CHAPTER – VII
SUMMARY AND CONCLUSION

7.1 SUMMARY
The present study is an attempt to understand the pattern of floating population in Guwahati, its spatial distribution in the city, their socio-economic characteristics and impact on the city’s environment. A detail analysis of the flow of such population groups is very significant as the flow not only provides a huge number of working population, but also creates various problems and additional pressure on the already overstressed urban amenities. Therefore, an intensive study is required to analyse such a burning problem. In the present work, the chapters incorporated are: delimitation of the zones of migration of the floating population groups, examining the push and pull factors, identification of different floating population groups and analyzing their distribution pattern in the city, studying their socio-economic characteristics, and most importantly their impact on the city’s environment.

The research problem of the study is stated in the first chapter along with the major objectives and research questions. A proper method of study has been adopted. This is an empirical study based mainly on primary data. Therefore, the data on all the relevant aspects of the floating population groups have been collected through field survey using cluster and stratified sampling methods. Secondary data on this group of population is very limited. Hence any relevant information on this subject is used inorder to highlight the importance of this population group and the related problems. The primary data are analysed with tables and simple cartograms. A survey of relevant literature of this problem
in global, Indian and regional context is also discussed in this introductory part.

A brief note on historical and the geographical background of the study area is incorporated in Chapter II. The growth and development of the present Guwahati City can be traced back to its rich historical background which has immensely influenced the growth of population and socio-cultural and economic set-up of the region. From the pre-historic days, Gauhati (as it was then called) continued to be the capital town of many ruling dynasties. The real fillip to develop Gauhati on modern line dates back to the advent of the British rule when a municipality was also constituted in 1878. The population of the town initially increased sluggishly because of limited inflow of local people of Assam as the rural economy was a self-sufficient agrarian one and these people were least interested and also unskilled enough to absorb themselves in the new emerging jobs in the city. Local people were also reluctant to earn a living by doing such ‘odd’ jobs. However, the post independence era witnessed a large number of refugees pouring in and settling down with their families. It also saw an ever increasing flow of people in search of employment which rendered to a sharp growth of urban population. Over the years, Guwahati has become an important seat of administration, as the capital was shifted from Shillong to it in 1972. The later development of the city is marked by rapid industrialization, commercial expansion, administrative growth and improved transport and communication system.

The geographical background includes the city’s location, physiography, climate, drainage, soil, vegetation and the like which bear the imprints over the population distribution and
settlement pattern, development of transportation system, landuse pattern, etc. of the region. Geographically, the city is surrounded by hills leaving only the central plain area for urbanization. Climatically, it enjoys mild sub-tropical climate with scanty natural vegetation represented by bushes and low growing deciduous and semi-evergreen trees. The mighty River Brahmaputra as a whole flows through the northern part of the city forming its northern boundary. The surrounding hills are traversed by numerous small streams. There are many natural wetlands, both big and small. But with growing population, these wetlands, hills and river banks are encroached by the new settlers creating various environmental problems like flash flood, landslides, etc.

The city is well connected to all important places of the neighbouring states by the main regional transportation system. Railways, roadways and waterways are the important modes of transportation which facilitate the movement of the floating population from nearby and far flung areas. The waterways usually help these people to come to the city from the immediate neighbouring areas whereas frequent bus services enable the people to come from the different districts of the state. Good railway services assist the movement of people from different parts of the state and also from outside the state. Heterogeneity marks the population composition of the city as it is labelled as cosmopolitan in nature, having different ethnic, religious and linguistic groups. The dominant linguistic groups found here are Assamese, Bengali and Hindi speaking people. The religious composition shows that Hindus are the dominant community followed by Muslims. The gender ratio is also low accounting for 839 females per thousand males, which depicts more male migrants.
to the city. The setting up of more small and medium scale industries in every nook and corner of the city engages a huge number of floaters in the informal secondary and tertiary sectors of economy. The employment opportunities in this sector is also increasing day by day as it absorbs the uneducated and the unskilled giving them ample scope of earning.

The Chapter III delimits the four important zones of migration around Guwahati City into inner, intermediate, outer and distant respectively depending on the distance the floaters cover in reaching the city. To demarcate the inner and intermediate zones of migration in Guwahati’s immediate surrounding belt, the Gravity Potential Model and Railey’s (breaking point) Model has been used. It is seen that the value of isopotential lines decreases in all directions as the distance from the city increases. The line of 4,000 value passes through the inner zone between Guwahati and Pathsala in the north-west and Guwahati and Palasbari in the west. In the south this limit is made by the areas around Bumihat due to their location in the hilly areas and the absence of other urban centres. Thus, the boundary that runs through Pathsala (north-west), Palasbari (west) and Burnihat (south) seems to make the meaningful limit of the dominant influence of Guwahati City. Beyond this line, the area is demarcated as intermediate zone. Guwahati being the biggest and largest urban complex in this region is marked by the highest isopotential line and it shows the pull of the city. The bus service zone is demarcated to show the commuters flow. During field survey, it has been found that the share of floaters from the inner zone at local level and intermediate zone at state level accounts for the highest of 68.8 percent of the respondents whereas the distant zone at national and international
level constitutes 20.5 percent and 3.3 percent of the respondents respectively. The share of floaters from the Northeastern states, i.e. the outer zone at regional level, is less compared to the other zones of migration accounting for only 7.4 percent. The floating population groups easily come to the city from the inner and intermediate zones as they are nearer to the city and are connected by a well developed transportation network through bus, train and ferry services. The outer zone is marked by the inflow of more short stay floaters who come to the city to avail healthcare facilities in the city along with students, female vendors especially from the Bumihat area, service holders and lower order job seekers. The floaters coming from the distant zone mainly comprise of labour class, seasonal businessmen, officials, students pursuing higher education and petty traders. A small sub-segment comprises of white collar professionals who come on tenure posting or deputation. Genderwise the mobility of male floaters is more over short and long distances than their counterpart. The female are relatively more mobile from the inner zone and the distant zone, the latter one marked by the women accompanying their husbands. The single and unmarried travel more than the married people.

The inflow of the floating population in the city can be attributed to both pull and push factors. At the beginning of the growth of the city as a modern urban centre, immigrants came to the city as industrial and sanitation workers, or for Government services or trade and commerce and as artisans. They comprised the people coming from outside the state rather than the indigenous people. So the pull factor was more pronounced than the push factor in the pre-independence era. On the contrary, the influx of
migrants to the city in the post-independence era saw the voluntary movement of people from within the state in search of employment opportunities along with the refugees from erstwhile East Pakistan. The declining rural economy, poverty, dearth of agricultural land, unemployment, underemployment, economic misery, fragmentation of land holdings, low income levels, natural calamities like flood, social stigma, social conflicts, extremist activities, lack of good schools, specialized hospitals and market are the determining factors pushing the rural migrants to the city. High population density in some of the neighbouring districts like Kamrup, Nalbari, Barpeta, Nagaon and Morigaon also fuel such migration flow. The urban pull factors are the better economic opportunities, secured employment, cash wages, better lifestyle, social security, educational and medical facilities, entertainment and the like. The increase in the flow of the rural, uneducated and unskilled people helped in the tremendous growth of the informal market in the city and the street economy. They work as petty traders, vendors, rickshaw and cart pullers, head loaders, barbers, cobblers, sweepers, domestic helpers, construction workers and the like.

Voluntary migration dominated the type of migration undertaken by the floaters as it accounted for 93.67 percent. The rest 6.33 percent were forced migrants on account of floods or displacement from the native place due to extremist activities. The rural floaters coming to the city are mainly from the Western Assam Districts and few from the South Assam Districts who are mostly Bengali speaking Muslim immigrants. The push and pull factors can also be analysed in terms of economic, social and other factors. The economic factors are found to be the most important
reason behind migration of the floaters to the city. The poor economic condition of the floaters such as lack of jobs, low income levels, agricultural landlessness, absence of job assurances were some of the main reasons as cited by the floaters accounting for 83.78 percent to the total respondents. Education, as a social cause also motivated these floaters accounting for 9.22 percent to come to the city. There are miscellaneous factors that constituted 4.78 percent. The floaters mainly came from Lower Assam and Western Assam Districts, although a sizeable proportion came from Upper and South Assam Districts. Among the states of the country, Bihar had the highest share of migrants accounting for 12.8 percent of the total respondents. A few migrants also came from Nepal, Bhutan and Bangladesh. Thus distance is not a deciding factor in restricting the movement of the floaters to their place of destination and in that process they are usually helped by their kith and kin.

Chapter IV is devoted to the main theme of this study as it describes the different groups of floating population who come to the city according to their specific needs and purposes along with their spatial distribution in the city. The first group has been identified on the basis of occupation, namely the vendors, petty traders, workers in the informal sector, lower order job seekers, service holders and periodic businessmen. It is based on occupation because it is seen that always the sole motive of the migrants for coming to the city is to get better jobs and thereby better cash wages. The second group includes the short stay floaters whose duration of stay depends upon the demand of their work. The third and the fourth group are the students and daily commuters respectively. The total number of sampled respondents were 1000 which was surveyed covering 39 specific areas in
different parts of the city. The survey areas included markets, residential areas, construction sites, commercial and industrial areas, offices, business establishments, shops, hotels, lodges and the like in the three zones within the city, namely the city-centre, intermediate and the peripheral zone. These zones are demarcated within the city, incorporating the areas around the city-centre and towards its periphery with a distance of 3 kms from the city centre. The areas beyond 3 kms to 6 kms are designated as intermediate zone and those beyond 6 kms are termed as peripheral areas which are usually denoted as the newly developed areas. A total of 27.6 percent respondents has been surveyed in the city centre, 22.4 percent in the intermediate zone and 50.0 percent respondents in the peripheral zone of the city. The last zone was a newly developed area where more and more floating population used to settle down as there was space as well as scope of more employment opportunities.

In general, heterogeneity marks the population composition in these zones within the city. The areas in the city-centre being mainly the commercial and industrial zones, it is inhabited by Hindi and Bengali speaking people of Hindu religion. They work as daily labourers in godowns, as cart and horse pullers, head loaders, rickshaw-pullers, petty traders, etc. They are mostly single person living in the city and their immediate family living in their native place. Bengali speaking Hindus dominated the intermediate zone which includes many industrial areas and the floaters here work as petty traders in service shops, hotels, and as masons, and domestic helpers, etc. These people live in nuclear or extended families. Some areas of the peripheral zone like Duarandha, Sijubari, Lalmati and Hatigaon are largely dominated
by Bengali speaking Muslims who are engaged as daily labourers, rickshaw pullers, domestic helpers, rag pickers etc. in the informal sector and they toil very hard to earn a living.

Chapter V describes the social and economic characteristics of the floating population in Guwahati City at individual as well as household level on the basis of primary data. This chapter is an analytical one as it focuses to some extent on the comparative analysis of the socio-economic attributes of the floating population and that of the people at city, state and national level. Considering the social characteristics of the floaters, the age composition is important. The most mobile age group is 16 – 55 years and they have a higher percentage of males than females and take up different types of work in the city. In this productive age group, the highest percentage is attributed to lower order job seekers accounting for 57.4 percent. The other groups also show similar picture indicating the migration of the working age group of population. Similarly, the low sex ratio in the age group 16 – 55 which is 354 females / 1000 males denotes a selective male migration of adults to the city. In all the age groups, males account for 73.3 percent and females constitute 26.7 percent.

The study further reveals that the sex ratio of each floating population group is quite low which confirms selective male migration to the city. Illiterates are more among the workers in the unorganized sector (32.4 percent for males and 15.9 percent females) and vendors (32.0 and 14.0 percent for males and females) than the remaining groups. The education scenario of these floating population groups show that low level of education among them increases the possibility of having more and more
illiterate and unskilled labour force engaged in the informal sector of economy.

The floaters in Guwahati comprise mainly two religious communities, Hindus and Muslims. The dominance of Hindu population out of the total Hindu respondents is found among the petty traders, daily commuters, vendors and lower order job seekers. Muslims are majority in the unorganized sector and among some lower order workers as they comprise the floaters who are Bengali Muslims. Hindus are found mainly in the old city region though they are also scattered in other areas of the city. The newly developed areas of Sijubari, Duarandha, Hatigaon, Patharquary are usually Muslim dominated areas. The female vendors coming from Burnihat area are Christians whereas the periodic businessmen coming from Bhutan preach Buddhism. Similarly, Assamese, Bengali and Hindi (including many Bihari and Bhojpuri languages) predominate the floating population groups in the city. Bengali speakers are more among the workers in the unorganized sector (41.4 percent) and low order job seekers (30.9 percent). Assamese predominates in the rest of the categories. Hindi speaking people are more among unorganized sector (22.1 percent) vendors (18.0 percent) and lower order job seekers (17.7 percent). However, there are also a few speakers of Nepali, Gujarati, Punjabi, and Assamese dialect of Bodo, etc. With regard to the social groups, the general caste people have an edge over other groups among the floaters (more than 40.0 percent). Caste based occupations are also very much prevalent among the floaters from distant zone like cobbler, barber, dhobi, etc. Tribal people are found among the female vendors from Burnihat and the students coming from other Northeastern states.
The movement of the unmarried floaters to the city are more (50.1 percent) than the married floaters (45.3 percent) to the city. Besides these, there are lesser number of divorced, separated and widowed people in almost all the groups. Unmarried (73.2 percent) and married (77.2 percent) males are more than their counterpart. The percentage of divorced, separated and widowed are comparatively more among the females, the reason being that because of no earning member in the family they are compelled to work for sustaining their family.

In the study region, the nuclear families (35.2 percent) and single person (44.0 percent) are the most dominant among the floating population groups. In terms of building materials used for houses, it reflects the economic capacity of the floaters. Thatch and mud are the predominant materials used mainly by the people belonging to the lower economic strata residing in the commercial areas. Tarpaulin is used by the slum dwellers living in most deplorable conditions along the riverside and railway tracks. Tin and asbestos are used by the groups living in the residential and industrial areas. On swampy and marshy areas, the floaters built their houses on stilts with bamboo and wood whereas in the hillsides and forest areas houses are built of thatch, mud and sometimes with tin or brick. The more economically sound people like the service holders and the students live in concrete houses. The housing conditions also differ in different zones within the city. The city-centre is marked by more temporary settlers building their houses with cheap and readily available materials. The groups residing in the peripheral areas are more of semi-permanent nature and they build houses with bamboo, brick and thatch. In general, 61.2 percent of all the floating population
groups live in rented houses, 7.4 percent live in their own houses and 31.4 percent live in other accommodations.

The poor floaters live in rented houses of Rs. 500/- per month or even less (64.7 percent), some live in houses whose rent varies from Rs. 500/- to Rs. 1000/- per month (22.2 percent) and the well off people like service holders and others live in houses with rent above Rs. 1000/- per month (13.1 percent). In the city-centre, 61.7 percent are in rented houses whereas in the peripheral zone it accounts for 66.3 percent. Some houses of the floaters in the city-centre have toilet facilities (26.9 percent) whereas in the newly settled areas 51.9 percent have houses with toilet facilities. Of the total sampled households, 10 percent do not have access to any kind of toilets. The toilets connected to earthen tanks or open drains cause pollution whereas those connected to septic tanks are more hygienic and maintain proper sanitation. Overall, sanitation is in a very deplorable state in the areas resided by the floating population.

Proper drainage system is not available in different areas of the city. The floaters usually use the open, narrow drains built by them which remain clogged due to disposal of garbage. In the different zones within the city, 66.7 percent of the respondents in the city-centre uses the river to dispose the garbage whereas 70.4 percent floaters in the peripheral zone uses municipal bins. The other places like the open ground, drains and roads are also equally used by the floaters to dispose of their garbage. In the city-centre, intermediate or peripheral areas, wherever informal settlements are located, the people readily dump the garbages in the easily available spaces. Other civic amenities like water supply and electricity are also not easily accessible to the floaters and it
becomes affordable depending on their economic condition. Hand pump is the main source of drinking water (43.9 percent), tap and piped water supply accounts for 25.6 percent whereas people using the well constitute 20 percent. In different zones within the city, hand pump is the main source of drinking water (more than 40 percent). It has been found that 48.4 percent houses have electricity in the city-centre compared to 74.4 percent in the peripheral areas. This is because the temporary houses in the city-centre cannot physically access this service whereas the semi-permanent houses in the peripheral zone may have access to electricity.

General health condition of the floating population groups depends largely on the areas where they reside, i.e. the living environment of the very poor people and especially those who are living in the temporary makeshift and informal settlements and suffer from unhygienic and filthy environment. They are at the risk of facing health hazards. Access to private hospitals and nursing homes are out of reach for the poor floaters whereas the well off can easily avail themselves of those services. A total of 65.4 percent of the floaters preferred private hospitals for treatment whereas 34.6 percent availed government hospital services.

Type of occupation or the employment undertaken by the floating population groups determines their income. The formal sector has very limited number of floating population as this requires both skill and education. The occupations undertaken by the floaters in the city can be classified as unskilled, semi-skilled, self-employed and others i.e. the skilled workers. The unskilled workers include the domestic helpers, porters, construction
workers etc. whereas the semi-skilled includes plumber, mason, carpenter, tailor, weavers and the like. The self employed can also be classified as skilled like barber, dhobi, midwives, cobblers, rickshaw pullers etc. and the unskilled includes vendors, petty traders, scrap and rag pickers, newspaper hawkers and so on. The other category includes the skilled workers like white collar professionals, workers in companies, computer professionals and the like. Caste based occupations are also common like barber, dhobi, cobblers, sweepers, etc. Such caste based occupations are specially taken by the migrants coming from the states of Bihar, Uttar Pradesh, Jharkhand and Andhra Pradesh.

Among the floating population groups identified in the city, except the self-employed, the workers engaged in the informal sector suffer from uncertainty and irregularity in their jobs both in terms of wages and duration. In the three important zones identified within the city, namely the city-centre, intermediate and peripheral, the percentage of unskilled workers engaged in the informal sector is more in the peripheral zone comprising the newly developed areas accounting for 70.7 percent and 79.2 percent respectively. It is quite evident from the survey that the floaters take up jobs more in the informal sector because they are unskilled and illiterate people who are readily available to get absorbed in any low paid work to earn a decent living. Another reason is that they cannot remain unemployed for a longer duration of time in the city as the cost of living in this place of destination is quite high and also their main motive of migration was to find a suitable job or better employment opportunities in the city.
Income and expenditure are the two main economic criteria being used to gauge the economic stability and social well-being of the people. The kind of work undertaken by the individuals influences the income they earn and the money they spend on their necessities. In this field study, the floating population groups showed variation in the yearly income ranging from Rs. 5000 to a maximum of more than Rs. 50,000.00. Here 63.8 percent of the service holders among the surveyed groups have a yearly income of more than Rs. 50,000.00 whereas the blue collar workers who are unskilled and illiterate earns a yearly income of Rs. 20,000.00 – Rs. 30,000.00 constituting to 35.0 percent. Considering the yearly income levels, the floaters can be classified into six important income groups, namely, (i) First group (Rs. 10,000/- or below) (ii) Second group (Rs. 10,000/- - Rs. 20,000/-) (iii) Third group (Rs. 20,000/- - Rs. 30,000/-) (iv) Fourth group (Rs. 30,000/- - Rs. 40,000/-) (v) Fifth group (Rs. 40,000/- - Rs. 50,000/-) and (vi) Sixth group (Rs. 50,000/- and above). A very close relationship can also be ascertained among the family type and income level. The more the number of earning members in the family means more flow of income and they can be classified under the higher income group. But this fact does not become applicable for all floaters because the service holders, being single person, sometimes earn more than Rs. 50,000.00 yearly and can be categorized under this group. Therefore, the main reason behind this difference in grouping depends upon the nature of work, whether temporary or permanent undertaken by the floating population groups.

In regard to expenditure, there is an imbalance between the reported income and expenditure among the floaters. Food and
clothings are the two main items on which the floaters spend more of their income. Religious functions also add to more expenditure, though the pattern may differ from one group to another. There is also variation in the pattern of expenditure between the white collar professionals and the blue collar workers as their necessities and demand for goods are not alike. Unnecessary expenditure is a common thing among the poor and low income group people, especially the men who are engaged in gambling, smoking, alcohol consumption and other addiction.

The impact of such type of migration of the floating population on the city's environment is analysed in Chapter VI. Economic inequality is the root cause for such huge inflow of floaters to the city from the nearby and far flung areas. The positive aspect related to such exodus of rural migrants to the city is that the city gets an additional working population. During the field study, it is seen that 90 percent of the males and 87.5 percent of the females belong to the working age group (16-55 years). The sex ratio among the floating population groups is also low ranging from 163 females per thousand males (vendors) to 818 females per thousand males (periodic business person) denoting male selective migration. In the 60 wards of Guwahati City, the population density is more in those wards which are commercial, business and slums areas. Low literacy is found in those wards which are dominated by immigrant labour group of population. The influx of more unskilled and illiterate floaters have expanded the informal sector of the economy. As found during the survey, the unskilled workers in the informal sector accounted for 32.4 percent illiterates out of the total illiterates among all the floating population groups.
Rapid inflow of floating population to the city causes shortage of proper residential space. The poor and unskilled floaters whose income is irregular cannot live in houses of higher rent. So they accommodate themselves in slums and squatter colonies. In Guwahati City there are 26 slum pockets in 2001 housing around 0.16 million persons (about 20 percent of the total population, GMDA, 2007). The increase in the residential built-up land in the city from 14.95 percent in 1967-68 to 25.15 percent in 1990 and eventually to 29.61 percent in 2002 confirms the fact that the huge in-migration of the floaters from time to time has led to this increase at the cost of decreasing agricultural land and forest belt. Similarly the emergence of highly dense residential areas in 2002 (14.76 percent) can be attributed to the fact that the low dense residential area were converted to medium dense and thereby to highly dense areas because of the increase pressure on land and housing shortage in the city (12,817 which accounts for 6.95 percent of the households in 2001).

During the field study, it was found that the people professing the same religion or from the same linguistic group cluster together in the same locality as far as possible. In the newly developed area of Ward 58 and 60, the Sijubari pocket was dominated by the Bengali Muslim floaters who came from the same district and were engaged in the similar occupations in the city (78.1 percent and 87.5 percent to the total respondents). The traditional caste based occupations are not much pronounced in the city as varied job opportunities had widen the scope of employment where people of different castes, creeds and communities get easily absorbed. Despite this fact, still a few occupations based on caste are prevalent here such as cobblers,
barbers, coolie, washermen, harizans (sweepers) and the like and the floaters engaged in these activities are the people who came from different states of the country like Bihar, Uttar Pradesh, Jharkhand and Andhra Pradesh. Child labour is very much prevalent in the study region and they are usually engaged in the informal sector of economy (37.5 percent). The sex ratio is also low accounting for 286 females per thousand males showing more male child workers coming to the city. The unabated flow of the floaters puts additional stress on the urban amenities like transport, water supply, electricity, health and aggravates the problems like traffic congestion, road accidents, pollution, crime and illegal activities. Gambling and other forms of addiction are more common among these poor floaters living along the railway tracks, slums and other disadvantageous locations.

Proper sanitation is not at all available in the city where the floaters reside. 10 percent of the surveyed households do not have toilet facilities. The condition is pitiable in the city-centre where there are more temporary dwellers whereas the general scenario is slightly better in the peripheral zone as more semi-permanent floaters live in low rented houses having minimum civic amenities. The most common type of toilet are those connected to earthen tank (26.3 percent) and septic tank (35.8 percent). The floaters usually use the open, narrow drains built by themselves which usually remain block thus aggravating the problem of pollution of the surrounding environment. Disposal of solid waste is also a burning problem in the city. Floaters residing in the city-centre uses the river bank (66.7 percent) more than any other place whereas municipal bins (70.4 percent) are commonly used in the peripheral zone by the dwellers. During the field survey it was
found that among all the respondents, the garbage is disposed in open ground (21.7 percent), road (13.6 percent), drains (18.7 percent) and river or beels (12.0 percent). These figures confirm the fact that the drains get clogged and the water bodies are polluted. The roads and open ground are covered with filth and dirt. Municipal bins (34.1 percent) are also used but the reality lies in the fact that much of the garbage is thrown in the ground rather than in the bin.

There is not sufficient secondary information regarding the crime rate among the floating population and therefore it is difficult to establish a direct link between the increasing crime rate in the city and the huge inflow of floaters from the primary survey. But on the basis of information from officials at concerned departments, newspaper reports, neighbours of surveyed household and investigator’s own observation and experience, it can be inferred that the very low income earning floaters, the unemployed or those whose income is irregular and live in disadvantageous areas like slums engaged themselves in anti-social activities like gambling, selling of drugs, prostitution, selling of illegal country liquor and other such unlawful trading activities. The areas along the railway tracks are also the breeding grounds of anti-social elements.

There has been a steady increase in the commercial and industrials sectors like construction, trade and commerce and manufacturing in the last thirty years (1971-2001) which denotes that the floaters coming to the city are mainly engaged in these activities as these sectors require a large number of working population. The city also provides ample scope for newly emerging occupations which are often done by the floaters coming from the
distant zone rather than by the local people. The unchecked flow of such population has created the informal or the unorganized sector of economy which is fast absorbing the unskilled and the illiterate workers coming from the different zones of migration.

The huge exodus of floating population to the city has drastically changed the landuse pattern. This can be assessed by the decrease in agricultural and forest land, water bodies and the increase in built-up land especially residential landuse. Many new informal settlements in the city have come up on wetlands like the settlement at Baripara in the western part of the city. With lack of housing space in the city-centre, the poor floaters encroach on the hills and the green belt causing large scale deforestation which leads to degradation of the urban environment and increases the problem of flash flood, pollution, drainage congestion, landslides and water logging. Ignorance on the part of the floaters in garbage disposal deteriorates the drainage network leading to clogging of drains during monsoons and inundates the various low-lying areas in the city.

Street vending is an important activity of the floaters which has led to the encroachment of footpaths causing congestion. Spiraling house rent, increase in land price, stress on recreational facilities, etc. are some of the indirect outcomes of such type of migration of the floating population to the city.

7.2 FINDINGS AND CONCLUSION
The findings of this study and conclusions derived from these are as follows:

(i) The city has witnessed large waves of migration since the pre-independence period when people were brought to the state to work as manual labourers. Some also came for
government services or do trade and commerce or as artisans. Therefore, the initial growth of the city can be attributed to the urban pull factor.

(ii) The later development of the city in the post-independence period was due to the operation of both the push and pull factors. Rural push factors such as lack of employment opportunities, small size of land holdings, lack of alternative source of income, rural-urban wage differential, etc. became quite evident.

(iii) The zones of migration of different floating population groups is determined by taking into consideration the distance factor. Thus four zones are delimited namely, inner zone (local level), intermediate zone (state level), outer zone (regional level) and distant zone (national and international level).

(iv) The inner and intermediate zones of migration are demarcated with the help of Gravity Potential Model and the Railey's (breaking point) Model. The boundary that runs through Pathsala (northwest), Palasbari (west) and Burnihat (south) make the meaningful limit of the dominant influence of Guwahati City. The bus service zone is demarcated with the help of the flow of buses between Guwahati and its surrounding areas. This zone is denoted as the commuters zone or inner zone showing the regular flow of people.

(v) During the field study, it was found that 68.8 percent of the respondents have migrated from different districts of Assam, followed by 7.4 percent from the North eastern states and 20.5 percent and 3.3 percent from different states of the country and outside the country respectively. The
percentage share from the Western and Lower Assam Districts (49.4 percent), West Bengal and the states of Bihar and Uttar Pradesh (17.2 percent) is the highest. The flow of people coming from Upper Assam or the two hill districts is negligible. This may indicate that the floaters usually move to their nearest urban centre rather than coming to the city. A few exceptions are the flow of service holders and students.

(vi) The share of daily commuters (24.2 percent) and vendors (14.3 percent) are highest from the inner zone. The intermediate zone has a sizeable proportion of all the groups of floating population. The outer zone is marked by the inflow of more short stay floaters (34.3 percent) to avail different services and facilities, students (17.9 percent) and female vendors from Bumihat area (22.4 percent). The distant zone comprises labour groups, seasonal businessmen, officials and students. The workers engaged in the informal sector (41.2 percent) has the highest share of floating population from this zone.

(vii) The mobility of men is more from all the zones of migration than their female counterpart. The females are mobile relatively more from the inner and distant zone. This represents a male-selective migration which is common in all the cities of the developing world.

(viii) The level of education among the floating population groups determines the occupation they undertake in the city. The distant zone comprises 38.5 percent illiterates which are the unskilled workers in the informal sector.

(ix) Those who are single and unmarried are more mobile than the married floaters from all the four zones of migration.
(x) Declining rural economy, high rural density in some districts of Assam, unemployment, underemployment, social stigma, natural calamities and violence are some of the impelling factors inducing such migration in the study region. On the other hand, the pull factors which lures the prospective migrants are better job opportunities, cash wages, regular flow of income, educational and medical facilities and the like. Of the total respondents, 93.67 percent cited voluntary migration. The main reason for migration was the economic factor i.e. employment as it accounted for 83.78 percent to the total.

(xi) The different groups of the floating population coming to the city are classified into four categories. The first category is based on occupations such as vendors and workers engaged in the unorganized sector, petty businessmen, lower order job seekers, periodic businessmen and service holders. The second category includes the short stay floaters while the third and fourth categories comprise students and daily commuters.

(xii) A total of 27.6 percent respondents have been surveyed in the city-centre, 22.4 percent in the intermediate zone and 50 percent in the peripheral zone which comprises different landuses such as commercial, industrial and residential. The areas in the city-centre have both commercial and residential landuse whereas the other two zones are dominated by industrial, residential and commercial landuses.

(xiii) The population composition in these zones within the city are heterogeneous in nature. The areas in the city-centre are
inhabited by Hindi speaking people and belong to Hindu religion. They work as daily labourers in godown, cart and horse pullers, head loaders, petty traders, etc. They are mostly single person living in the disadvantageous locations like bustees, slums or near the market place. Bengali speaking Hindus dominate the intermediate zone which includes many industrial areas and the floaters work as petty traders, service shops, hotels, masons, domestic helpers, etc. These people live in nuclear or extended families. Some areas in the peripheral zone like Hatigaon, Sijubari and Duarandha are largely dominated by Bengali speaking Muslims who are engaged as construction workers, daily labourers, rickshaw pullers, rag pickers, domestic helpers etc.

(xiv) The productive age group i.e. 16-55 years has the highest share of male floaters. The sex ratio is comparatively low in the working age group which is 354 females / 1000 males denoting a male selective migration of adults to the city.

(xv) The sex ratio of all the floating population groups also depicts a male selective migration as the number of females per thousand males is quite less (it varies from 163 to 818).

(xvi) Illiterates are found to be more among the workers in the unorganized sector (32.4 percent males and 15.9 percent females), and vendors (32.0 percent males and 14.0 percent females). The lower order job seekers has a higher percentage of primary and high school level of education. The students and services holders have higher qualification.
and sometimes vocational training to be engaged in the formal sector of economy.

(xvii) Hindus and Muslims are the dominant religious groups among the floaters. Muslims are more predominant among the workers in unorganized sector (24.6 percent) and lower order (21.2 percent). Christians are found among female vendors coming from Burnihat (40.0 percent) and also among short stay floaters and lower order job seekers (20.0 percent). The percentage share of Buddhist people is higher among the periodic businessmen especially those coming from Bhutan (43.5 percent).

(xviii) Assamese, Bengali and Hindi (including many Bihari and Bhojpuri) are the languages that predominate the floating population groups. Each category has dominance of different linguistic groups. Bengali is more among unorganized sector workers (41.4 percent) but Hindi and Assamese have significant share in all the categories. A marginal share of other linguistic groups is also found.

(xix) Religion, language and place of origin to some extent influence the distribution pattern of some groups of floating population like the petty businessmen, workers in the informal sector and lower order job seekers.

(xx) General caste people have an edge over OBC, SC and ST people in all the floating population groups. The sex ratio among the floaters in different social groups shows that ST accounts the highest number of females who are vendors coming from Burnihat whereas in other social groups, males outnumber the females.
The movement of unmarried floaters (50.1 percent) is more than the married floaters (45.3 percent) whereas the share of divorced, separated and widowed people are comparatively less in number. Again both the unmarried and the married comprise more males than females thereby depicting a male selective migration.

Single person (44.0 percent) and nuclear families (35.2 percent) are the most common among the selected floating population groups. The family size in nuclear type varies from 2-4 persons whereas the joint or extended families have 7–10 persons.

The condition of the houses depend upon the economic capacity of the floaters. The predominant materials used are thatch (54.7 percent) and mud (57.9 percent) which are particularly used by the people of the lower economic strata. Tarpaulin (23.6 percent) is used by the temporary people living along the riverside and the slums along the railway tracks. Tin and asbestos (20.7 percent) are used by people living in the residential areas. Economically better off people live in concrete houses (37.4 percent). The housing conditions of the floaters varies from the city-centre towards the periphery as purely temporary people live near the city-centre and built houses of cheap and readily available materials. The areas in the peripheral zone are more of semi-permanent nature and built houses of bamboo, thatch and brick tin.

All the floating population groups mostly live in rented houses (61.2 percent) followed by those who own houses (7.4 percent) and the other accommodation like hotels,
lodges, guest houses, etc. is 31.4 percent. It is found that 64.7 percent of the floating population groups pay house rent less than Rs. 500 per month, whereas the economically sound ones pay Rs. 500 – 1000 per month (22.2 percent) and more than Rs. 1000 per month (13.1 percent). The city-centre has a high percentage of rented house (61.7 percent) along with peripheral zone (66.3 percent). The former one being a commercial centre, provides scope for more job and so people reside here in rented houses close to their workplace whereas the latter one is a newly settled area where there is ample space for settlement and also varied employment opportunities.

(xxv) The lack of such basic amenities as toilet facilities, electricity and drainage system is another serious problem faced by floaters. It has been found during primary survey that 26.9 percent households in the city-centre, 21.2 percent in the intermediate zone and 51.9 percent in the peripheral areas have toilet facilities. 10 percent do not have access to toilet facilities. In all the zones within the city, 74.7 percent have bath room facilities, the share being more in the peripheral zone. However the most common types of toilet are those connected to earthen tank and secondly the ones with septic tank. Toilets connected to open drain or water body is common in all the zones. Moreover, there is no proper drainage or garbage disposal system in the surveyed areas. From these findings it can be inferred that the poor floaters live in a very dilapidated condition without the least civic amenities. Such a living condition in the long run will create population problem and health hazards.
(xxvi) Though there are various sources of drinking water for the floating population groups living in different zones their unequal access to this amenity poses a problem. In terms of electricity also, only 60.7 percent households enjoy power supply. Private health facilities are beyond the reach of the poor floaters and are availed only by the high income floating population groups.

(xxvii) The type of occupation or the employment undertaken by the floating population groups influences their level of income. It is found that the service holders (63.8 percent) earn above Rs. 50,000 yearly whereas the unorganized sector workers (25.2 percent) and lower order job seekers (30.1 percent) earn between Rs. 10,000 to Rs. 20,000 annually, though there may be some exception. Food and clothing are the main items on which they spent the highest yearly expenditure. Religious functions also add to more expenditure though it may vary from group to group.

(xxviii) The huge exodus of floating population to the city adds a position flavour to the economic structure as the city gets the additional working force from this group of population.

(XXIX) Such in-migration of floaters creates housing shortage in the city. Lack of proper residential space and the high amount of rent for houses force the poor floaters with low income to live in slums and other informal settlements, locally called ‘bustees’ with the least or minimum civic amenities. Such residential problems also result in the illegal construction of dwellings along the footpaths, railway lands, railway tracks, etc.
The increase in crime rate in the city can indirectly be related to this group of people. This is based on information from concerned officials, newspaper reports and personal observation. The commercial centres are more likely to be dens of anti-social elements. The poor floaters whose income is irregular and uncertain usually engaged themselves in such crimes in order to earn some money.

The unchecked and unabated flow of the floaters into the city changes the landuse pattern and the urban landscape. The forests and green belt, open spaces wetland, river bank, hill sides and agricultural land are encroached for residential space causing deforestation and aggravating soil erosion and land degradation. Various environmental problems such as flash floods, drainage congestion, landslides, water logging, contamination of water, pollution, etc. occur in large scale from time to time in almost all the areas of the city.

Improper garbage disposal creates deterioration in drainage network leading to blocking the natural flow of water through drains during the peak monsoon season. Street vending as an important occupation of the floaters creates vehicular congestion as well as congestion along the footpaths, streets and the main roads.

The large scale inflow of these people has indirectly influenced the increasing in land price and also the rise in house rent in all the zones within the city.

SUGGESTIONS

Migration is an important attribute of population change which is dynamic in nature and which brings about socio-
economic transformation in the areas of origin and destination. In the case of Guwahati City, the unchecked and unabated flow of the floating population has effects on the city in various respects, some of which are detrimental to the city. The problem has become more acute in the city due to high rate of immigration of the floaters as well as limited urban amenities available and the finite scope of development. To deal with these problems, the following measures and planning strategies should be taken by the Government Departments and concerned authorities.

(i) The city ward drift of the floating population is caused mainly by poverty and miserable living conditions in their native place. The most effective way to arrest it is by developing the agricultural sector and by setting up agro based and small scale industries like handloom, cottage industries etc. in the backward rural areas. This will provide gainful employment opportunities especially to the educated rural youth and unemployed agricultural labourers and go a long way in upgrading the standard of living.

(ii) Decentralization of industrial estates for small and medium scale industries towards the villages and small towns will generate rural employment. Better conditions for modern social life styles in the rural areas to some extent will decrease the exodus of people towards the city.

(iii) New developmental projects like the establishment of new institutions, markets, shopping centres, etc. in the small towns and growth centres will ease the population pressure, congestion and over crowding in the city. On the contrary, it will help to cater to the needs of the people in those areas.

(iv) To relieve some amount of pressure on the main city or to divert population pressure from the already crowded city-centres, the
development of satellite towns or growth centres, dormitory towns and industrial parks near the city at a convenient distance is necessary by providing the requisite amenities in these towns in the outskirts of the city. All possible economic activities should be relocated in these towns. Such achievement will require long term planning strategies as it is found in other states of the country.

(v) The huge flow of the illiterate and unskilled floaters to the city is marked by the ever expanding informal sector of the economy in the city. Hence this sector requires greater attention for its development. Some steps in this regard have already been taken by the concerned authority.

(vi) The landuse pattern of the city must be planned in a scientific way so that more residential land can be provided to this group of population to live in more healthy and hygienic conditions, thus reducing the growth of slums and bustee areas.

(vii) The Asian Development Bank has come out with a comprehensive programme called ‘City Without Slums’ in order to eradicate or reduce poverty in urban areas. The programme also aims at improved employment and income earning opportunities, education, skills, training and health care, etc. for this group of population. Such a strategy can also be taken by the State Government with the help of NGOs and other departments to eradicate such problems arising in the city.

(viii) Short term measures at local level should be taken to provide physical amenities like water supply, community bath, drainage, sewerage system, street lights, paving of existing lanes in the areas of settlement of these floaters and also the health and education services etc.
Social infrastructure like provision for free education at primary level and also adult education, vocational training, health facilities, immunization, recreational activities should be extended to all the floaters and the authorities must insist on equitable distribution of resources.

Steps should be taken to evacuate and resettle the floaters who have encroached on the hills, forests, wetlands, river banks and railway tracks. However, the authorities should see that these areas are not resettled by the fresh in-migrants. Therefore, long term measures should be taken such as scientific landuse planning by demarcating specific areas for their settlement which are nearer to the work place.

It is high time that the contribution of the floating population in the functioning of the city and catering to the needs of the urban dwellers is recognized. In true sense, the fact lies that without this group of population it is difficult for the city to function. Hence, they should be considered as an integral part of this urban centre and any planning of the city and its neighbouring areas therefore, requires a thorough study and understanding of the pattern and quantum of floating population and their impact on the city, beyond the present exploratory analysis. Thus, the study is expected to have both academic significance and practical utility.

**Scope for future studies**

The study of the floating population of Guwahati City can be expanded to incorporate other urban centres of the state as well as the big cities of the country in order to know about the pattern of the flow of this population group, their socio-economic status and the impact of their immigration on the city’s environment.
This will help to understand the variation in the flow pattern and other characteristics, if there is any.

(ii) The major implications on various aspects of the city due to the influx of such population groups may be another area of research and investigation on a macro scale.