CHAPTER XII

HINTERLAND OF THE METROPOLIS

General Outline

The outer area associated with the metropolis and dominated by it was referred to as its hinterland by Gras (1922), its umland by German scholars and its region by Mckenzie (1933). Bogue (1949) prefers to speak of the metropolitan community as comprising the metropolis itself and the surrounding area over which it has a dominating influence. This area, he writes, owes its unity to a system of interdependent spatial relationships. The spread of population from the metropolis results in the extension of the urban area radially and frontally, merging with, often absorbing, pre-existing centres in its closer environments. These outlying centres, though absorbed in the urbanized areas, often retain their functions as commercial sub-centres. The same surrounding area was termed as urban-field by Smailes (1953) who selected a number of indices to measure the urban field. Performing the primary economic functions, the cities act as centres of employment, as collecting and marketing points for the products of the surrounding areas, and as distributing centres for goods from outside. Besides, there are indices like various central services, newspaper
circulation, daily commuting, transport services and various social and cultural associations.

The word *umland* comes off the Swedish term "Omland" meaning the surrounding area of a particular city or a metropolis. In recent years, the urban geographers have fully realised the profound interrelationship existing between the metropolis and its surrounding regions. In fact, for its full understanding, the city has to be interpreted as an organic part of a social group. It has to maintain contact with its regions in order to obtain articles of daily consumption and also to get supply of raw materials for the sustenance of its industries. The city or a metropolis as a living organism depends for its vitality not only on its internal resources but also on its capacity to tap the resources for its growth from a vast region surrounding it. In return for these services the city works as a marketing centre for the raw products of the region besides forming the social and political base for the region. There is, of course, an areal limit set to the region in which these interrelated services operate efficiently. It does not extend with even intensity to a certain limit and then suddenly stop short. Rather there are zones of diminishing influence as the various functions are outranged. Beyond this limit other centrifugal forces begin to
operate. Thus, the area in which the metropolis and the surrounding region are culturally, economically and politically interrelated forms the hinterland of a particular metropolis.

The regional city in the U.S.A. falls into fairly distinctive sections starting from the city and moving outward through the urban fringe and the immediate and remote hinterlands. Conversely, the whole area around an Indian city where urban influence is strongly felt is so small that such a classification is impractical, except in a condensed way for the largest cities. The urban fringe of these cities is usually restricted to small and sporadic residential and commercial developments at the city's edge, ruling out the possibility of a rural-urban fringe. The immediate hinterland is proportionately smaller in area than its Western counterpart, and might prove to be not much larger in area than the urban fringe and rural-urban fringe of an American city of about the same population. The outer hinterland, with its nebulous connections with the city, remains the most difficult to delimit and analyze.

The dearth of applicable statistics and the difficulties inherent in approaching the problem partly explain why so little work has yet been done in India to distinguish the hinterland. We are still woefully ignorant.
about the surrounding areas served by various metropolises which express the central functions. The hinterland of the Indian metropolises have never been thoroughly investigated on any extensive scale. Nor do we know much about the inter-relations and hierarchies of urban centres in India. However, in recent years, the eminent urban Geographers of India have studied the umlands of a number of metropolises with precise indices. The study of the metropolitan regions will be incomplete without the study of the hinterland or surrounding areas. Therefore, the metropolitan region is discussed along with the surrounding areas as geographically it extends as far as the mother city exerts its influence. The metropolitan region, thus considered, is primarily a functional entity and is essentially an extended pattern of local communal life based upon rail and road transportation.

With the growth and expansion of the metropolis, a number of new growth poles and satellite townships are coming into existence. Their role in decongesting the city core is of prime importance. They are also essential for decentralization of the centralized and specialized services of the mother city. So in the master plan for big cities the programme of urban renewal is given particular emphasis. Their contribution for the balanced development of the region cannot be denied. Urban renewal
refers to a deliberate, planned and overall effort to change the urban environment through planned, comprehensive and large-scale adjustment of existing city areas to meet the requirements of the present as well as the future urban living. It extends to residential as well as non-residential uses. Urban renewal involves conservation of areas threatened by blight and obsolescence, redevelopment of land and structures, rehousing and rehabilitation of displaced and dispossessed persons, preservation of buildings of historical and architectural interest, urban community development and the related issues—all within the framework of an overall plan for the city's development. Urban renewal includes public as well as private improvements of land and properties and therefore, calls for substantial action by the Central, State and local governments, public institutions and private interests. Urban renewal thus becomes an integral part of the comprehensive Development Plan of the city.

Umland of Calcutta (Fig 22)

Analysing the functions and activities of Calcutta metropolis, it has been observed that Calcutta does not stand by itself. In fact, the metropolis and its suburban areas form a composite whole, each fulfilling the needs of the other. While Calcutta forms the cultural and economic focus of the area, the essentially agrarian
THE UMLAND OF CALCUTTA
(DEPENDECE ON RAILWAY COMMUNICATION)

INDEX

STATE BOUNDARY
DISTRICT BOUNDARY
SUBDIVISION BOUNDARY
DAILY COMMUTING ZONE
ROADS
RAILWAYS

Fig 22
countryside and the industrial belt of the Hooghly conurbation area form the basis of its economy, supplying the metropolis with both agricultural and industrial labourers, agricultural resources etc. This extreme dependence of Calcutta on its surrounding area has been emphasized more than once in recent years when Calcutta's economic life had practically come to a standstill due to some disturbing conditions in its suburban areas either a crop failure, or a breach in the communication system. This extreme dependence has been intensified since the partition of the country in 1947.

The boundary of the Umland of Calcutta cannot be easily delineated with mathematical accuracy, like a political boundary. In case of Calcutta, apart from its cultural influences, the economic ties between Calcutta and its surrounding areas are of primary importance. Only the employment factor and the supply of perishable commodities like green vegetables have been taken into account to delimit the extension of the umland. The stations from which daily passengers come to Calcutta have been marked along with the farthest point of the supply zone supplying the city markets with fresh vegetables, fish and milk. While the vegetable supply zone depends mainly on the Highways and other important roads, the daily passenger zone naturally depends more on the railways. By superposing
both these zones, one can get an area which may be considered as the umland of Calcutta. In this method, Krishnagar has been found to be the northern extreme of the umland. The southern, eastern and western boundaries are Diamond Harbour, Basirhat and Kharagpur respectively. The factors other than vegetable supply and daily passengers have been neglected in demarcating the umland of Calcutta due to the fact that all the other zones (e.g., newspaper circulation zones) falls within the limits of the CMD area and altogether excludes the rural aspect, and since the daily transportation zone forms the main supply zone of the CMD area, these areas cannot be left out.

**Hinterland of Calcutta (Fig 23)**

The hinterland of Calcutta is of utmost importance for the very existence of the CMD. Any comprehensive plan for Calcutta must, therefore, take into consideration the fact that it is the economic hub of the entire Eastern India. Literally, the immediate hinterland of Calcutta denotes the umland of Calcutta just mentioned but in the real sense of the term, the hinterland extends far beyond the limit of the said metropolitan area. This city is linked up, by strong bonds of industrial, cultural and fiscal ties with as many as five States other than West Bengal itself, viz., Assam, Orissa, Bihar and parts of
U.P. and M.P. The sub-Himalayan countries of Nepal, Bhutan and Sikkim also depend on Calcutta to sustain their economies. Thus, Calcutta is, in fact, the mother city that nourishes a hinterland of more than half a million square miles and a population of over 180 million or so.

Neither the agricultural or the industrial economy of West Bengal, nor the base of her urban pyramid can be put on a solid foundation simply by increasing the tempo of investment in the roads, bridges, houses, shopping centres and underground rail lines within the metropolis. To use an Oxymoron, Calcutta's development is preconditioned by the development of areas far away from Calcutta. The stone mines at Pachmi-Hatgacha in Birbhum, Jore Bundhs in the tribal pockets in Purulia, the forest resources in the Hill areas of Darjeeling, the deep tube wells in Nadia and Murshidabad and the canal system in Burdwan have more to do with Calcutta's sustenance and development than the much-trumpeted road-beautification in the metropolis.

The CMPO has outlined and defined a large area, designated as Calcutta Metropolitan Area, stretching within the districts of 24-Parganas, Midnapore, Howrah, Hooghly, Burdwan and Nadia. This metropolitan area roughly corresponds to the supply zone of vegetables, fish, egg,
caasien (channa), and other perishable goods for the Calcutta market. Added to this is the immense economic prospects of developing this hinterland region as the supply base of the Calcutta market for commodities like, rice, pulses, fish, egg, vegetables, mustard etc.

The hinterland region of Calcutta is showing distinct corridors of urban development along the main highways and communication routes like the electrified railways. The entire Howrah district has been virtually bifurcated between Northern and Southern halves by the E-W twin transport corridor of National Highway 6 and its parallel electrified South-Eastern Railway line. The entire Howrah district has become vulnerable to urban development. Bus routes have sprung up all around carrying commuters to Calcutta and other urban centres. If agricultural modernization programme succeeds, the process of urbanization would be accelerated. Added to this is the Kolaghat road-cum-rail link from Mechada-Panskura points, Kolaghat to Baidia, on both Howrah and Midnapore sides, along the picturesque, Rupnarayan river, show promising signs of future urban development in the same way.

The Midnapore district has been bifurcated by the same twin transport corridor - NH 6 and South-Eastern Railway from Kolaghat on the Eastern and Danton on the Western and bordering Orissa. Midnapore district is
divided into four distinct blocks by the railway network. Kharagpur railway junction is the nodal point. In the Southern block Contai-Digha-Junput area is slowly developing as an urban complex with the tourist centre at Digha and fishing harbour at Junput. Further, at the coastal region, a new transport corridor is developing between Haldia-Geonkhali-Mahasadal on the Eastern and to Kantai Ramnagar area on the Western and bordering Orissa, facilitated by the bridges on the Haldi and the Rasulphir rivers. Again, the western parts of Midnapore district are slowly having the impacts of urban development at Jamshedpur, Ghatsila and the adjacent mining areas. On the other hand, the North-Eastern block bounded by Midnapore-Garbeta railway link on the west and Kolaghat-Ghatal on the east, is fast coming closer to Calcutta by the road links between Calcutta-Tarakeswar-Arambagh-Champadanga area and over the new bridge at Harinkhola, including the proposed bridge over Dwarkeswar near Ghatal.

Similarly, the rural centres of Hooghly, Burdwan, Nadia and 24-Parganas are fast developing. Calcutta's unique importance lies in the fact that these centres are closely bound to it by strong economic ties and looks to it for a host of essential urban services. Serampore, Chinsura, Arambagh, Singur of Hooghly district, Burdwan,
Asansol, Durgapur, Memari of Burdwan district, Krishnanagar, Santipur, Nakasipara of Nadia district and Diamond Harbour, Lakshmikantapur of 24-Parganas, and Haldia of Midnapore district are rapidly getting urbanised.

For this vast hinterland, Calcutta acts as the main producer and distributor of goods and services, as the source of finance for countless public and private enterprises, as the headquarters of a wide variety of companies and organizations, as the centre for advanced learning and specialised medical services, and perhaps above all, as the generator of changing ideas and attitudes fundamental to progress.

As the rural centres would continue to grow, poorer section of the commuters, who work as office-peons, clerks, salesman and hawkers would gradually find it more convenient to settle permanently in these rural towns, with modern urban facilities like bus service, electricity, schools and colleges, modern markets and recreation centres and also civic services like tap water, flush latrine and decent drainage system. In this way only, could a process of "reverse-migration" be generated to decongest the overcrowded Calcutta metropolis.

All the actions recommended for the CMD during the 20 year period presuppose that a simultaneous major
Silting of the Hooghly now bars large ocean freighters, but a new deep water port nears completion at Haldia, 65 miles downstream. Haldia is being developed as a subsidiary port of Calcutta. Construction of the township is in progress.
effort will be made to develop urban centres elsewhere in the state. It is assumed that three other centres of industrialization and urbanization - Asansol-Durgapur, Haldia and Siliguri will be given attention immediately in addition to the CMD.

Haldia: A Special Case

No urban renewal plan for Greater Calcutta can be effective without plans for developing counter-magnet towns with adequate industrial bases to provide employment to the local people as well as to other migrants and thus reduce further flow of people into Calcutta and its metropolitan region. In this context, the development of the Haldia region should be complementary to any development programme for the Calcutta Metropolis.

Broad outlines of the future of Haldia are slowly emerging in bold relief. The need for developing the Haldia region as a counter-magnet to Calcutta cannot be over-emphasised. The CMPO took a hand, in collaboration with the Calcutta Port Commissioners and the Department of Commerce & Industry of the State Government, in planning various aspects of the proposed facilities for the subsidiary port area of Haldia.

With an oil refinery at Haldia, the way is now clear for the full-scale development of an industrial
The paddy fields of Hooghly delta is gradually being transformed into an urban area being developed in close association with Haldia dock.
complex in the Haldia region. Lured by the deep-draught port, excellent surface communications by rail, road and river, and well-planned facilities and utilities, industries will begin to build around the new port. The oil refinery will be followed by petro-chemical industries in the logical sequence and a fertilizer factory by other by-product industries. Other industries, including engineering, and metallurgy, synthetic rubber and fibres, will come up in the region both in the public and in the private sector. The industrial complex of Haldia, complete with a well-planned township and a well-regulated hinterland, should be able to attract a sizeable number of the in-migrants who generally descend on Calcutta from other areas of West Bengal and also from other states in search of employment.

The Asansol-Durgapur region is today a complex of many growth nodes, with varied economic and physical characteristics. This area is an integral part of the Damodar Valley Resource Region. The traditional industrial base of the region, viz., coal, and iron and steel, has undergone rapid diversification, and new industrial ventures like heavy engineering, fertilizers and coal-based chemicals are now making a dominant impact on the industrial scene. The planned utilisation of the water resources of the Damodar and a sustained programme of hydro-electric
development and coal-based thermal power generation, assisted this process of diversification and modernization of industries in this region. The growth of industry in the region has brought in its wake a dynamic and substantial increase in the rate of urbanization. On the established economic base of the Asansol sub-division, the patterns of a new design of industrial urbanization have been superimposed. The many-sided growth of the region should proceed according to a comprehensive plan for urban and regional development. The Interim Development Plan for Asansol-Durgapur, formulated by the Asansol Planning Organization in the Development & Planning Department of the State Government, with financial assistance from the Government of India is a basic plan formulated with this objective.

Another Interim Development Plan for the Siliguri region has been prepared. The plan seeks to outline a broad framework for the development of the Greater Siliguri area and also to indicate a short-term action programme. With the development of the existing urban area, the phased programmes for public utilities and services are spelled out and the comprehensive development plan sets out a capital budget for implementation of the plan. Today, Siliguri has grown to a city of over 82,000 and is growing to be a major focus in the transport and commerce lines.
between the southern part of West Bengal with its northern counterpart as well as with North Bihar, Assam, Sikkim and Bhutan.

The CMPO has recommended the development of 22 work centres or satellite townships in and around the CMD with the financial assistance of the World Bank. The project has been conceived to ease the overcrowding and help the poorer people to live in healthy surroundings. The World Bank is likely to offer ₹137 million for the purpose. These towns have a trade or profession bias and will generate economic activity which would satisfy the needs of the poor. One of the areas earmarked for such development is Sonarpur, for which a complete plan has already been prepared and on the way to implementation. The township, estimated to cost Rs.14.34 crore, will accommodate 200,000 people and provide water supply, drainage, roads, street lighting, health, educational and shopping facilities and reserved lands for parks, playgrounds, residences and light industry. It is expected that 50% of the adult population will find employment within the town itself. Similarly, we would like to have leather towns coming up on the Eastern fringe of Calcutta (Tiljala-Tapsia), textile towns coming up in Garden Reach area (Metiabruz) where there is concentration of tailors, engineering towns in Howrah and milk town coming
up in Dankuni. Work on two more townships has started at Howrah West and in East Calcutta. When the townships are developed, the CMDA will help bustee dwellers to shift there and the slums will be converted into community centres.

The role of Calcutta metropolis is changing. The hinterlands over which it has exercised a near monopoly will contract as new centres of urbanization and industrialization emerge. This will herald not a weakening of Calcutta and the CMD but the strengthening of the country as a whole. The changes are not likely to be sudden or dramatic but gradual. The CMD can and should continue to grow as a vital centre of trade, highly specialized business and personal services, advanced education and multitude of cultural activities that mark the great metropolis. It will continue to be an important industrial centre, but its importance in some industries—notably heavy engineering, chemicals—relative to the newer centres in its hinterland (Chittaranjan, Durgapur) will decrease. So to some degree will its relative importance as a port will record a decline. In future, increasing amounts of east-coast shipping will be handled by Haldia and Paradeep (in Orissa). All these prospects would undoubtedly change the industrial contours of the Calcutta metropolis and a changing pattern in industrial function would have its impact on the structural pattern of the metropolitan configuration.
Hinterland of Bombay

The Bombay Metropolitan Region as delimited by the State Government lies between the Tansa and the Vaitarna rivers and is bounded by the foothills of Sahyadri in the South Eastern portion and by the administrative boundaries of Kalyan and Bhiwandi Tehsils in the north-eastern portion. On the west it is bounded by the Arabian Sea.

The Bombay region will have to include vast areas of the hinterland, it will in fact have to be an inter-State region. Bombay is the largest port on the western sea board of the country and caters to a very large volume of import and export trade destined to or originating from the hinterland areas not only from the State of Maharashtra but from various other states extending to Punjab, Madhya Pradesh, Andhra Pradesh etc. Being the headquarters of the Reserve Bank of India and accommodating the largest Stock Exchange in the country, Bombay is the financial capital of the entire country and extends its economic influence over far too wide an area. Being the political capital of the State, decisions taken in Bombay affect the future of all the areas in the state and all eyes are, therefore, centred on Bombay. Bombay accounts for almost 11% of the state population and 37% of its urban population. Even as a servicing centre providing metropolitan level services in the highly specialized fields
of education, research, health and wholesale trade, Bombay's influence extends over a very extensive area transcending the present limits of the region. Analysis of migration trend shows that Bombay receives the largest number of migrants from the districts of Ratnagiri, Kolaba, Thana and Poona. It also receives a large amount of inter-state migration from the northern-most and southernmost States. The emerging industrial corridor, again, in its wider perspective includes not only the Bombay-Poona corridor but also the belt all along the Western Railway corridor including Surat, Baroda, and Ahmedabad. The size of the region and its boundaries would be different on the basis of the different criteria of its influence.

Due to the government policy of discouraging and restricting further industrialization in Bombay, industries have over-spilled into Thana and its northern suburbs on the immediate periphery of Bombay, yet retaining close links with the mother city. A similar industrial complex has come up on the banks of the Ulhas river at Shahad area. The decentralization of industries from Bombay has established several industrial areas in the vicinity of Bombay. They are - the Trans-Thana Creek Area, the Kalyan-Shil road area, and the Ambernath area. Dombivali, Kalyan, Ulhasnagar and Ambernath are now engulfed in an almost continuous conurbation which forms a linear extension of the Bombay agglomeration.
New townships are coming in the vicinity of railway stations principally Bassein Road, Nala Sopara and Virar along Western Railway, Titwala along the north-east section and Korjat, Neral Wangni and Badaipur along the south-east section of the Central Railway. These towns may be developed as new full-fledged towns and expanding the existing towns wherever they exist. The plans for these towns will have to be self-contained.

New Bombay is one of the largest and most important town planning projects undertaken in India. New Bombay, it is hoped, will not only provide an eastward outlet from the island, but an alternative focal point for growth which would otherwise further congest the old city. In the long run, New Bombay will be able to deflect population accumulation from the old city into itself. It may also strengthen economic activity in the interior of the State on account of the ease and access of those parts with the urban centre.

With a view to a programme of urban renewal, government should develop certain areas like Backbay Reclamation. The Save Bombay Committee has come up with a plan for remodelling the Backbay. A model of this plan shows that the reclaimed sea-front was transformed into a car-free public promenade at several levels, with free access to all citizens, and the land reclaimed so
far, but undeveloped, would be used for public purposes, such as a civic centre, schools, hospitals etc. By embarking on the "Urban Renewal Project" for the congested parts of the city, it will be possible to accommodate 60,000 affected families in the Backbay Reclamation Area.

Urban renewal of the downtown area of Bombay will result in improving the economy of the State since the building activity in the reclamation area will result in generating employment potential mainly in the sectors of building and allied industries.

Hinterland of Delhi (Fig 25)

As a national capital, the influence of Delhi extends throughout India and indeed throughout the world. The metropolis occupies a position of central importance in the entire broad region of Northern India. This importance has been greatly intensified since the partition of the country in 1947 when Delhi had replaced Lahore as the major distributing centre for Northern India. The various functions of regional cultural activities, regional collection and distribution and regional services which are discharged by Delhi have a variety of connections with different parts of its broad hinterland and have encompassed the movement of goods and persons.
The metropolitan dominance over the region extends to a radius of 40 miles from the central city. Thus defined, the region extends over an area of 12,246 sq. kms. with a population of nearly 2 million, distributed between 6 small urban and about 1400 rural settlements. This influence is pervasive within the region and has spread to all facets of the regional economy and even demography. Consequently, a distinct pattern of demographic and economic development has emerged. The region consists of three concentric zones of the metropolitan core, the peri-urban zone and the rural hinterland. The metropolitan core extends within a radius of 6 to 8 miles from the core of the city, the peri-urban zone extends to a radius of 16 miles, and the rural hinterland extends up to 40 miles. The rural hinterland is a low density population zone (300 persons per sq. mile) and is predominantly agricultural with cereals dominating the cropping pattern. The continuity of this zone is interrupted by high density residential areas, multiple cropping and dairying sectors in W, SW and E. This indicates the possible line of development for the entire region. In the rest of this zone pastoral and agricultural activities predominate. Pastoral activities decline with increase in distance from the core city. The forests have receded to the periphery of the zone and in the remaining areas food crops are prominent.
Hyderabad-Secunderabad has now become a twin city and is fast developing towards its fringes. The photograph shows a portion of the newly developed areas of the city.
Metropolitan Hyderabad and its surrounding region are mutually inter-dependent performing complimentary functions for each other. While the region supplies to the metropolis such essential commodities of daily need as milk, vegetables, fruits etc., the metropolis performs educational, medical, cultural and economic functions for the region supported by strong transport linkages. The influence of metropolitan Hyderabad over its region is of great intensity and this has to be strengthened further in order to co-ordinate the economic planning of metropolitan Hyderabad with its region.

**Hinterland of Bangalore (Fig. 28)**

The study of the umland of Bangalore was first undertaken by Singh (1964). His analysis is based on economic, political, social and cultural considerations. Under the economic influence come the vegetable, milk, and bus service zones. Social and cultural influences include the services rendered by the hospitals and the newspapers. Political influence deals with the administrative services of the city. From his analysis it has been observed that the N-S length of the umland is 144 kms and E-W breadth is 137 kms. The total area covered is 15,786 sq. kms, which is nearly one-fourth of the whole State. It comprises of 17 taluks of Karnataka and Tamilnadu States. Some of the important cities as Mysore,
Delhi Metropolitan Area embraces the group of towns around Delhi. These towns, as stated in the Master Plan are very close to Delhi whose development is inextricably connected - Loni, Ghaziabad, Faridabad, Badadurgarh, Ballabgarh, Gurgaon, Narela and to an extent Sonepat also; about 2071 sq. Kms. Being within Delhi's orbit, they have manifold financial, purchasing, marketing and other contacts with a high degree of dependence on Delhi.

Within the general overlapping zones of influence of Delhi, it is possible to distinguish increasing intensity of interaction between the central city and the surrounding countryside. Within 195 Km. of the central city all towns and centres feel its influence to some degree, but the intensity of contact and interaction increases as we come closer and closer to the city itself. The larger cities such as Meerut, Rohtak and Mathura are more independent than the smaller centres.

Interaction between Delhi and the surrounding hinterland takes place on a daily basis in a number of different ways. The most important is the movement of goods and services in the process of economic activity. The most important of these activities is the provision of foodstuffs for the central city. At the same time, the growth of manufacturing and secondary productive
activities in Delhi region leads to a higher variety of goods in the market and increase the strength of Delhi's position as a wholesale and trading centre where presence of a variety of goods is in itself an indispensable service. Another variety of movement is the movement of people in the process of production and distribution. For example, the retailers and wholesalers of cloth of nearby areas are accustomed to travel regularly to Delhi and to seek accommodation near the railway station and cloth market for transacting their substantial business in that market. Much larger movements in commerce and services are accounted for by the cultural and shopping trips of people from a large region centred on Delhi in regular and occasional trips to the metropolitan centre for routine household and specialized needs. In spite of irregular and inadequate train services, commuting at lower volumes extends far into Delhi's hinterland, as in case of its shopping areas. More particularly, the inner ring of towns of intermediate size surrounding Delhi like Ghaziabad, Faridabad, Gurgaon, Sahadurgarh, and Sonepat, as well as other towns within the limits of Delhi territory such as Narela and Najafgarh contribute rather substantially to the working population of Delhi through regular commutation. With the creation of new industrial estates like the Okhla Estate, a small but
growing trend towards reverse commutation outward from Delhi has been noticed in recent years. Still more distant relocations such as those in Faridabad tend to draw a number of managers and technical personnel from Delhi who will also commute, though frequently by automobile rather than by bus or trains.

The programme of urban renewal in Delhi envisages a positive programme of action for redeveloping the physically deteriorated areas and a programme for better living conditions for the entire city. The process ultimately involves the whole pattern of population distribution and functional organization of the urban area, including well-planned and co-ordinated layout and expansion of the city. As a first step in this programme, the Corporation has selected a number of sites like Ranjit Nagar Shadipur Scheme, Rajpur, Wazirpur and Kilokri villages for reconstruction and renovation. Apart from all these, the Delhi Master Plan recommended the development of a number of ring towns around Delhi to accommodate the growing population. The approach has not been successful and the development of committees along major corridors radiating from the city is being thought of now in the plan that is being prepared for the National Capital Region (NCR).
Hinterland of Madras (Fig 26)

The expansion of Madras city is taking place along the major radial routes particularly on the W and SW. The pull on the west is now increasing inspite of certain handicaps. Once the railway to the west is electrified and the area linked up directly with major highways this will be the predominant direction of growth. The growth to the N and NW is limited due to the character of the terrain and location of agricultural fields respectively while the growth on the south is still a possibility to reckon with.

The Madras Metropolitan Plan (1971-91) envisages at the first stage to reconstruct the metropolis to accommodate a population of 3 million. As the next step, six major urban nodes will be created outside the urban area along the three corridors. They are Minjur, Redhills, Tandarai, Ambattur, Alandur and Tambaram. Each major node is designed for a population of 2 to 3 lakhs and will be a self-contained unit providing for 90% of work - all schooling, shopping, and other day to day needs. These nodes would be connected by rapid transit rail systems and express ways to the city. The nodes amongst themselves would also be connected by both rail and road system and to facilitate intra-urban movement.

The areas of George Town (Central Area) and the oldest residential districts of Triplicane, Mylapore and
Chintadripet are today ripe for renewal. It is suggested in the Master Plan that urban renewal for a small area may be taken up as a pilot project immediately and based on the experience gained and results achieved larger areas may be brought under urban renewal later on. A modest programme of Rs.20 crores over a period of 20 years has been undertaken. This would be financed through the establishment of "revolving funds".

**Hinterland of Hyderabad (Fig. 27)**

In the functional hierarchy of the major metropolitan centres of India, Hyderabad now leads Bangalore and Kanpur and ranks next only to the four premier metropolises of India — Calcutta, Bombay, Delhi and Madras. The influence of metropolitan Hyderabad over Telangana is directly exercised by its distributive activities such as circulation of newspaper, wholesaling in tea, textiles, timber, drugs etc. and centralised services, chiefly, education and medical. The headquarters of all the leading industries of Telangana are located in the capital city of Hyderabad and thus the metropolis controls and directs their productive activities. The strong interaction between the region and the metropolis is reflected in the supply and demand of vegetables, milk and fruits and in the movement of traffic.
The metropolitan dominance over the region extends to a radius of 40 miles from the central city. Thus defined, the region extends over an area of 12,246 sq.kms. with a population of nearly 2 million, distributed between 6 small urban and about 1400 rural settlements. This influence is pervasive within the region and has spread to all facets of the regional economy and even demography. Consequently, a distinct pattern of demographic and economic development has emerged. The region consists of three concentric zones of the metropolitan core, the peri-urban zone and the rural hinterland. The metropolitan core extends within a radius of 6 to 8 miles from the core of the city, the peri-urban zone extends to a radius of 16 miles, and the rural hinterland extends up to 40 miles. The rural hinterland is a low density population zone (300 persons per sq. mile) and is predominantly agricultural with cereals dominating the cropping pattern. The continuity of this zone is interrupted by high density residential areas, multiple cropping and dairying sectors in W, SW and E. This indicates the possible line of development for the entire region. In the rest of this zone pastoral and agricultural activities predominate. Pastoral activities decline with increase in distance from the core city. The forests have receded to the periphery of the zone and in the remaining areas food crops are prominent.
Hyderabad-Secunderabad has now become a twin city and is fast developing towards its fringes. The photograph shows a portion of the newly developed areas of the city.
Metropolitan Hyderabad and its surrounding region are mutually inter-dependent performing complimentary functions for each other. While the region supplies to the metropolis such essential commodities of daily need as milk, vegetables, fruits etc., the metropolis performs educational, medical, cultural and economic functions for the region supported by strong transport linkages. The influence of metropolitan Hyderabad over its region is of great intensity and this has to be strengthened further in order to co-ordinate the economic planning of metropolitan Hyderabad with its region.

**Hinterland of Bangalore (Fig 28)**

The study of the hinterland of Bangalore was first undertaken by Singh (1964). His analysis is based on economic, political, social and cultural considerations. Under the economic influence come the vegetable, milk, and bus service zones. Social and cultural influences include the services rendered by the hospitals and the newspapers. Political influence deals with the administrative services of the city. From his analysis it has been observed that the N-S length of the umland is 144 kms and E-W breadth is 137 kms. The total area covered is 15,786 sq. kms. which is nearly one-fourth of the whole state. It comprises of 17 taluks of Karnataka and Tamilnadu States. Some of the important cities as Mysore,
Mandya, Coorg and Tumkur are so near that they exert their centrifugal pull.

There has been a disorderly but large scale industrial fringe development along the corridors and interstitial areas, high concentration of non-agricultural population and high population growth in the surrounding hinterland of Bangalore. The main thrust of the city is towards north, with its two foci, one Yeshwantpur and the other Krishnarajpuram. Majority of the workers of the large and medium size industries in the fringe depend on the city both for shelter and urban amenities. The Development Plan for Bangalore has paid maximum weightage on industrial land use in the rapidly growing city periphery, further infilling the area between Yeshwantpur and Krishnarajpuram. This trend has emphasized the primacy of the Bangalore metropolis within which core-periphery, "neo-colonial" parasitic relationship could develop, if the present urban pattern continues. To counteract this trend two alternative patterns are suggested in the plan:-

(1) A compact city, with further infilling, taking advantage of low-density, low-rise form. In this case, the existing city centre needs to be supplemented by two or more centres to serve the NEm and NWm sectors, and thus reduce the burden on the city core.
(2) Ring clusters of growth intercepted by green belts with interstitial islands of residential and rural neighbourhoods, instead of the present elongated and linear industrial corridors.

The Development Committee of Bangalore have put forward the following suggestions for the satellite towns:

(1) A town between Madras and Dommalur Roads, towards east of Hindustan Aircraft Factory, to provide housing for its employees.

(2) A town near Krishnarajpuram for the employees of the Indian Telephone Industries.

(3) A town on the western side of Bangalore-Bellary Road to provide for the housing of the employees of Machine Tools Factory.

(4) A town on Banswadi Road and another on Tannery Road, both on the north of Bangalore-Jalahalli Railway line.

These dependent towns should have easy access to each other and to the mother city of Bangalore by roads and quick-moving vehicles and should have good communication facilities like telephone and telegraph. The government should not encourage any industrial or commercial centre to develop along these link roads or railway lines which might apprehend in the form of conurbation development.
Hinterland of Kanpur (Fig 29 & Fig 30)

Being one of the largest manufacturing centres of Northern India, with a well-developed transport facilities and means of communication, Kanpur experiences the greatest movement of goods and traffic from an extensive region. With a view to delimiting the umland of Kanpur Singh (1972) has studied the different services obtained and rendered by the metropolis under two heads of outbound and in-bound movements. Out-bound movements of goods and services include bus service and newspaper circulation and the in-bound movements consist of medical and educational services, labour supply, vegetable and milk supply. From this study, it becomes apparent that the sphere of influence of the city has extended on a much wider area than the district boundaries. The principal towns of the umland are Unnao, Pukharayan, Kamnasuj, Hamirpur, Kalpi, Bindki, and Auraiya.

In the International Seminar on "Urban and Industrial Growth of Kanpur Region" held in January 1967, Agarwala presented a paper on the "Interaction between the metropolis and the hinterland in the Kanpur region". He studied the intra-regional flows of commodities and services. There are six in-flows - agricultural products, manufactured consumer goods, intermediate products, labour, entrepreneurship and religious and tourist
attractions. There are eight corresponding out-flows from the metropolis - manufactured consumer goods, modern farm outputs, intermediate goods, capital goods, socio-cultural influences, entrepreneurship, infrastructure and civic amenities. From his analysis it is evident that the different kinds of inter-flows provide the basis for establishing, in a comprehensive and planned way, a number of close links of interdependence between the regional integrants.

The Master Plan of Kanpur suggests the sites for the development of a number of satellite towns to decongest the mother city. Unnao, Sirsaul and Bithoor have been considered the best for the purpose. Unnao will have multi-functional character as it has already been developed. The two other towns will be monofunctional. Bithoor, the ancient historical city will be a residential one and Sirsaul having existing rail facilities would be an industrial centre. All the satellite towns should be well-linked with the surrounding villages. Then only the goal to bring industrial, rural and urban integration will be achieved.

Conclusion

The above study reveals the character and extent of relationship that exists between the metropolitan region and its countryside. The economic and cultural relationship between the two exert strong
influence. Life in both of them is interdependent. But
the superiority of the metropolitan region exerts itself
on the life of the countryside. This is all pervading,
the effect being seen on all spheres of human activities.
Though the degree varies from front to rear parts of the
countryside, its existence is felt everywhere.