

## **An Approach to evaluate the ‘real’ and ‘dummy’ Impacts of integrative and disintegrative Forces on a metropolitan Economy**

### **Case study: Kolkata (Calcutta), India**

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#### **INTRODUCTION**

For any purpose of development planning that primarily aims to improve socio-economic standards within a metropolitan region, it is critical to understand a combinatorial role of the two most important causal components. They are:

- 1) A ground reality of the spatio-economic character of its constituting sub-regions having intra-variations and leading to a diverse territorial economic base of the region and
- 2) A realistic classification of the socio-economic structure of the various sub-regions in terms of human resources (labor and intellectual capital) seen through the shades of the ‘real’ and ‘not so real’ (dummy) impacts of globalization forces. This second component is the diverse demographic base of the metropolis.

The combinations of the two causal components in terms of their variations range from developed countries in the West to those of developing ones in the East (Rodwin, 1961; Doxiadis, 1969; Jacobs, 1984). More so, in a developing country, these internalized variations make differ one metropolitan region from the other (Evans *et al.*, 1980).

With globalization, now especially in India, there is a tendency to achieve uniformity in the metropolitan pattern of development, which unconsciously is neglecting the binary nature of these variations affecting and often fragmenting the local socio-economic settings (Bose, 1973; Chatterjee, 1991). Thus one finds replications of ‘proto-type’ physical development patterns satisfying a ‘neo-liberal’ global agenda and not satisfying local aspirations and needs. Such replications do not represent location-specific preferences and living satisfaction levels of different concerned groups living in diverse sub-regions within the metropolis. These fragmentations lead to undesirable and lopsided patterns of development causing disintegration in its territoriality (physical environment) and ranges of degeneration of its demography (socio-economic and socio-cultural structures).

#### **OBJECTIVES**

To understand the causes behind these fragmentations and disintegrations – one has to therefore study the two components in detail, which are:

- The nature of the spatio-economic dimension of various sub-regions (at a territorial level) in terms of density of development and nature of the physical environment
- The underlying causes of a fragmented socio-economic structure (in terms of shades that are either ‘real’ or ‘not so real’ (dummy). This is made available by a relatively realistic four-tiered approach as opposed to a simplified ‘high-middle-low income classification’. Broadly, the four tiers are:
  - 1) The real-haves (rich businessmen and highest rung corporate employees)
  - 2) The dummy haves (executive class employees)
  - 3) The dummy have-nots (small-scale business persons and employees)
  - 4) The real have-nots (persons from the very low-paid informal sector)

Finally, there is contradictory side of the study. On the one hand, the 'neo-liberal' globalization-modernization agenda of urban development today is increasingly becoming questionable due to its alien and 'top-down' nature. One may therefore apprehend whether they are at all (therefore really) binding and 'integrative'.

On the other hand, some of the modernization efforts are also misinterpreted as they are confronted with serious oppositions from longstanding, traditional conservative tones of the past economic trends, which are not always (therefore dummy) appreciated and sustained. Either way, there emerges a conflicting scenario regarding the 'real' or 'dummy' impacts of the development forces in view of the two causal components. The paper attempts to evaluate this conflict studying the metropolitan situation of Kolkata, which is also strategically functioning within the recent economic booms of a larger South Asian economy and also continuing to be a part of the traditional economy of the hinterland.

## **THE HISTORIC EVOLUTION OF METROPOLITAN ECONOMY AND ITS SUB-REGIONAL VARIATIONS**

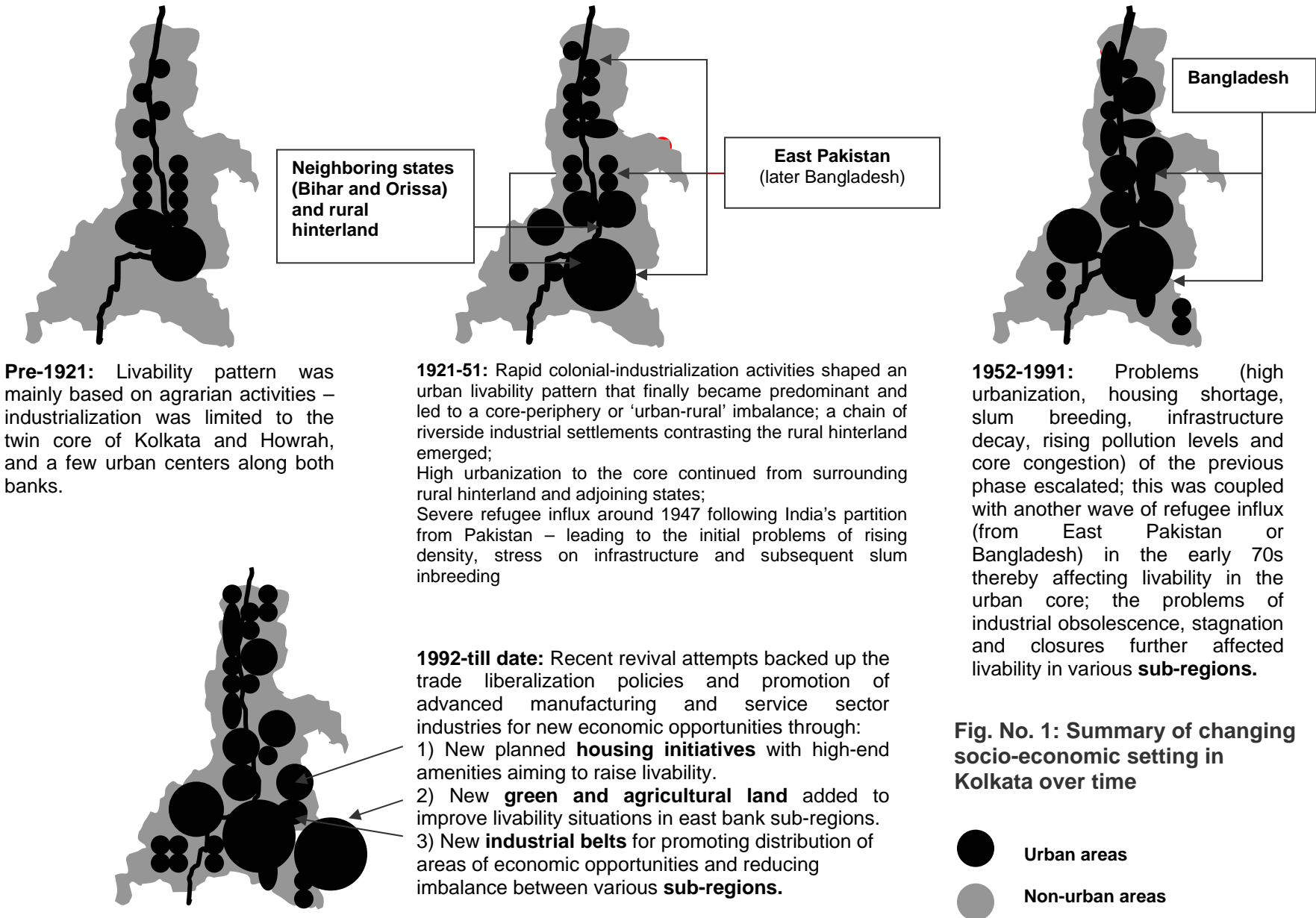
The historic evolution of the metropolitan economy and its sub-regional variation can be understood in four phases [refer Fig. No. (1)] (Bhattacharya, 1991; Chatterjee *et al*, 1999):

**Pre-1921:** In the metropolitan region the earliest socio-economic sub-regional variations was based on agrarian activities of the traditional north and a later colonial-industrialization pattern of development mainly led by the European colonists was limited to Kolkata in the south, and also in a few nearby urban centers along both banks.

**1921-51:** With the consolidation of the British rule after the First War years, the rapid colonial-industrialization activities shaped an urban economic development pattern that finally became predominant and led to a core-periphery or 'urban-rural' imbalance. Over time, a chain of riverside industrial settlements emerged contrasting the rural hinterland. High urbanization in core Kolkata continued from surrounding rural hinterland and adjoining states and finally the situation began to worsen in the inner core regions with severe refugee influx (around 1947 following India's partition from Pakistan) leading to the initial problems of rising density, stress on infrastructure and slum inbreeding.

**1952-1991:** This was a period of a further rise of problems (high urbanization, housing shortage, slum breeding, infrastructure decay, rising pollution levels and core congestion) inherited from the preceding phase. It was coupled with another wave of refugee influx (from East Pakistan or Bangladesh) in the early 70s thereby affecting the socio-economic structure in the urban core. Added problems of industrial obsolescence, stagnation and closures further affected the socio-economic stability of the core sub-regions.

**1992-till date:** There are recent revival attempts backed up the trade liberalization policies and promotion of advanced manufacturing and service sector industries for new economic opportunities through new planned initiatives (housing, green zones, industrial parks) but mainly limited to areas contiguous to core sub-regions.



## **IDENTIFICATION OF VARIOUS SUB-REGIONS BASED ON VARIATIONS OF THE TWO COMPONENTS**

In light of the historic evolution of KMA, the combinatorial effect of the two components namely the territorial and the demographic on economic development in Kolkata Metropolitan area (KMA) can be best discussed if KMA is divided into eight broad sub-regions. Fig. No. 2 has demarcated the areas of the eight metropolitan sub-regions.

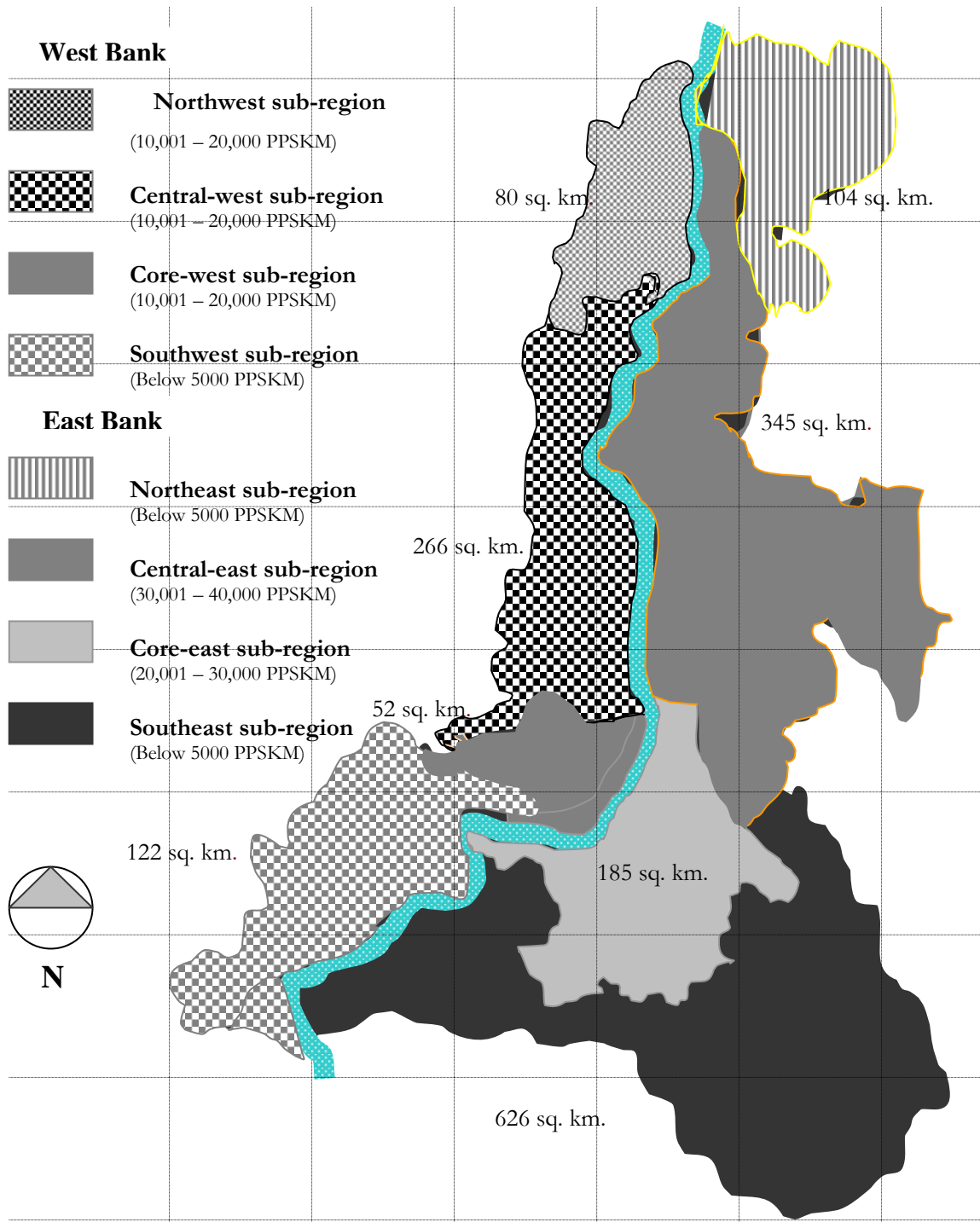
The eight sub-regions are:

1. Core-east sub-region (CE-SR), which has an area of 185 sq. km. The sub-region has an average population density of 24,760 persons per sq. km. This area is Kolkata Municipal Corporation. It is a fully urbanized area, which was the original British colonial city. Now it is the capital city of the State of West Bengal. Today, this sub-region has the highest concentration of linkages in terms of surface, rail, air linkages and advanced rapid transit systems (metro and suburban electric trains) within a relatively small core. One the whole, there is low availability of vacant and green lands within a fully urbanized area.
2. Central-east sub-region (CeE-SR), which is an inflated linear area of around 345 sq.km in the inner periphery. This sub-region extends along the east bank from the northern limits of Kolkata Municipal Corporation (KMC). The sub-region has a chain of settlements having an average population density range of 30,000 persons to 40,000 persons per sq.km. Some urban centers with such high population densities are Baranagar (35,199 persons per sq.km), Titagarh (38,333 persons per sq.km) and South Dumdum (28,962 persons per sq.km). In general, blue-collar workers reside in these areas. This sub-region has two new urban centers of an emerging nature (at Bidhannagar) and a recently proposed New Town (at Rajarhat) in the lands lying further east. There is high level of suburban railway and surface (Eastern Bypass and national highways) linkages to new development zones lying further east (close to wetlands) and establishing direct contiguity to CE Kolkata sub-region. There is still a moderate availability of green and vacant lands; very high availability of wetlands, which have rich bio-diversity and provide drainage basins.
3. Southeast sub-region (SE-SR), which covers the remaining southern portion of the outer metropolitan periphery. This sub-region has a total area of 626 sq.km. It comprises of the two urban centers (Rajpur-Sonarpur and Baruipur) along with a vast expanse of rural area. It is south of the core-eastern sub-region and has a low average population density, which is below 5000 persons per sq. km. In this sub-region there is moderately high level of rail and surface linkages and contiguity to CE sub-region and a high availability of green lands contiguous to predominant rural periphery.
4. Northeast sub-region (NE-SR), which has an area of 104 sq.km, which includes the comparatively new satellite township of Kalyani (established in 1965) and the industrial settlement of Gayeshpur. Due to increased commuting distance from the core, this sub-region in the outer periphery has remained as one with a relatively low population density below 5000 persons per sq. km as compared to the denser older settlements of the CeE-SR. Here there is a low level of rail and surface linkages (only one highway) and Bridges. But there remains high availability of vacant and green lands being in the outer periphery.

5. Core-west sub-region (CW-SR), which has a total area of 52 sq.km with an average population density range of 19,500 persons per sq. km. The predominant old industrial and commercial areas of Howrah Municipal Corporation (HMC) comprise this sub-region. In this sub-region there is high level of linkages in terms of principal railway station at Howrah with highways and number of Bridges to core-east. There is moderate availability of vacant and green lands in this sub-region.
6. Central-west sub-region (CeW-SR), which is a linear area of 266 sq.km in the inner periphery with an average population density range of 10,001 to 20,000 persons per sq. km. This sub-region extends from the northern boundaries of CW-SR to the northern edges of Chandannagar Municipal Corporation (CMC). This sub-region has a chain of settlements along the west bank starting with urban centers of Bally in the south to Chandannagar in the north. Most of the urban centers have lower population densities compared to the urban areas in Central-east. The central-west sub-region has an optimal level of rail (Delhi bound and suburban) and surface linkages (national highway) with good contiguity to CW and CE sub-regions in terms of a number of bridges. Very high availability of green and vacant lands in areas further west characterize this sub-region.
7. Southwest sub-region (SW-SR), which covers a total area of around 122 sq. km and has a low average population density of below 5000 persons per sq. km. The sub-region extends from the south of CW-SR to the outer periphery of southwestern metropolitan limits. The sub-region includes the urban center of Uluberiah and adjoining rural areas. There are moderate levels of surface (NH6) and railway linkages to regions further south and southwest and very high availability of vacant, green agricultural land.
8. Northwest sub-region (NW-SR), which has an area of 80 sq.km with an average population density range of 10,001 to 20,000 persons per sq. km with older urban centers of Bansberiah and Hooghly-Chinsurah. This sub-region in the outer periphery is north of CW-SR and it is farthest from the core. In this last sub-region of the periphery, there is a low level of rail and surface linkages. But there is a high availability of vacant and green lands.

Given the identification of the eight sub-regions, Table No. 1 sums up the salient features of the two components. The first three sub-components are 1) economic base 2) distribution of places of economic opportunities and 3) sectors of employment that collectively characterize the spatio-economic or the territorial component.

The component on broad classes of people stands for the socio-economic demographic components. This is finally followed by the discussion on the evaluation of the 'real' and 'dummy' impacts of the forces of development on the eight sub-regions of the metropolis.



**Fig No. 2: Mapping of eight sub-regions in KMA (Grid: 9 km X 9 km)**

Note: Density figures are in parenthesis with unit: PPSKM = Persons per Square Kilometers

**Table No. 1: Broad Socio-economic factors affecting the sub-regions**

No	Sub-regions	Economic Base, Distribution of economic opportunities and Sectors of employment	Broad class of based on 'real' and 'dummy' nature
1	Core-East (CE)	Highest concentration of modern service sector activities, moderate concentration of manufacturing sector; and very high concentration of small scale and informal retail activities. Principal central business and commercial district along with several old industrial belts around a stagnant Kolkata port. Predominance of white-collar job within the core; relatively old manufacturing sector is on the decline due to problems of obsolescence and stagnation.	High concentration of real haves, dummy haves and have-nots; real have-nots mainly staying in slums
2	Central-East (CeE)	High concentration of old industrial activities; few new areas are coming up having advanced services sector. Older industries along river bank; new housing areas are located further east. Decay in older manufacturing base and gradual increase of white color jobs.	Mainly dummy haves and have-nots; incoming real haves to new housing areas
3	Southeast (SE)	High concentration of primary sector activities; marginal concentration of secondary and tertiary sector activities Predominant distribution of urban agriculture activities (sewage farming, fishery and urban forestry) depending on east Kolkata wetlands. Most employment opportunities are in local primary, secondary and informal sectors in areas contiguous to CE sub-region	High concentration of dummy have-nots and real have-nots
4	Northeast (NE)	Very low concentration of few large-scale manufacturing and some institutional activities. New industrial belt located in some areas, which has not picked up in its intended intensity of production. Most employment opportunities are in service sector activities in CE sub-region.	High concentration of dummy haves and dummy have-nots
5	Core-West (CW)	Moderate concentration of large-scale manufacturing, transport and commercial sector activities. Mainly employment opportunities are in manufacturing belts of CW and CeW sub-regions.	Low to high concentration of dummy haves and have-nots and real have-nots
6	Central-West (CeW)	Moderate concentration of traditional and large-scale manufacturing, chemical, metal and transportation related activities. Chain of industries located along riverbank - mainly in Bally, Rishra, Konnagar. Employments in manufacturing belts in CW and CeW and partly in the service sectors (CE sub-regions).	Moderate concentration of dummy haves, have-nots and real haves
7	South-west (SW)	Marginal concentration of manufacturing sector activities (light metal, food products and small scale manufacturing). New industrial belt located at Uluberiah with low intensity of investments and production. Most employment opportunities are in local agricultural and informal sectors.	High concentration of dummy have-nots and real have-nots
8	Northwest (NW)	High concentration of primary sector activities and very low concentration of secondary and tertiary sector activities. Agricultural activities concentrated in the hinterland further west. Employment opportunities in local primary sector and manufacturing sector in the core sub-regions.	High concentration of dummy have-nots and real have-nots

### ***Socio-economic transformations of core-east sub-region***

High concentration of metropolitan level linkages and utilities with equally high agglomeration of economic opportunities and socio-cultural amenities have assured better socio-economic standards and consequently attracted all types of people – from rich to poor and of different ethnic groups from all over the country.

The rich secured the best livable places within the core city, middle-income groups tended to concentrate in areas having high accessibilities to public transportation systems, while the poor began to live in the crowded and less serviced areas that are near to their work places.

High urbanization over time has resulted in the depletion of available green and open areas coupled with very high population density and associated problems of rising pollution levels, which all have affected livability trends.

Additionally, the situation has been further affected by the emergence of several pockets of sub-standard housing (mainly in the form of slums and squatters colonies). These sub-standard housing pockets have increasingly accommodated very large concentrations of economically weaker groups (real have-nots) seeking marginal opportunities and basic livelihood in the core.

It is further explicit that the higher socio-economic opportunities of this sub-region have led to very high levels of competitiveness. This has resulted in explosion of chains and agglomerations of small-scale and informal retail activities run by an increasing group of low-income population (mainly dummy have-nots and a few real have-nots). The explosion is causing stress on urban utilities, network capacity, and ultimate decay and degradation of infrastructure.

The impacts of several refugee influxes (between decades 1941- 81) have been an additional deterrent to the once good socio-economic standards in this sub-region. At the same time, an old and decaying manufacturing sector of the core complementing a stagnating port activity has resulted in continuous job losses, subsequent slum breeding and further environmental degradation in the core.

### ***socio-economic transformations of central-east sub-region***

This Central-East sub-region, spatio-economically, had enjoyed the position of being an inner periphery drawing advantages of contiguity and surface accessibilities to the principal core-eastern sub-region of Kolkata. Over time, these advantages had led to a chain of high-density urban centers in this sub-region with a majority of these centers having an attractive livability in them. Beginning with Baranagar just north of Kolkata and South Dum Dum, Titagarh, Naihati, Bhatparah in areas further north, a continuous influx of a predominant blue-collar groups have led to a very high population density range of 30,001 to 40,000 persons per sq. km.

It is evident that the recent factors of decay and stagnation of the manufacturing base in these high-density urban centers have led to several problems. Loss in employment opportunities, decay of infrastructure and environmental degradation are, to mention a few, which in turn have lowered the livability standards in the sub-region. To this, further problems of continuous refugee influx (mainly real have-nots and dummy have-nots) from Bangladesh and adjoining rural belts have continued to reduce socio-economic standards in this sub-region.

On the contrary, new planned zones have emerged in vacant lands lying further east and southeast. Advantages of land availability and direct contiguity to the nearby Core-eastern sub-region have facilitated the planners in creating new housing areas with high-end amenities in areas of the eastern metropolitan periphery. Major linkages have been augmented to improve livability standards in these new zones.

Several planned housing zones with high-tech industrial parks facilitating advanced capital-intensive enterprises are being developed of late. The aim of these initiatives is to create and encourage modern living standards of a future metropolis along with provisions of new and diversified job opportunities to the people of this sub-region and the metropolis as a whole.



However, imbalances within the mosaic of this sub-region are implied by recent changes in its sub-cultural composition. The slow-paced socio-economic life-style of the original rural people (dummy and real have-nots) is exposed to a fast-paced life style of incoming urban elite groups (real and dummy haves), who are settling within these new opportunity zones.

### ***Socio-economic transformations of southeast sub-region***

This sub-region belongs to the outer southern periphery of the metropolis. Once, a slow pace of development with moderate levels of accessibilities and contiguity to the core-eastern sub-region had facilitated its good livability. The settlers had then (prior to 1971) enjoyed both the advantages of a low-density rural hinterland and the urban facilities in the nearby Core-east. Railway linkages further augmented in this sub-region.

But over time (after 1971 – Bangladesh War) there had been a rapid increase in settlements in the form of a sprawl representing a haphazard pattern of peri-urban development. Of late, this sub-region has continued to face the problems of refugee influx (dummy and real have-nots) from Bangladesh. It is therefore anticipated that the current population density pattern may further pick up in the near future thereby leading to rising pollution levels in this sub-region and subsequently lower its socio-economic standards.

### ***Socio-economic transformations of northeast sub-region***

Both low level of linkages (due to long commuting distances to the core) and subsequently low concentration of local economic opportunities have been the causal factors behind a moderate range of Spatio-economic structure (dummy haves and dummy have-nots) in this sub-region. This sub-region belongs to the outer northern metropolitan periphery having a predominantly rural hinterland.

It is evident that the overall average population density has not picked up over 5000 persons / sq. km. As a result, new urban center at Kalyani, the new industrial belt at Gayeshpur and others have not reached an intended intensity of development to boost further agglomeration and subsequently good socio-economic standards within them. For instance, from 1981 to 2001, Kalyani's population density has only picked from 1,685 to 3,742 persons per sq.km. Industrial development at Gayeshpur is also slow.

### ***Socio-economic transformations of core-west sub-region***

This sub-region had always served as the complementary industrial suburb to the one-time predominant port based activities of Kolkata. Therefore the socio-economic standards in this sub-region had always been related to living standards in the core-east. Recent (1971-91) problems of industrial obsolescence and stagnation of port activities in the Core-east have affected this sub-region in terms of loss of economic opportunities within the once thriving manufacturing base of Howrah.

Today, it is evident that the problems are not one of density but of diminishing income levels (a rise in dummy have-nots and real have-nots), subsequent explosion of slums (accommodating the real have nots), utility decay and environmental degradation. These issues have affected socio-economic standards in this sub-region. On the whole, both core sub-regions have shown declining trends as the urban population growth rates of Core-east has lowered from 6.6% to 4.1% (1981-91 to 1991-2001) and in the case of Core-west from 27.6% to 6.13% implying lessening of their urban attractions and subsequent living standards.

### ***Socio-economic setting of central-west sub-region***

Unlike the Central-Eastern sub-region, the Central-West sub-region has not been subjected to intense problems of refugee in migration, sprawling settlements and mixed land use. It is explicit that this sub-region has also not faced any significant problems of land locking, loss of green lands and loss of wetlands [Refer Table No. (3.1)]. As a result, the moderate density pattern and low pollution levels of this sub-region have contributed to a desirable physical-environmental setting supporting good living standards. This is evident from the urban centers of Chandannagar and Uttarparah-Kotrung, which have very high decadal (1991-2001) population growth rates of 34.7% and 48.32% respectively. Contrastingly, recent population growth rate in the Central-East is comparatively low [for instance urban center of Baranagar has 11.69% (1991-2001)].

It is further evident that the sub-region has also enjoyed a greater share of large-scale metropolitan manufacturing base [Refer Table No. (3.2)]. Over time, moderately high level of contiguity to core-west (Howrah) and complimentarity with Core-East (Kolkata) has raised its socio-economic standards through a growing concentration of dummy haves and have-nots.

### ***Socio-economic transformations of southwest sub-region***

Owing to its location and a predominantly rural hinterland, the impact of moderate level of linkages to core sub-regions of nearby Howrah has not been realized yet. This sub-region has therefore not yet picked up any mentionable intensity of development.

Over the last three decades, the urban center of Uluberiah, a major node within this sub-region, has shown both low figures and marginal variations of population density decreasing from 4,752 persons per sq.km (1981) to 4601 persons per sq.km (1991) and later marginally increasing to only 5993 persons per sq.km (2001).

It is evident that the peri-urban character contiguous to a predominant rural life-style of the wider hinterland has affected living standards in this sub-region.

### ***Socio-economic transformations of northwest sub-region***

The factors of moderate intensity of physical development, distant and poor level of linkages to the core sub-regions and very marginal levels of local economic opportunities have restricted the pace of urban development and its impact on the socio-economic structure (a growing concentration of dummy and real have-nots) in this sub-region, which is located in the outer periphery of the metropolis. On the other hand, a stronger socio-cultural setting comprising a rich cultural heritage has supported a traditional community over time. These factors have contributed to a different class of socio-economics in this sub-region contrasting the other sub-regions.

## **CONCLUSIONS**

A review of the intra-sub-regional differences of the metropolitan region of Kolkata (Calcutta) has revealed significant shades and contrasts defying any cohesive socio-economic structure. The differences have emerged more significantly through a combinatorial evaluation of the two most important causal components – the territorial and the demographic.

In here the territorial component has been spatio-economic. It is evident from the study that differences have been more than a 'core-periphery' issue. Sub-components like the density of physical development, the available linkages to existing economic opportunities distributed unevenly and the physical environment itself have led to differences and fragmentation between

sub-regions of the inner core, the inner periphery and the outer periphery. Additionally, the east bank sub-regions present a different range of 'real' and 'not so real' situations compared to the ones of the west bank.

Further the contributions of the second causal component have rendered a more complex mosaic of urban disintegration. The polarization and fragmentations of various economic groups have raised serious questions on living standards and cultural livability. This has been offered by a more realistic four-tiered study approach as opposed to a simplified 'high-middle-low income classification'. Broadly, the four tiers that have been used are:

- 1) The real-haves (rich businessmen and highest rung corporate employees)
- 2) The dummy haves (executive class employees)
- 3) The dummy have-nots (small-scale business persons and employees)
- 4) The real have-nots (persons from the very low-paid informal sector)

In summary it may be thus said, the historic evolution of the metropolitan economy of Kolkata has been a dynamic composite of territorial and demographic complexity. Caught between the opposing forces of integration and disintegration, the metropolis has emerged not as a homogeneous one. Instead its complex mosaic of heterogeneous sub-regions has minimized the promises of social equity. As a result, the framework of metropolitan planning has become an even more challenging issue in relationship to the opposing forces. For example, the core sub-regions have very developed areas, which belong to 'real have' settlers, can match the best 'glamour zones' of the developed world and at the same time, it presents 'slums' and 'squatter' laded zones where living standards of thousands ('real have-nots') living in unimaginable conditions of human livability only express a 'sea of despair'. Contrastingly and paradoxically, some of the relatively economically slow or backward sub-regions in the metropolitan periphery have more balanced living conditions and a demographic structure, which is relatively homogeneous.

The glittering reality of the metropolitan core has been not so 'real'. On the other hand, the apparent backwardness of the periphery is not so 'real' (or 'dummy') and holds keys to hidden promises and opportunities of positive transformations. Such understanding depends on a broadband evaluation that this paper suggests. The broadband is a combinatorial or holistic pointer of territoriality and demography while carefully evaluating 'any City like Calcutta (Kolkata) posited between the forces of integration and disintegration'.

## REFERENCES

- Bhattacharya, M. (1991) *Municipal Calcutta and Evolutionary perspective, Calcutta's Urban future, Government of West Bengal, Calcutta*
- Bose, N. (1973) *Calcutta: A Premature Metropolis, Cities: Their Origin, Growth and Human Impact*, San Francisco: Freeman.
- Chatterjee, N., Bhattacharya, N., Halder, A. (1999) *Socio-economic Profile of households in Calcutta Metropolitan Area – 1996-97, A study report*, Calcutta: Kolkata Metropolitan Development Authority.
- Doxidias, C. A. (1969) *Ecumenopolis: World City of Tomorrow, Impact of Science on Society 19*.
- Evans, P. B., Timberlake, M (1980) Dependence, equality and the growth of the Tertiary, *American sociological Review 45: 531-552*.
- Jacobs, J. (1984) *Cities and Wealth of Nations*, New York: Random House
- Rodwin, L (1961) *The Future Metropolis*, New York: George Braziller Inc.