

MAP 3

Population Density in Bangladesh by District, 2011

People per square kilometre



Source: population and Housing Census 2011
Preliminary Results
Bangladesh Bureau of Statistics, 2011

2) Competition for land use; Loss of agricultural land and deforestation

As cities expand and rural areas implode with built structures, non-agricultural usage of land proliferates. The growing market for settlement stimulates the conversion of agricultural lands and open spaces into sites for homes, shops, pathways and streets. Urban usage competes with agricultural activities for the land that though naturally fixed in supply is transferable from one use to another. The conversion of land from agriculture, forestry and open spaces to residential and other usage results in the loss of agricultural land, shrinking of forests, endangering of species and building over of open spaces. Crucially, this land conversion process is non-reversible; land converted to urban uses is irretrievably lost for agriculture or forestry.

The loss of good quality agricultural land is a major ecological impact of urban development. Not only the expansion of cities but also the village growth and the residential sprawl in the countryside result in the loss of agricultural land and shrinking of open spaces. Urban appropriation of land casts a shadow of development through pathways, streets, drains and water and utility corridors, which results in further erosion of the agricultural potential of land. They also become a source of land use conflicts between farms and urban activities. Generally a sprawled form of urban development is regarded as more wasteful of agricultural land and more expensive to serve with infrastructure than a comparable compact development. ^x Thus, the urban landscape emerging from the increasing density in rural areas has essentially a greater corrosive impact on the agricultural potential of land in the countryside than the clustered villages of a comparable population. This proposition has acquired the status of a global rule for urban planning. A small study in Pabhi, Peshawar district found by interviewing a sample of households in six villages that housing schemes and industrial establishments cause pollution and lead to the loss of the agricultural potential of land.^{xi}

The loss of agricultural land has become a global issue. For example, Canada has 492,727 sq. km of dependable agricultural land, and it had appropriated only 12000 sq. km. of this land for urban uses between 1971- 2001.^{xii} Canada identifies the loss of good quality agricultural land, particularly to urban uses, as a major policy issue. Canadian provinces have instituted legislation and programmers to contain urban encroachments on Class 1 and 2 agricultural lands. Pakistan, India and Bangladesh have a more severe problem with the steady loss of agricultural land to urban uses. This problem is particularly acute in high-density rural regions.

Estimates for the loss of agricultural land in India and Pakistan suggest that the loss of agricultural land is already having an ecological impact. India lost 2.3 million hectares of agricultural land between 1955 and 2000.^{xiii} In Pakistan, an estimate of the loss of agricultural land can be derived from the yearly changes in the area categorized as “not available for cultivation” (to be utilized, for example, by roads, factories, airports, paths and houses) by the Census of Agriculture. Between 2007-

08 and 2009-10, over a three year period, an average of approximately 80,000 hectares of land per year was lost to development.^{xiv} Although not precise, these figures reflect profound ecological changes.

Other possible environmental impacts of the urbanization of rural areas are deforestation, endangering of species, loss of wild life, erosion of soil and ground cover, disruption of natural drainage, water scarcity and pollution from waste generated by households and commercial enterprises.

3) Precipitating the thresholds for public infrastructure and services

As the population pressure builds up and the density increases, many infrastructural facilities have to be collectively provided. The private and individual provisions appropriate for small populations and low densities are not adequate for large numbers of consumers served simultaneously. They have to be provided on a collective basis as community facilities. An illustrative case is that of domestic wells or hand pumps as the source of drinking water supply. They serve adequately as long as houses are few and apart from each other. If the number of houses is large and they are clustered together, then the well of one house lowers the ground water table of the neighbors, and the waste water of one well contaminates the wells of others and vice versa.

This is the threshold point at which a communal water supply as a facility is necessary. For example, in the province of Ontario, Canada, the Ministry of Environment's residential development policy requires that individual wells and septic tanks for sewage may be allowed for a development of five or less contiguous residential lots.^{xv} Many local councils in Canada allow a septic tank only on one-acre lots. Any smaller lot means that the density is too high for the grey water to be safely absorbed in the soil. Even septic tanks in North America are adequate up to a density of 15 houses per sq. km. Any higher density requires a communal waste disposal system.^{xvi} Beyond this threshold, provisions have to be made for a communal water supply and sewage disposal. Of course, these threshold vary by the soil quality and local land conditions. While the North American standards are not applicable in Pakistan, the point to be taken is that the high density of development will trigger a need for a communal water supply and sewerage.

The threshold principle applies for all kinds of services, be those hard infrastructural facilities or soft human services, for example public health regulations, zoning by-laws or welfare programmes. As the size of a population and its density increase, successive thresholds for higher order services are precipitated. A village of 1000 persons and density of 300 persons per sq. km. may reach the threshold of crowding and lack of privacy that going to the fields for defecation may no longer be feasible and latrines in houses become a necessity - regardless of whether they actually exist or not. When the same villages reaches a population of 4000 and the density of 600 persons per sq. km., it will require drains, sewage pond, schools and street names and house numbers for addresses. At the level of a city, the

thresholds for the highest order services such as traffic control, waste recycling, cable networks, public transport, hospitals and colleges are triggered. They may or may not be publically provided or managed, but even private provisions have to be delivered in the form of collective goods.

Collective goods are indivisible and inappropriable in their pure form. They cannot be provided for some without providing for all because they have extensive externalities. In urban habitats, streets, drains, sewerage and water, safety, public health, parks and playfields, traffic control, fire and building regulations among many others fall in the category of collective goods. They help sustain urban living.

As villages expand and the countryside is sprinkled with homesteads, the thresholds for many of these collective goods are triggered. The scope of collective goods can be gauged from the land requirements of some of these facilities. A study of seven Mauzas in Bangladesh (1986/7) found that an equivalent of 27% of the area of house lots had to be additionally carved out for paths, streets and rights-of-ways. Almost a further quarter of a house's land area was needed to service it.^{xvii} In a village of Rawalpindi district, I found that about 50% of additional land was devoted to the streets, graveyards, pond and open spaces.^{xviii} These are indications that even for the unorganized urbanization (densely populated villages), rudimentary infrastructural facilities come into play. As an area climbs up the ladder of urbanization, an increasing number of communal facilities and services are needed, as are corresponding institutions for managing and delivering them.

The research in the density thresholds of various facilities and services is a neglected field, partially because of the complexity of measurement issues and partially due to their variations by local conditions. Yet urban planning proceeds on the basis of site and service standards that relate population size, density and the functions with the requirements for land, facilities and services in designing and managing neighborhoods, villages, towns or cities. These standards are hierarchical thresholds of various facilities, services and land uses that are meant to be realized as developments reach the corresponding level of size and density.

Pakistan's Ministry of Housing and Works, Environment and Urban Affairs Division, commissioned a national manual of planning and infrastructure standards in 1986.^{xix} This manual meticulously lays out the standards and requirements for house lots, open spaces, commercial areas, streets and roads, water and sewerage requirements, parking, utility corridors, etcetera. For example, it recommends that for a population of 3000 persons, land should be set aside for 3-4 shops, but for a settlement of 100,000, 125-150 shops should be provided.^{xx} Similarly, the design standards for water supply, sewerage, open spaces and school sites are related to the size of population to be served and the density of the catchment areas. Put another way, planning standards are proxies for thresholds of various facilities and services. The precipitation of successive thresholds is an impact of the increasing size and density of settlement.

4) Synergy of ecological impacts: transformation of habitat

Ecological changes interact to transform a habitat into a new living environment. So far I have discussed the changes brought by the increasing population and density in rural areas in terms individual impacts, namely loss of agricultural land, need for urban services, and restructuring of a settlement system. These outcomes link together to form a symbiotic system. For example, increasing population and density in an area leads to the loss of good agricultural land, which in turn reduces farm sizes and fragments land holdings, leading to outbidding of uneconomical farm holdings by new housing and urban development, further reducing the usability of land for agriculture. Hence, an area that was a tranquil farming community evolves into a pulsating urban settlement. This transformation of human habitat in Pakistan is occurring on a regional scale in economically pivotal regions of the Punjab, Khyber-Pukhtunkhwa and lower Sindh.

Living space is the ecological footprint of a person; it is a measure of human demand on an ecosystem, expressed in terms of the land that is needed to support a person in residence, work, daily activities, obtaining necessities of life such as water, food, clothes, fuel and transportation coming from sources all across the globe. Because of their high consumption of goods and energy from near and far, the rich countries' residents have a bigger ecological footprint than those of the poor countries. An Emirati (resident of the UAE) has the biggest footprint, 10.68 global hectares (gha) per person, an American has a foot print of 8.0 gha, a Canadian 7.88, a French 5.01, an Italian 4.99, an Indian 0.91 and a Pakistani 0.77.^{xxi} The ecological footprint increases as the standard of living of a society rises. Of course, the consumption patterns and income are the primary determinants of the ecological footprint, as is evident from the foregoing figures. Yet the living arrangements and organization of cities and rural areas also have a bearing on its size.

How a settlement habitat is organized has a bearing on its ecological footprint. For the same population, a dispersed form of settlement, such as a sprawling city or the countryside pockmarked with homesteads will demand more travel for people as well goods and services, longer commuting distances, more paths and roads and stretched out utility lines than a comparable compact village or town. There is a large body of literature, spanning decades, documenting the social costs of sprawl and demonstrating the sustainability of the compact forms of development.^{xxii} The current notions of sustainable development rely on compact forms of development.^{xxiii} Using this as a criterion, the sprawled out high density rural regions as well as spread out cities are environmentally unsustainable. They are ecologically, economically and socially costly. To consolidate the high-density rural habitat into compact settlements and contain cities in defined boundaries is the policy challenge in Pakistan. Presently the country has a large ecological and infrastructural deficit, even in organized urbanization. These deficits represent the second round of impacts arising from urbanization.

Urbanization's deficits in Pakistan

The second round of urbanization's impacts appear in the form of human responses and adaptations to ecological changes. They include the need for developing organizations, resources, and technologies necessary to realize a sustainable quality of life in the urbanized environment. The development of appropriate institutions, facilities and services is an indicator of the second round impacts. Their shortfalls are indicators of the deficits of urbanization.

Pakistan's urban problems are a legend. Cities are choking with population but lack the resources to provide residents the required housing or even land for housing, efficient and affordable transport, adequate water supply, proper sewerage and garbage disposal, enough schools and health facilities, playgrounds and recreational services, albeit a healthy and satisfying living environment. And poverty, unemployment and social polarization are over and above the infrastructural shortfall. In this short paper, I cannot describe fully the poor living conditions and the increasing social disparities in the urban areas of Pakistan. These conditions, their history and trends are fairly documented by both academic researchers and national and international agencies involved in economic and social development. The following is a brief recapitulation of the indicators of poor living conditions and environmental challenges of Pakistani cities.

- About 36% (2010) of Pakistan's population lives in cities and towns officially defined as urban. By 2050, 56%, that is the majority will be living in urban areas^{xxiv}. The population being urbanized through the in-place growth of high-densities is additional, which will bring the population living in urban-density areas to between 70 to 80%.
- Pakistan's economic base is in the urban areas where 78% of GDP is produced.^{xxv}
- Between 20 to 30% of population in major cities lives in *katchi abadis* (irregular housing) and the number is increasing.^{xxvi} Similarly, the informal economy is almost 40 to 50% of the documented economy.^{xxvii}
- Although 96% of urban Pakistan had sources of drinking water supply protected from fecal contamination ('Improved' category of the WHO classification) in 2010, yet only 58 % were connected to the piped water supply on premises, the rest depending on public taps, tube wells or borehole.^{xxviii}
- About 72% of urban population had access to flush/pour flush toilets, septic tanks or pit latrines with slab in 2010, yet 4% resorted to open defecation, others had shared unimproved latrines.^{xxix} Cities had, at best a partial sewerage network and the raw sewage was dumped in rivers and the sea.
- Coverage of the drinking water supply and latrine facilities per se (excluding adequacy, regularity or quality) has been improving in both urban and rural Pakistan. In rural areas, sanitation facilities increased by 24% between 1990 -2010, covering 34% of the population in 2010.^{xxx}

- Despite the high level of coverage, the drinking water supplies are inadequate, intermittent and of poor quality^{xxxix}. Sixty percent of the infections in Pakistan are due to the water borne diseases. Also 'shared' latrines among more than one household are common in cities but more so in the rural areas.
- Only 5% of the urban households have access to garbage collection.^{xxxix}
- Pakistan's cities are highly polarized, socially, economically, and spatially. The disparities are striking. Gated communities of palatial houses recapitulating imagined Mughal or Greek grandeur set amongst manicured lawns, are found next to the tarp and bamboo homes of the squatters.
- The Pakistani cities are choked with traffic of both automobiles and animal carts. Air pollution levels are high. Public transport is almost entirely private, expensive and accident-prone.
- A fundamental public good, safety and security, has broken down in Pakistani cities. Crime is rampant. Terrorism strikes frequently. Karachi, Peshawar and Quetta in particular are regularly targeted by terrorists. Other cities have not been spared attacks. Incidents of sectarian violence have swept across places large and small. Shootings, kidnappings for ransom and street holdups have made cities unsafe and residents jittery. Even the rich and well-connected have not escaped these threats. This is a new urban deficit that has come to define Pakistani cities.
- Pakistan's cities are spilling out into the surrounding countryside. They have high-density urban cores but are increasingly surrounded by bands of relatively low-density (in urban terms) sprawl.
- Despite these deficits and challenges, Pakistani cities are vibrant places. Markets are thronged by customers, restaurants are full, there are fashion shows and concerts, and roads are continuously buzzing with traffic. The electronic media is flourishing, the internet has filtered down to small towns and construction is so common that cities wear the look of a construction site. This vibrancy is largely in the private sphere, driven by the market initiatives and peoples' entrepreneurship. The deficits are in the public sphere, particularly in the management of cities and the provisions of infrastructure and services. It is somewhat reminiscent of Galbraith's famous phrase, private affluence and public squalor; though in Pakistan private affluence is limited to a small group. Yet there is certainly plenty of private resilience and improvisation among all segments of the society.

If the organized cities and towns, where municipal organization and public institutions are present are falling behind in responding to the ecological and infrastructural impacts of urbanization, the high-density rural regions just emerging into the urban milieu are all the more deficient in meeting the challenges of urbanization. The two forms of urbanization converge together in many ways.

Convergence of the two forms of urbanization

The national economic organization and constitutional–legal framework as well as the societal culture combine to bring about the socio-economic convergence in rural and urban segments of contemporary societies. Globalization and electronic technologies are further accelerating this process. The convergence is almost complete in Western societies. For example, a national study of the towns and villages in Canada found as early as 1983 that on every parameter of social structure, small towns and villages were similar to cities.^{xxxiii} The process of convergence is also underway in Pakistan and India. It is being further aided by development programmes and accelerating movement of people between villages, and cities as well as foreign countries. A recent study in India concludes that “a significant narrowing of differences in education, occupation distribution, and wages between individuals in rural India and urban counterparts.”^{xxxiv} Of course, it is not that villages are turning into cities, but the socio-economic changes are bridging their differences. There are structural similarities, though environmental and infrastructural distinctions between the two types of communities remain.

Within this secular trend for national convergence, the two forms of urbanization show a further propensity towards amalgamation. They are spatially merging together into an undistinguished sprawl around cities extending over thousands of sq. km. Furthermore their needs for infrastructure, public services and municipal organizations also converge. The density of population and the consequent change in the habitat are the elements that bind the two forms of urbanization together.

The resulting urban region has undifferentiated demands for basic community facilities and environmental services, though core cities require higher order services that the urbanized countryside may not yet need, e.g. traffic control, museums or airports. How the convergence of the two forms of urbanization affect the provision of community facilities and services is illustrated by table-1.

Table-1 sets up a social experiment. It compares four high density rural districts on selected indicators of housing quality and services. The table is based on the 1998 census data for population characteristics, which though old are the most recent source of information for districts. Yet the housing conditions data is from a PSLM survey 2008. By comparing two high-density districts (Narowal and Hafizabad) that have only small cities and relatively low level of organized urbanization with districts that include large cities (Sialkot and Peshawar) and relatively high degree of organized urbanization, table-1 shows that all the four high-density districts tend to have similar quality of housing and services across the urban and rural divide. It is an illustrative example of the phenomenon of city growth and rural transformation turning whole districts into urban habitats. The table is not meant to be a representative sample of the urban habitat formed in high-density rural districts but an indicative example.

There are similarities in all four districts in terms of the predominance of non-agricultural occupations and the *pucca* housing in urban as well as rural areas. The rural part of the Peshawar district represents a local exception.

The water and sanitation facilities, as indicators of infrastructural thresholds, show an interesting pattern. Hand pumps and wells were the primary sources of drinking water even in the urban parts of Narowal and Hafizabad, whereas the districts centered on large cities, Sialkot and Peshawar, had relatively lower proportions of such facilities suggesting their displacement by the piped water supply in urban settings. Handpumps/wells were the primary source of water in rural parts of all districts, though the proportion was lower (63%) in Peshawar district. Yet tap water was available to 58% of urban and only 19% of rural households in Pakistan in 2008.

Households without any toilets have strikingly decreased since the 1998 census, when in Narowal and Hafizabad districts, 28 and 33% households lacked the facility. In all four high-density districts, a very small proportion of the urban households were without toilets in 2008 (Table-1). Narowal being the highest with 7% households without toilets, the other three districts had less than 5% households without latrines. The presence of big cities in Sialkot and Peshawar districts further reduces the proportion of houses lacking toilets. Certainly in crowded habitats, an indoor toilet is a more pressing need.

Another point of convergence in these four districts is that almost 97-98% houses in both urban and rural areas have pucca walls. Peshawar district has lower percentages, yet even here the majority of houses were pucca (62%). All in all, the table shows that rural high-densities are associated with pucca houses, access to toilets and hand/motor pumps for water supply. Of course, these facilities are primarily the result of private initiatives. The public infrastructure is mostly limited to cities and even there it is inadequate.

TABLE-1: URBAN CHARACTERISTICS OF SOME HIGH –DENSITY DISTRICTS

Urban indicators of high-density rural districts	Narowal District	Hafizabad District	Sialkot District	Peshawar District
Rural Population 1998. %	87.8	72.7	73.8	51.3
Employed labour force in non-agricultural activities in rural areas 1998. %	68.7	52.2	73.6	72.6
Hand/motor pump/well as the source of water for urban households 2008.* %	73.0	90.0	38.0	16.5
Hand/motor pump/well as the source of water for rural households 2008.* %	99.0	92.0	85.0	63.0
Households <u>without</u> toilet in urban areas 2008.* %	7.0	4.0	1.0	2.0
Households <u>without</u> toilet in rural areas 2008.* %	36.0	29.0	9.0	8.0
House walls of burnt bricks (pucca) in urban households 2008.* %	99.5	98.7	98.4	91.1
House walls of burnt bricks (pucca) in rural households 2008.* %	96.6	88.6	97.5	61.6
Total population of the district 1998	1,265,000	833,000	2,723,000	2,019,000
Population of the major city in the district. 1998	154,386	133,678	421,502	982,816

Source: For population and labour force data. Census of Pakistan, District Census Reports, 1998. For all four housing condition variables data are from Pakistan Social

and Living Standard Measurement (PSLM) survey 2008. Source Pakistan Bureau of Statistics. Tables 4.3, 4.7, 4.8.

The state of infrastructure in the unorganized urban areas (namely high-density rural settlements) is fraught with major environmental challenges. The populations of these districts are going to increase as Pakistan's demographic growth momentum leads it to the projected population of 275 million in 2050.^{xxxv} As the population densities of these districts increase, the hand pumps/wells and pit latrines or septic tanks will cease to be adequate. They will be so close together that soil pollution, ground water contamination and depletion of water sources will be the pervasive conditions.

The problems of the urbanized countryside will intertwine with the environmental deficits of cities to form regions of unsustainable urbanization. Regional systems of water supply and sewerage-drainage, area-wide environmental regulations and measures to preserve agricultural land are examples of the public initiatives required for coping with the challenges of extended urban regions. Yet the uncontrolled sprawl-like form of settlements will pose a major challenge for servicing these regions.

In the high-density districts, the convergence between the two forms of urbanization is also manifest in their common environmental and infrastructural problems. The sustainability of the extended urban regions has to be addressed now through the appropriate policies and technologies. It also calls for the restructuring of institutions. The thrust of such measures will be discussed in the concluding section.

Social sustainability of the 'urbanization of everybody'

At this point, a recapitulation of the main arguments of this paper is called for. Urbanization as a form of habitat has swept Pakistan. And by this I do not only mean the diffusion of urban occupations, behaviours, technology or social relations namely urbanism, all across the country. There may be more cell phones in rural areas than sanitary latrines, as the saying goes. The urbanization that I am referring to is the spread of urban forms of the built environment and their associated roads, paths, facilities and services, rudimentary though those may be, into the rural areas.

Pakistan's living habitat is being transformed by two forms of urbanization: (1) The growth of cities and towns as the recognized and organized form of urban development; and, (2) The emergence of high-density rural settlements that tip over into the urban development with the in-place population pressure. This is the unrecognized form of urbanization, which comes about with the implosion of population. Together, these two forms of urbanization have brought about 60-70% of the national population into urban habitats. Density is the critical factor in the

transformation of the habitat and landscape. This is the basis of the claim that everybody has been urbanized.

The urbanization of habitat precipitates needs for infrastructure, facilities and services. Outward expanding cities merge with the villages and the urbanized countryside marching towards urban centres, forming mega-urban regions. This form of development has strong environmental, infrastructural and institutional impacts. It results in the loss of good quality agricultural land, depletion and contamination of ground water, pollution of land and high social and economic costs in the form of strung out utility lines, long commuting distances and fragmentation of farms. These are urban deficits that arise in the cities but spread out to whole regions due to the uncontrolled urbanization.

The economic and technological advantages of clustering of people and activities are dissipated by the sprawled form of urban habitat. Pakistan urgently needs an urban development strategy that will steer urbanization away from good quality agricultural land, lead to the clustering of population and activities in designated villages, towns and new settlements. It requires environmentally sustainable technologies and conservation of natural resources. This is the urban agenda that is urgently pressing.

The environmental sustainability of the urbanization of everybody is closely tied with the social sustainability of urban habitat through the provisions of a clean and adequate water supply, efficient waste disposal and public transport, fair housing market, satisfactory schools and parks, employment opportunities, effective land use controls and urban planning and healthful environment.^{xxxvi} How can this sustainability be realized?

By and large, the approach that will help realize sustainable urban development is known. Pakistan's successive Five Year Plans, innumerable national and international reports, city master plans and regional development strategies have built up a bank of practical ideas about policies, plans and project that promise to realize the goals of social and environmental sustainability. There is no dearth of useful policy ideas and many have been implemented through the development projects, such as Faisalabad's Community Based Sanitation Project, Orangi Pilot Project in Karachi, National Environmental Policy, and the National Urban Strategy. Recently the Pakistan Planning Commission's Task Force on Urban Development has brought together many ideas about improving the efficiencies of infrastructure, adopting innovative engineering and maintenance techniques, instituting green remedial measures and promoting compact urban development.^{xxxvii} The point is that ideas are known and many efforts are being made, yet there is little to show by way of systemic improvements in the urban quality of life. Programmes succeed, but goals continue to elude. This is the urban planning dilemma in Pakistan.

An urban reform movement is needed to restructure institutions through which policies and plans are conceived and implemented. Without the reform of these

institutions, good policy ideas fail to be realized. Urbanization imposes some imperatives, which have to be met to lay the basis of sustainable development.

Imperatives of urbanization

Urbanization is a socially and economically transformative process. It leads to a fine grain division of labour, specialization of activities, interdependence of people and impersonalization of dealings organized on the basis of public trust, laws and rules. Its effects go far beyond the physical form of settlement to the realigning of social institutions and behaviours. There are some functional imperatives of urbanization, whose fulfillment is necessary to realize efficiency, satisfaction, fairness and sustainability of urban life. The following is a brief account of the primary imperatives.

- 1) Municipal organization is necessary to deliver community services, maintain law and order and manage the public sphere of community life in urban areas. A representative, transparent and in contemporary times participatory system of local governance is a prerequisite to maintain order, organize community life, promote economic activities and deliver the diverse services. Municipal governments are necessary in urban areas, because rule-based and accountable institutions are needed to manage complex networks of interrelations and daily transactions arising from concentration of people and activities. The customary, person-centred modes of political governance, characteristic of rural areas, cannot function in areas of increasing complexity of dealings. As the density and size of an urban area increases, the range and complexity of local governmental functions increase in parallel. Pakistan's urban problems are exacerbated by the neglected, weak and largely ineffective local governments. The management of extended urbanized regions is a task that remains unacknowledged. There are practically no local governments in rural areas. And their transformation through high-densities is proceeding without local governments. For any policies meant to manage emerging urban regions to be effective, vigorous local government structures must be put in place.
- 2) Urban land reforms. Land is a gift of nature, but its value, use and division into usable lots are human creations. In urban areas, location is the primary determinant of the use, value, linkages (with other uses) and quality of a piece of land. All these attributes of urban land arise outside a particular site. Externalities and public investments reflecting on a land lot determine its use and value. In this sense, urban land is a private property that depends on external elements for its utility. That is why zoning and planning regulations are such an essential component of the value of a piece of land. Even in the situations of 'free market', urban land is highly regulated. Pakistan's land system is rooted in pre-industrial agrarian values and notions of rights. It is not functioning in urban settings. Among the land problems obstructing urban development are difficulties of defining private and public spheres of ownership rights, designing and enforcing effective zoning and

environmental regulations, promoting public interest, establishing a transparent system of land registration and transfer as well as collecting taxes (to finance infrastructure and services to land) and fairly acquiring land for new uses. These are the elements of the agenda of modernizing the urban land tenure system.

- 3) Systematic production of collective goods and services is another pre-requisite of urbanization. In urban areas, large concentrations of people precipitate thresholds for collectivization of hard and soft service, such as water , sewerage and storm drains, naming of streets and numbering of house , garbage disposal, fire and public health regulations, traffic control, police and safety etc. These are public goods which cannot be provided to some without providing to all. In urban areas, the health and welfare of everybody is tied with the well-beings of others. Therefore an institutional framework for the development, financing, management and distribution of collective goods is necessary in urban areas. Some of these goods may be privately supplied but even those have to be organized on communal basis (such as the Defence Housing Society or Bahria Town's production and distribution of many services in its jurisdiction). Collectivization of facilities and services is an imperative of urbanization.
- 4) Urban social organization is based on norms and values that are formal, impersonal and role-based. There are intimate social networks among people but the urban community as a whole is organized around the trust and tolerance of strangers. It is based on secondary relations regulated by the role-expectations. Its moral order is based on public ideology and implicit social contract. This moral order is now beginning to incorporate environmental responsibilities and human rights. In newly urbanizing regions, such a moral order has to be deliberately cultivated through civic engagement and public education. Pakistan has yet to evolve an urban moral order. Its material culture is changing fast, while non -material norms and values are lagging behind. This institutional lag has to be deliberately addressed. Public awareness campaigns for promoting public mindedness, a la Singapore or China, are essential parts of the urban reform agenda. The US , Canada and Britain in the 1930s have had explicit urban reform movements, which were revived in the 1960s, injecting a participatory and egalitarian ethos. Pakistan needs social movements of moral reconstruction for resolving its urban problems.
- 5) Last but not least of the imperatives of urbanization is a professional bureaucracy in the Weberian sense, that is rule-driven, impersonal, competent, transparent, accountable (to political policy -makers as well as citizens) and whose integrity is protected by the constitutional rights. A mass urbanized society needs competent, accountable and professional public services. The public policy-making has to be transparent and participatory, but the execution of decisions have to be professionally done, free from the political interference and corruption. The rules of business, processes of decision-making, training, appointments, evaluations and accountability of public officials all need to be thoroughly streamlined. These are the lessons

of a century of urban reforms. Pakistan in particular needs an urgent restructuring of the public administrative institutions along these lines at the federal, provincial and local levels.

These are to note that social sustainability of mass urbanization requires reforms of the governance, property, social, and administrative institutions for urban policies to succeed.

NOTES

ⁱ Abu-Lughod, *Changing Cities*, 3

ⁱⁱ Qadeer, "Urbanization by implosion," 1-12.

ⁱⁱⁱ McGee, "The emergence of desakota"; Afshar, "Globalization."

^{iv} Zhu, "Changing Urbanization."

^v Qadeer, "Urbanization," 1199.

^{vi} Wirth, "Urbanism." Lately urban theorists have taken exception to Wirth's model of urban social organization, but they do not dispute size, density and heterogeneity as defining urbanization. They have attributed urban social organization, defined in terms of secondary relations, impersonal dealings, and mobility, to larger forces of modernity and capitalism. See Savage, Warde and Ward, *Urban sociology*, 106-133.

^{vii} Ibn Khaldun, *The Maqaddimah*; Durkheim, *The Division of Labor*; Weber, *The City*.

^{viii} Following are census definitions of an urban area in different countries:

The United States: an incorporated place or municipality, 2500 persons minimum and a density of 400 persons per sq. km.; Canada: an incorporated town, village or city of minimum 1000 population and adjoining unincorporated area having 400 persons per sq. km.; India: a place designated as a municipality, corporation, cantonment or notified town area with a minimum population of 5000, with 75% males working in non-agriculture and a density of 400 persons per sq. km.; Pakistan: localities designated as metropolitan corporation, municipalities, municipal committees, town committees or cantonments; Bangladesh, an incorporated developed area with municipal, town committee or cantonment designation, having metalled roads, water supply, a sense of community and densely populated.

^{ix} The Gross Population Density by province/districts is a proxy for net rural density in India and Bangladesh. The urban population, excluding the metropolitan population is a small proportion of the total population of predominantly rural districts. Densities based on the total population slightly over- estimates the

-
- concentration of rural population. Yet it is reflective of how large swaths of predominantly rural territories are growing past the criterion for urban densities.
- ^x The conclusion of a seminal study in 1974 was that higher densities in compact lay out “result in lower economic costs, environmental costs, natural resource consumption and some personal costs of a given number of dwellings,” Real Estate Research Corporation, *The Costs of Sprawl*, 6. These findings have been confirmed and elaborated in subsequent years. See Speir and Stephenson, “Does sprawl cost us all?” 56-70.
- ^{xi} Javed and Jabeen, “Urbanization.”
- ^{xii} Hofmann, “Urban consumption,” 1, 7.
- ^{xiii} *Times of India*, “Loss of agricultural land,” 16 December 2010. Access at: <http://articles.timesofindia.indiatimes.com>. See also, Fazal, “Urban expansion.”
- ^{xiv} The tables from which these figures are drawn are not without inconsistency. Nevertheless, they are indicative of a trend. Agricultural Census “Pakistan Report, 2010.”
- ^{xv} Ministry of Environment, Ontario Provincial Policy 1.6.4. on sewage and water.
- ^{xvi} Canter and Knox, *Septic Tank Systems*, 3.
- ^{xvii} Qadeer, “Ruralopolises,” 1597, table 2.
- ^{xviii} *Ibid.*
- ^{xix} Ministry of Housing and Works, *National Reference Manual*.
- ^{xx} *Ibid.*, 80, table 5.3.
- ^{xxi} “List of Countries by Ecological Footprint” Access at: http://www.footprintnetwork.org/en/index.php/GFN/page/ecological_footprint_atlas_2010
- ^{xxii} Edmund Fowler has used financial costs as the criterion to assess the costs of development. His review of many sources has led him to conclude that: “we are squandering billion of dollars in North America, because our built environment lacks judicious amount of concentrated land use, small- scale land-use mix, and mixture of old and new buildings.” Fowler, *Building Cities*, 68.
- ^{xxiii} See for example, Local Government Commission, Center for Livable Communities, *Compact Development for More Livable Communities*, Sacramento, California, Access at: http://www.lgc.org/freepub/docs/community-design/focus/compact_development.pdf
- ^{xxiv} United Nations Department of Economic and Social Affairs “World Urbanization.”
- ^{xxv} Pakistan Planning Commission, *Task Force Report*, 3.
- ^{xxvi} Qadeer, *Pakistan: Social and Economic Transformations*, 55.
- ^{xxvii} Federal Board of Revenue estimated that informal economy is 31-44 % of the GDP. A Pakistan Institute of Development Economics researcher estimated the informal economy is 91.4% of the formal economy. Each of the two economies is almost 50% of the total economy. *The News*, “Tax Authorities Estimate Size of Informal Economy at 44 Percent of GDP,” 19 March 19, 2013. Access at: <http://www.thenews.com.pk/Todays-News-3-145048-Tax-authorities-estimate-size-of-informal-economy-at-44-Percent.html>
- ^{xxviii} World Health Organization, *Regional and Global Estimates*, 49.
- ^{xxix} *Ibid.*, 48.

xxx *Ibid.*, 48

xxxi Pakistan Planning Commission, *Task Force*, 11

xxxii *Ibid.*

xxxiii Hodge and Qadeer, *Towns and Villages*, 112.

xxxiv Hnatkovska and Lahiri, "The Rural-Urban divide."

xxxv United Nations, Department of Economic and Social Affairs, "Population estimates and projections, Pakistan."

xxxvi This description of social sustainability draws on Polese and Stren's conceptualization of the term. Polese and Stren, "The Social Sustainability," 3.

xxxvii Pakistan Planning Commission, *Task Force*, vi-viii.

Bibliography:

Abu-Lughod, Janet. *Changing Cities: Urban Sociology*. New York: HarperCollins, 1991.

Agricultural Census. "Pakistan Report, 2010." Statistics Division, Agricultural Census Organization, Government of Pakistan. Access at:
http://www.pbs.gov.pk/sites/default/files/aco/publications/agricultural_census2010/agricultural_census2010.pdf

Afshar, Farooq. "Globalization: The Persistent Rural-Urban Question and the Response of Planning Education" *Journal of Planning Education and Research* 13 (1994): 271-283.

Canter, L.W. and R.C. Knox. *Septic Tank Systems: Effects on Ground Water Quality* (Chelsea, Michigan: Lewis Publishers, 1986).

Durkheim, Emile. *The Division of Labor in Society*. Translated by Georg Simpson (New York: The Free Press, 1933, [original 1893]).

Ibn Khaldun. *The Maqaddimah*. Translated by F. Rosenthal (Princeton: Princeton University Press, 1967 [original 1377]).

Fazal, Shahab. "Urban expansion and loss of agricultural land - a GIS based study of Saharanpur City, India," *Environment and Urbanization* 12, 2 (2000): 133-149.

Fowler, Edmund P. *Building Cities That Work* (Montreal: McGill-Queen's University Press, 1992).

Hodge, Gerald and M. Qadeer. *Towns and Villages in Canada* (Toronto: Butterworth, 1983).

Hofmann, Nancy. "Urban Consumption of Agricultural Land," *Rural and Small Town Canada, Analysis Bulletin* 3, 2 (September 2001).

-
- Hnatkovska, Viktoria and Amartya Lahiri, "The Rural-Urban Divide in India" *Working Paper, International Growth Centre*, February 2013.
- Javed, Rukhsana and Iffat Jabeen, "Urbanization and loss of agricultural productivity," University of Peshawar (working paper), 2009. Access at: <http://www.Scribd.com/doc/59866176/paper-impact-of-rapid-urbanization-agriculture>
- McGee, Terry G. "The Emergence of Desakota Regions in Asia: Expanding hypothesis" in *The Extended Metropolis*, edited by B. Koppel and T. G. McGee, 3-25 (Honolulu: University of Hawaii Press, 1991).
- Ministry of Housing and Works, Environment and Urban Affairs Division. *National Reference Manual on Planning and Infrastructure Standards*. Government of Pakistan, 1986. Access at: library.uet.edu.pk/cgi-bin/koha/opac-detail.pl?biblionumber=17500
- Qadeer, M.A. "Urbanization of Everybody, Institutional Imperatives and Social Transformation in Pakistan," *The Pakistan Development Review* 38, 4 (winter 1999): 1193-1210.
- . "Ruralopolises: The Spatial Organization and Residential Land Economy of High-Density Rural Regions in South Asia" *Urban Studies* 37, 9 (2000): 1583-1603.
- . "Urbanization by Implosion," *HABITAT International* 28, (2004): 1-12.
- . *Pakistan-Social and Economic Transformations in a Muslim Nation* (London: Routledge, 2006).
- Pakistan Planning Commission. Task Force Report on Urban Development. Government of Pakistan, 2011. Access at: http://www.pc.gov.pk/publications/task_force_report-06-05-2011.pdf
- Polese, Mario and Richard Stren, editors. *The Social Sustainability of Cities: Diversity and the Management of Change* (Toronto: University of Toronto Press, 2000).
- Real Estate Research Corporation. *The Costs of Sprawl* (Washington, D.C.: United States Printing Office, 1974).
- Savage, Mike, Alan Warde and Kevin Ward, editors. *Urban Sociology, Capitalism and Modernity* (Houndmills; Palgrave Macmillan, 2003).
- Speir, Cameron and Kurt Stephenson, "Does Sprawl Cost Us All? Isolating the Effects of Housing Patterns on Public Water and Sewer Costs" *Journal of the*

American Planning Association 68, 1 (Winter 2002): 56-70.

United Nations Department of Economic and Social Affairs. "World Urbanization Prospects, the 2011 Revision." Access at: <http://esa.un.org/unup/>

--. "Population estimates and projections, Pakistan", Access at:
<http://esa.un.org/wpp/unpp/p2k0data.asp>

Weber, Max. *The City*. Translated and edited by Dan Martindale (New York: The Free Press, 1958 [original 1905]).

Wirth, Louis. "Urbanism as a Way of Life," *American Journal of Sociology* 64, 1 (July 1938): 8-20.

World Health Organization. *Regional and Global Estimates on Water and Sanitation, 2012*. Access at:
<http://whqlibdoc.who.int/publications/2012/9789280646320-eng-full-txt.pdf>

Zhu, Yu. "Changing Urbanization Processes and in-situ Rural–Urban Transformations in China's Settlement Definitions" in *New Forms of Urbanization: Beyond the Urban –Rural Dichotomy*, edited by Tony Champion and Graeme Hugo, 207-228 (Aldershot: Ashgate, 2004).

The International Growth Centre (IGC) aims to promote sustainable growth in developing countries by providing demand-led policy advice based on frontier research.

Find out more about
our work on our website
www.theigc.org

For media or communications
enquiries, please contact
mail@theigc.org

Subscribe to our newsletter
and topic updates
www.theigc.org/newsletter

Follow us on Twitter
[@the_igc](https://twitter.com/the_igc)

Contact us
International Growth Centre,
London School of Economic
and Political Science,
Houghton Street,
London WC2A 2AE

IGC
International
Growth Centre

DIRECTED BY



FUNDED BY



Designed by soapbox.co.uk