

DEMOGRAPHIC CHARACTERISTICS AND FUNCTIONAL BASE OF URBAN AGGLOMERATION AND THEIR OUTGROWTHS IN GUJARAT, INDIA

K. M. KULKARNI and G. THANGAVEL, Ahmedabad

ABSTRACT : The process of spill over of urban population beyond the municipal limit especially in outgrowths has become a common phenomenon in Indian urban scene. In consequent to this, one finds significant changes in the land utilization pattern as well as in the demographic and functional characteristics of these outgrowths. These outgrowths belong to two types - the village core might have absorbed the spill over of urban population and formed outgrowth and secondly, the industrial estates located outside the municipal limit might have led to the process of formation of outgrowths. The present study attempts to evaluate the demographic characteristics such as growth rate, female proportion, agricultural and non-agricultural activities as well as dominant functions of these outgrowths which will be useful in monitoring the landuse patterns. The immediate zone of urban area needs careful planning especially in controlling the landuse patterns as it governs the pattern of interaction. The study brings out the fact that the large towns especially the class I and million cities have greater impulse on the growth of outgrowths. This is well reflected in the lower proportion of females as a result of male immigrants inhabiting the area. By and large, the outgrowths show the dominance of workers either engaged in 'other services' or 'industrial' activities. Only in one outgrowth (Sidhpur) the commercial and trading activity is dominant. The transformation of agricultural to non-agricultural activity in the outgrowths show a positive association with the size class of their respective towns. The outgrowths in Indian urban scene need to be carefully planned as 'shock absorbers' of urban explosion without affecting the rural environment. One can think in terms of developing a fine blend of rural and urban activities and landuse plans.

Introduction

Urbanization is a process of agglomeration of people over space having diversified economic activities. Since the distribution of population is not confined to the boundary of local self-Government the adjoining rural settlements are geared to absorb the

spill over effect of the larger urban centre. In the process, the social, economic and landuse characteristics of the adjoining settlements undergo change as a result of growing need of space for the urban activities. Thus the closely spaced small settlements around the major town grow faster in terms

of housing urban population as well as newly planned industrial estates or an institutional campus, planned residential campus and so on. These settlement pockets around the flourishing city develop stronger economic, social and cultural ties with the main city and yet they are considered as outgrowths as they are beyond the boundary of the local self-Government having their own self-government of lower order in hierarchy for administrative purposes. These local self-Governments of lower order are less effective as they are constantly functioning under the growing impact of urban sprawl of the main city. Over a period of time the outgrowths find themselves closely surrounded by the urban land use functions, leaving a small pocket of village core as a remnant/residual of early site. The outgrowths show a variety of urban characteristics in their demographic, economic and land use functions depending upon the size and economic base of the main city. An attempt is made in this paper to evaluate the urban characteristics of the 48 outgrowths of all the 30 urban agglomerations of Gujarat State (1981 census). Considering the demographic characteristics (population size, proportion of OG's population to the UA's population, proportion of UA's population to the total urban population, growth rates of (1971-81) and economic characteristics, (mainly on the basis of functional classification of towns using 1971 census data).

Objectives

The study aims at achieving the following objectives with the limited information or data available through the provisional census tables of 1981. The objectives of the study are as follows :

- (i) To analyse and understand the demographic characteristics of the outgrowths.
- (ii) to analyse the predominant functions of the outgrowths and relate them with the functional base of the main town.
- (iii) also to assess the importance of outgrowths in urban agglomerations and the

urban agglomerations in towns of different size classes.

Data Base and Methodology

The present study is based on the provisional census report of 1981 and to a limited extent on the reports of 1971 census. The cross tabulation of information regarding the functional base of outgrowths and urban agglomerations is made to evaluate the interdependence of functional aspects. The triangular graphs are used to classify the urban agglomerations and outgrowths in terms of important urban functions (manufacturing, trade and service). The cartographic representation of urban agglomerations and outgrowths on the map of Gujarat also reveals certain interesting spatial associations.

Conceptual Framework

Urban agglomeration is a built up entity which includes as those contiguous parts under the influence of main city. The demographic experts of United Nations have standardised the concept of urban agglomeration to include the suburbs of the fringe area and also to include all those thickly settled territories lying outside but adjacent to the city boundaries. Thus the concept of 'agglomeration' is used to differentiate the 'Urban Areas' from the individual urban centres. Initially these "outgrowths" show some distance from the city but with the ever growing metropolis or main city the outgrowths become part of the larger urban area to be identified later as industrial suburb or the residential suburb (Clark, 1966). Thus the outgrowths play an important role in the process of urban agglomerations and suburbanization.

Urban Agglomerations and their Outgrowths

The urban agglomerations in Gujarat have been identified for different size classes ranging from class I to class IV. As such the process of agglomeration of people is more unique to the higher order settlements than the lower order. There are 30 urban agglomerations (Fig. 1) out of a total

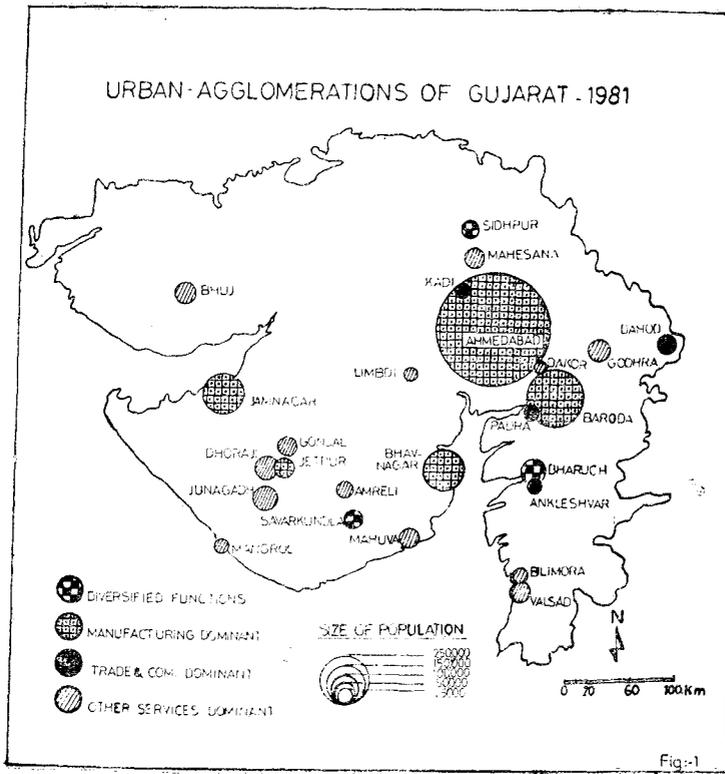


Fig-1

number of 158 towns (Table I). These 30 urban agglomerations have 48 outgrowths. More than 25 per cent of the total outgrowths are situated around Ahmedabad alone. The development of outgrowths is mainly due to the functional complexity of main city and partly due to the differential house taxation between the municipal bodies and the local bodies of the outgrowths.

The population distribution in urban agglomerations versus other towns of the same size class indicate the nature of spatial concentration. The percentage of population in agglomerations decreases to their respective size class population with a decrease in 'Size Class'. Nearly 84 per cent of the total urban population of Class II towns (12 towns) is settled in 10 urban agglomerations. As against this there are 76 Class IV towns out of which 2 are urban agglomerations having 2 out-

growths accommodating 3 per cent of its total urban population (Table I).

The proportion of population settled in outgrowths is less as compared to that of the main city. However, the proportion of population in outgrowths has fairly increased during the decade 1971-81. Except the outgrowths of Class I UA's all the others have shown an increase (Table II) in the percentage share of UA's population.

Population Growth in Outgrowths

Since the initial population of outgrowth is low, the increase in population shows an enormous rate of growth. However, the absolute change in population is significant in case of 13 outgrowths of Ahmedabad City (more than 90,000 population during 1971-81). Except the 4 outgrowths of class III urban agglomerations all the other outgrowths have registered an increase in population. The outgrowths of Ahmedabad

Table I
Urban Agglomerations and Outgrowths in Gujarat

SIZE CLASS	Total No. of Towns		Total No. of UA'S		Total No. of outgrowths		Total Urban population		Total Populations of UA'S		Total Population of Outgrowths	
	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981
MILLION CITY	1	1	1	1	5	13	1741522	2515195	1741522	2515195	6282	98914
CLASS I	7	12	5	10	3	12	1929710	3599044	1507385	3012609	13631	24591
CLASS II	17	23	9	13	13	17	157200	1534257	840903	890226	21646	37712
CLASS III	37	46	11	4	12	4	1080413	1411655	412091	144952	21856	12816
CLASS IV	66	76	2	2	1	2	958626	1080323	30756	38694	980	1959
TOTAL	128	158	28	30	34	48	5868491	10140474	4542698	6591676	64401	175992

Table II

Percentage of Population and Growth Rates

Size Class	% of UA's population to total urban population		% of OG's population to UA's Population		URBAN		UA's		O.Gs'
	1971	1981	1971	1981	1961-71	1971-81	1961-71	71-81	1971-81
MILLION CITY	100	100	0.4	3.9	44.40	43.5	44.4	43.5	1473.05
CLASS I	78.8	83.7	0.9	0.8	66.77	86.06	54.52	99.85	80.4
CLASS II	52.5	57.4	3.6	4.3	52.71	32.58	28.69	3.44	74.26
CLASS III	34.7	10.3	5.8	8.8	8.20	30.65	15.09	-64.82	-41.36
CLASS IV	3.2	3.6	3.2	5.1	50.83	12.57	30.75	25.82	99.89

Table III

Growth of Population by Towns, UA's and Outgrowths 1971-81

No. of Towns in Size Class	Percentage growth				
	0-25	25-50	50-100	100	Less than -50
I	1	9	3	-	-
II	5	14	4	1	-
III	20	23	3	-	-
V	33	35	6	-	1
IV	16	9	-	-	2
VI	2	-	-	-	-
	77	90	16	1	3
No of Urban Agglomerations					
I	1	7	3	-	-
II	2	9	2	-	-
III	1	2	1	-	-
IV	1	1	-	-	-
	5	19	6	-	-
Outgrowths of Million City					
I	-	-	-	5	-
II	-	1	-	2	1
III	3	3	2	3	7
IV	-	1	1	2	-
	-	-	-	-	1
	3	4	3	12	9

city, registered nearly 1473 per cent of population growth during the previous decade. The outgrowths of all the other size classes except the outgrowths of class III UA's showed 75 to 100 per cent in the growth of population during the same period (Table II). The outgrowths of class III UA's showed negative growth (-41 per cent) partly because of the decrease in the number of urban-agglomerations from 11 in 1971 to 4 in 1981 and also the outgrowths from 12 in 1971 to 4 in 1981. Many of them have moved to class II during the decade. Table III reveals that large proportion of towns in the medium and small size show less than 25 per cent of population growth. Whereas towns of class I and II show 25-50 per cent of growth in population. Majority of the urban agglomerations also register a growth rate between 25 to 50 per cent. In case of out-growth the growth of population varies considerably from less than -50 to more than 200 per cent (Table III.). The greater fluctuation in the growth rates of outgrowths is mainly due to the dynamics of population change which is

influenced by the developmental policies of the main city.

Female Proportion in Outgrowths

The outgrowths of urban agglomerations in Gujarat show relatively a low proportion of female population as compared to their main towns. Table IV reveals certain interesting associations of sex ratio and outgrowths and towns of different size classes. **Functional Base of the Urban Agglomerations and their Outgrowths**

The urban agglomerations of Gujarat have been classified in this study on the basis of functional dominance. As the 1981 census data are not yet available, the 1971 census data are used for the analysis, but of 25 urban agglomerations for which data were available, six of them showed diversified functions in their urban areas. They are Jamnagar, Bhavnagar (Class I), Bharuch (Class II), Mahuva, Savarkundla and Sidhpur (Class III). The outgrowth of Jamnagar is residential suburb which means that it is inhabited by people engaged in service sector of the main city. The outgrowth of Bhavnagar shows a trend for diversification

Table IV

Female Proportion in Towns and their Outgrowths - 1981

Size Class	Female Proportion (1981) per 1000 Males
Million City (AHMEDABAD)	871
Outgrowths	845
Size Class I	922
Outgrowths	832
Size Class II	946
Outgrowths	854
Size Class III	929
Outgrowths	891
Size Class IV	945
Outgrowths	904

With the increase in size of Towns and their outgrowths, there is a decrease in the proportion of female population.

like its main town. A word of caution is necessary while interpreting the functional base of the outgrowths i. e. the outgrowths may not be having any of the functions yet may show certain patterns depending on the functional base of main town. By and large the outgrowths serve as a residential suburb or an industrial suburb or may to a limited extent industrial a commercial suburb. The outgrowth of Sidhpur shows a dominance of labour force engaged in trade and commerce. This is partly because of its prosperous agricultural hinterland and partly due to its function as market centre. The outgrowths of Bharuch and Savarkundla are essentially the residential extensions

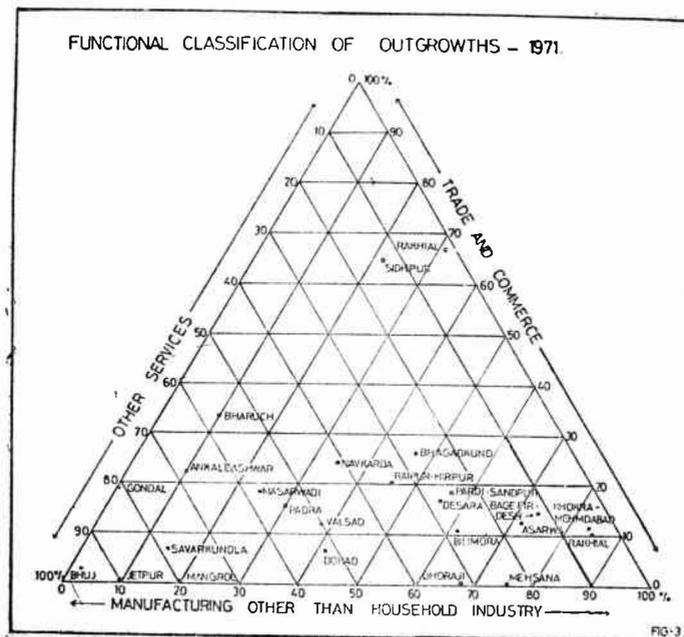
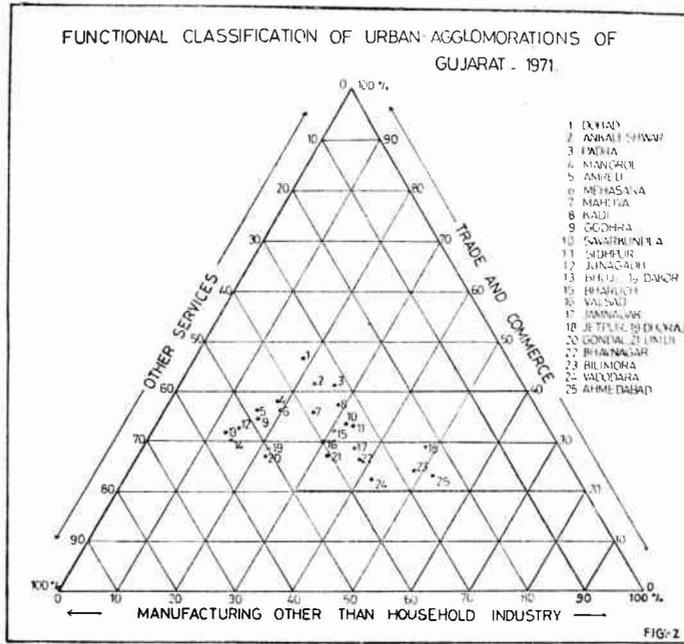
with service population.

Dominance of Manufacturing Activity

There are 4 towns (2 each from Class I and II) having manufacturing activity as a dominant function, they are Ahmedabad, Vadodara, Jetpur, and Bilimora. All the 5 outgrowths of Ahmedabad city and 2 outgrowths of Bilimora too have industrial function as dominant activity. The industrial development of the city has extended to these outer areas for certain advantage, Vedodara and Jetpur both have one outgrowth which show the dominance of labour fore engaged in services (Figs. 2 and 3).

Table V
Agricultural and Non-Agricultural Labourforce in U. A.'s City and Outgrowths

Size Class	Percentage of Agricultural labour force to total workers	Percentage of Non-Agricultural labour force to total workforce
Ahmedabad (Million City)		
UAs	0.58	98.21
City	0.33	98.54
OGs	2.57	95.78
Class I Towns		
UAs	2.62	95.87
Cities	2.19	96.40
OGs	25.19	74.57
Class II Towns		
UAs	8.89	88.98
Towns	7.39	90.22
OGs	44.36	53.24
Class III Towns		
UAs	16.53	80.21
Towns	14.19	82.65
OGs	46.82	48.80
Class IV Towns		
UAs	23.33	75.86
Towns	22.10	77.03
OGs	42.00	57.39



Dominance of Workforce in Commercial Activities

Dohad, Ankaleshwar and Padra are the only towns sharing the importance of commercial and trading activities. The outgrowth of Dohad accommodates large proportion of its workforce in services and manufacturing. The outgrowth of Ankaleshwar has the workforce predominantly engaged in 'service' and the outgrowth Padra has workforce engaged in services as well as manufacturing activity (Figs. 2 and 3).

Dominance of Workforce in Services

The remaining 12 towns show the predominance of 'services' function. The outgrowth of Junagadh, Godhra, Bhuj, Amrali, Mangrol, Limdi towns show mainly the residential outgrowth with the population engaged in 'services' function. The outgrowths of Valsad, Mehsana and Dhoraji towns show the development of industrial activities (Figs. 2 and 3).

Labour Force in Agricultural and Non-Agricultural Activities

The outgrowths which are in the process of transformation still exhibit their rural activities especially agriculture. Table V shows the importance of agricultural activity in outgrowths as compared to their main towns, urban agglomeration and size classes.

With the increasing size of urban agglomerations there is a decrease in agricultural labourforce and an increase in non-agricultural force. The same trend is observed in case of the main urban areas of the agglomerations with more pronouncement. In the case of outgrowths, the proportion of agricultural labourforce is relatively more. The outgrowths of Class II, III and IV have been 40 per cent of their labourforce in agricultural activities. The outgrowth of Class I towns show about 25 per

cent labourforce in agricultural sector. The outgrowth of Ahmedabad city have undergone considerable change with the residual of 2.57 per cent labourforce in agricultural sector. Thus the outgrowths show a gradual transformation in their economic base from agricultural to non-agricultural in accordance with the developments in their main cities.

Conclusions

The foregoing discussion on the urban agglomerations and their outgrowths bring out the following salient features :

1. The outgrowths have recorded a considerable growth of population during the decade 1971-81, especially in case of million city and class I towns.

2. The proportion of female population is lower in outgrowths than in the main city which is perhaps due to the male immigrants settling down in the peripheral areas.

3. The outgrowths, by and large, show the residential or industrial developments and to a lesser extent the commercial activities in a prosperous agricultural region (Sidhpur).

4. An element of agricultural function is still dominant in the outgrowths of Class II, III and IV towns and to some extent in Class I towns. The degree of transformation in outgrowths depends on the functional diversities of main town.

A study of this kind on outgrowth provides much needed base for controlling the future patterns of development in the vast growing urban area.

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Addresses of the authors

Dr. K. M. Kulkarni, Lecturer, Deptt. of Geography, Ahmedabad 380009.

Dr. C. Thangavel, Research Associate, School of Planning, Ahmedabad 380009