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URBANIZATION &INDUSTRIALIZATION: A CASE STUDY IN GURUGRAM DISTRICT

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INTRODUCTION: -

Urban geography is the study of urban places with reference to their geographical environment, broadly speaking, the subject matter include origin of towns, their growth and development. Their function in and around their surroundings. The subject of urban geography has gradually taken a social place among the various branches of geography in the period after the Second World War in various foreign and Indian universities and colleges. With the increase of population globally, towns and cities have become magnets of economic, social and political processes.

Urban geography is a branch of human geography, with the development of urban cities worldwide, the branch of urban geography come into play since it enables researchers to study these trends much more effectively. In addition to this, these geographers are able to investigate potential locations that are suitable for development for the tiniest of villages to sprout into the desired huge cities.

CONCEPT OF URBANIZATION & INDUSTRIALIZATION

Development of a country can be judged through the development of its economy. The country having strong economy is considered as a developed country. Earlier Indian economy was totally dependent on agriculture but now the interest of our economy shifts toward industry. Industry is a place where raw material is converted to finished product but Industrialization is essentially a process of technological innovation which leads to improved organization, specialization, division of labour, which has inherent impulses of faster, continuous and cumulative growth. Industrialization play vital and crucial role in the economic development of a Country.

REVIEW OF LITERATURE:

The study on trends and pattern of urbanization is not a new field but many scholars have studied in different ways. As a broad theme it has been study by geographers, sociologist, economists and demographers. Geographers and other scholars have carried out many studies on this field from time to time.

Tripathi, S. (2013): analyzed the recent past trends and patterns of urbanization, urban economic growth and urban equity measured by urban poverty and inequality in India. He observed that the different urban development policies and programmes which are undertaken in different plan periods in India. This analysis show that higher rate of urbanization is associated with higher economic growth, lower level of poverty and higher extent of inequality in urban India. Finally, he suggested that the Indian government needs to speed up the urbanization rate as it contributes higher share of national GDP by reducing poverty and inequality.

Goel, S. (2012): analyzed the level, trends and spatial pattern of urbanization in a north western state of Haryana which is slightly above the national average (28.9 percent) in term of level of urbanization and play a significant role in the country's economy due to its strategic location around the national capital of Delhi and an important connection between the other north western state and the national capital. He used secondary data obtained from the census of India. He also attempt to identify and analyzed the spatial variations in the process of urbanization within the state of Haryana during the period of 1971-2001. He concluded that the area with a high level of urbanization, relatively high level of socio-economic

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development, nearness to the major transportation route, rapid industrial development and in migration of workers from the surrounding areas recorded a high growth in their urban population and vice versa.

Kundu, A. and Saraswati, L.R. (2012): analyzed the migration and urbanization pattern in India recent decades suggests a distinctly trends. It can be argued that the migration process has an inbuilt screening system, which is picking up people from relatively higher economic and social strata. They observed that the decline in the share of migrants moving in search of employment and increase in business and study related mobility further confirms this proposition. In contrast, poverty-induced migration has become a less important component of mobility and urban centers have become less accommodating to the poor, restricting their entry and thereby increasing rural-urban economic inequalities. They concluded that the strategy of spatially unbalanced growth through 'dispersal of concentrations' advocated by the world bank and need to be examined with empirical rigour.

Saha, B. (2012): studied the regional pattern of urbanization in Koch Bihar district. He used data from census of India (2001) and other official record. He observed that in this district, Coochbehar, Dinhata, Mathabhanga and haldibery town have medium level, Tufanganj, Mukhliganj and guriahati have low level and Khagrabari, Kharimala khagrabari and bhangri pratham khandayownshave a very low level of urbanization.

Bhagat, R.B. (2011): highlighted emerging pattern of urbanization in India. He observed that according to the census (2011), urbanization has increased faster than expected. This has reversed the declining trends in the growth rate of the urban population observed during the 1980sand1990s. He reveals for the first time since independence, the absolute increase in the urban population was higher than the rural population. He concluded that implication for providing infrastructure and other civic amenities in urban areas.

Bhagat, R.B. and Mohanty, S. (2009): studied emerging pattern of urbanization and contribution of migration in urban growth in India. He used secondary data (census, 2001) and studies the country's urbanization process with reference to regional inequality and to the contribution of the component of urban growth, namely, natural increase, emergence of new towns, which comprise 28 percent of India population of 1028million as enumerated in 2001. However, two fifths of India's population live on only 35 metropolitan cities. The rate of urban population growth slowed down during the 1990s despite the increase rate of rural to urban migration due to a significant decline in natural increase in urban areas.

Basak, A. (2009): analyzed unbalanced urbanization on case of India. He used secondary data (census). He used standard deviation and index of urban concentration. In the last, he concluded that higher the level of urbanization of a region greater is the intra regional variation in level of urbanization and Horizontal imbalance in the urban structure increased after 1991, although a declining trend was visible in the earlier decade. Vertical imbalance in the urban structure increased with increase in the level of urbanization as well as with the passage of time across all regions.

Sharma, M. (2008): studied in north eastern Indian state of Arunachal Pradesh. He observed that with increasing complexity in production, exchange and level of development, concentration of population is migrating from one point to another. He analyzed the situation and process of urbanization, its socioeconomic correlates and its consequence, attempts has been made with the help of latest available data supplemented with suggestion to improve the situation in the state.

Datta, P.(2007): highlighted the process of urbanization in India over a century with emphasis on level, tempo of urbanization and urban structure using Indian census data during 1901-2001. He observed that globalization, liberalization, privatization are addressing negative process of urbanization in India. He also suggested that policy relate to proper urban planning where city planning will consist of operational, development and restorative planning. It resulted that redirection of investment is recommended to develop

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strong economic base for small and medium cities so that migration flows are directed to small and medium cities.

Ahmad, A. and Ali, M.J. (2006): examined the level of urbanization in West Bengal for understanding the demographic and socio-economic status in spatial perspective through quantitative approach, the analysis revels that only 22.2 percent of the districts categorized under high level of urbanization wherein Kolkata district attained 100 percent urbanization, in contrary to it Malda district ranked the lowest position of urbanization (7.32 percent). The district Uttar Dinajpur, Malda and Murshidabad are noted for low level of both urbanization and demographic and socio-economic status while two districts Kolkata and Haora accounts for high level. The analyses further revels that there is a positive correlation between the available amenities and level of urbanization. Whereas the negative correlation does exist between growths of population, share of SC and ST population and agriculture cultivation and the level of urbanization.

Khawas, V. (2005): studied the urbanization in the north-east region of India patterns, trends and policy prongs. He observed that the urban concentration in the north-east, as in the rest of country, has been topheavy. He used secondary data (census) 2001 and reveals, medium and small towns which together account for over 80 percent of towns in the region, are more evenly distributed. He also observed that a need to nurture the smaller towns, which display on encouraging potential for growth. He concluded that within the state also, urbanization is uneven, which too suggests, a high potential for a more balanced pattern of urbanization in future.

Krishnaiath and Ramanaiah (2002): highlighted urbanization and the level of development in Andhra Pradesh with spatial reference to the drought- prone Rayalaseema region. They used a set of 40 socioeconomic indicators have been chosen to measure the level of development in the 22 districts of Andhra Pradesh. Factor analysis techniques have been applied to the correlation matrix of 40 indicators in order to identify the area of different level of development. They observed the low development of Rayalaseema region could be attributed not only to physical, social and culture factors it is also mainly due to political neglect of Rayalaseema region. They suggested that development of Rayalaseema region see to be more of the management of resource rather than rose of scarcity of resource.

Betal,H.R.(2001): studied various appropriate techniques have been employed to analyses critically the growth and development of urban population in north Bengal. He used nearest neighbor analysis for spacing of urban centers and potentials of urban population have been computed by gravity potential model. Finally, functional classification and hierarchy of urban centers have been ascertained by the scale of distinctiveness and by composite index respectively. The spatial patterns have been demarcated by mean of suitable cartographic representation. He observed that the share of urban population is very low, but the rate of urbanization is very high in north Bengal.

Singh, N. and Sangwan, B. (2001): focused on the evolving scene of urbanization since independence in the state of Haryana as inferred from its magnitude, pace and pattern. The observations based mainly on the census data on a variety of parameters for the period since independence in order to make a temporal analysis of urbanization trends in the state and the number of districts has been kept as they were in 1991 and town list of 1991 has been moved backward up to 1951 to eliminate the impact of changes in the definition of urban places. Since, independence it display on appreciable increase in its urban population, decline pace and a considerably changed pattern and structure of urbanization.

Tiwari, R.K.(2001): studied the regional patterns of urbanization in Jharkhand area on the basis of five indicators and data of 1991 census. He observed that among the five indicators almost are the unfavorable for the development of the area. It resulted that the western part of the area is quite backward and remaining part of the area is underdeveloped with a few small developing pockets with respect to urbanization.

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Bala,R.(1991): highlighted urbanization in Rajasthan state in 1991. She has found that rural as well as urban growth, therefore, it still store low in the level of urbanization in India. She analyze that the state has stable urban structure. It showed, clear cut alignment with post-independent administrative hierarchy. Small towns recorded slow or sluggish growth and impact of water scarcity is exhibited on class. The regional variation is shrinking in terms of urban growth. She founded that Rajasthan towns are still in the process of accumulating economic and other activities, therefore, termed as dynamic as nature.

Tripathi,R.S.(1991):Highlighted that the regional pattern of urbanization in Rajasthan. The data have been taken from census-1991.On the basis of selected indicators. It is concluded that the western, southern and eastern parts of the study area are backward with respect to urbanization.

After reviewing the exits literature on urbanization, it is observed that the literature in this field is available at international, national and regional level. But the studies dealing with various aspect of urbanization in Rajasthan Bala,R. (1991), Tripathi,R.S (1991).

OBJECTIVES OF THE STUDY: The present research work specially attempts keeping in view the following objectives:

- To study the spatio-temporal trends of urbanization in Haryana.
- Positive relationship between urbanization and migration in Gurugram district.

RESEARCH QUESTION:

- What is the role of migration and industrialization in promoting urbanization in GGN?
- What effect of urbanization on socio-economic development?
- What factor responsible for urbanization in GGN?

HYPOTHESIS:

- Size and urban growth: A positive relationship between the size and urban growth. Bigger the town, faster the growth rate and vice versa.
- Administrative status and urban growth: A positive relationship between the administrative status and urban growth rate.
- Degree of urbanization and urban growth: Degree of urbanization and urban growth were positive relationship with each other.
- Density of towns and urban growth: The density of towns and urban growth rate were hypothesized as negatively related to each other.
- With the help of relevant data statistical and cartographical techniques will be processed through computer and many cross tables will be prepared. The thematic mapping of spatial pattern of urbanization will be shown with the help of GIS tool.

METHODOLOGY:

With the help of relevant data statistical and cartographical techniques will be processed through computer and many cross tables will be prepared. The thematic mapping of spatial pattern of urbanization will be shown with the help of GIS tool &Secondary data is used in this research work.

STUDY AREA: Gurugram District falls in the southern most region of the state of Haryana. Its headquarters is at Gurugram. It lies in between the 27° 27′ 20 ll and 28° 32′25′′ latitude, and 76° 39′ 39′′ and 77° 20′ 50′′ longitude. Being in the vicinity of Delhi, Gurugram falls under National Capital Region. On its north, it is bounded by the District of Jhajjar and National Capital Territory of Delhi; Faridabad District lies to its east; Palwal District lies to its south east. On south it shares boundaries with Mewat whereas Rewari lies to its west. To its South, lies the state of Rajasthan. The district spreads over 1254 sq. km.

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POPULATION: Tehsil-wise population of the district in terms of rural and urban population, various other aspects of population distribution like that of urban and rural distribution, gender wise distribution, population of 0-6 age group, literacy pattern among the population is displayed in table

TEHSIL WISE POPULATION

Tehsil	Rural	Urban	Total
Patoudi	78638	41342	119980
Gurugram	67299	909863	977162
Sohna	111674	53839	165513
Manesar	93148	23455	116603
F.nagar	121326	13501	134827

Source: Census 2011 (P)

INDUSTRIES & GURUGRAM:

In many ways, Gurugram is the exemplar of economist Edward Glaeser's contention that cities are the ideal form of modern civilization. It has grown organically due to economic imperatives and incentives; has followed the vertical growth model that Glaeser believes is necessary for achieving the urban density best suited to creative and financial collaboration; and displays the benefits of that collaboration achieving critical mass. But it is also, as the chaos created last week by the monsoon shows, a warning of what happens when the state abandons its role of shaping and enabling that growth.

This failure has undercut the Millennium City growth story from its inception. Two decades after its creation by the Haryana government in 1979, its boom started with General Electric (GE) opening an office in 1997. Where GE led, others followed. All this, however, happened without adequate local government. There was no municipal body, with the state-level Haryana Urban Development Authority (HUDA) expected to build the connective infrastructure. This meant the lack of any semblance of planning—not helped by malfeasance where private developers were able to push projects through without adequate development plans.

The state of Gurugram today reflects this. From security and electricity to water and transport, the private sector must fill in for the state's deficiencies. Commercial and residential complexes are oases connected by decrepit urban infrastructure. Sewage disposal, a major issue, becomes a health hazard every time flooding of the kind that was seen last week occurs. There are also negative environmental consequences. The lack of adequate water supply infrastructure means that over 30,000 bore wells have been dug, resulting in a rapidly receding water table. According to a Resource Optimization Initiative study, Gurugram will have 48 litres per capita per day by 2020; the international standard is 130 litres.

Gurugram might be one of the most visible examples of the shortfalls in Indian urbanization, but it is hardly alone. Bangalore is currently in the midst of monsoon-created chaos as well—its transport infrastructure is terrible at the best of times—and Mumbai's potential has been trammeled for decades by its lacking infrastructure and byzantine land market. Some common threads run through the issues these and other Indian cities face.

According to the 2011 census, a little over 31% of the national population resides in urban areas; this is expected to grow to 40% by 2030. The increase in pressure on urban infrastructure will mean a corresponding growth in the consequences of these urban governance shortfalls. Glaeser is far from the first to speak of urbanization's centrality to development and growth. From Jane Jacobs onwards, this has been an economic axiom. But if India is to exploit this, it must address its many, often contradictory problems where the state abandons its necessary roles and has a presence in areas that would be better served by its absence.

REASON OF HIGH RATE INDUSTRIALIZATION IN GURUGRAM:

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Gurugram district has witnessed a phenomenal growth in all spheres of development particularly in urbanization and creating industrial climate. Therefore it is considered one of the major towns of Haryana State which has been identified for all around development. A number of policy initiatives announced by the Government of Haryana from time to time have provided an impetus for the rapid industrialization in the district. It's ideal location on the National Highway of Delhi-Jaipur road, in close proximity of Indira Gandhi International Airport and its well developed infrastructure base like existing roads and communications net work all through the district, total electrification environment has made Gurugram the choicest location for the industry as such high-tech and high value projects involving foreign collaboration with huge investment have come up in this area.

An annual turnover in the industrial sector in the district has crossed 46,000 crores with an investment of more than 10,000 crores. There are 402 large and medium scale units with an investment of Rs. 9000 crores and around 8000small scale units with an investment of Rs. 890 crores. The employment generated in the industrial sector exceeds 200000 persons. There are many prominent and prestigious units involved in the manufacturing of cars, motors-cycles, automobile parts, telecommunication equipments, electrical goods, software development, hardware, sports goods, rubber products, readymade garments. Light engineering goods, pharmaceuticals, terry towels, food items, air conditioners, shoes, pesticides, insecticides etc. In fact with the collaboration of Suzuki Motors of Japan with establishment of Maruti Udyog Limited in early eighties, a new era for rapid industrialization of Gurugram started as a result of which Gurugram came on the International map. The growth gained further momentum after establishment of Hero Honda, Honda Motors of Japan, Suzuki Motor Cycle and ancillarisation of these Automobile companies. The automobile Industry of Gurugram is producing passenger cars, motor cycles, scooters and its components worth Rs.28000 crores. The other category of industries which have shown tremendous growth in District Gurugram is readymade garments, a cluster of such type of high fashion readymade garments units have come up in well developed industrial area of Udyog Vihar.

Gurgaon Industrial Area 2011 > N Industrial Area 500 Meters

Gurugram: Location of Industrial Clusters, 2011

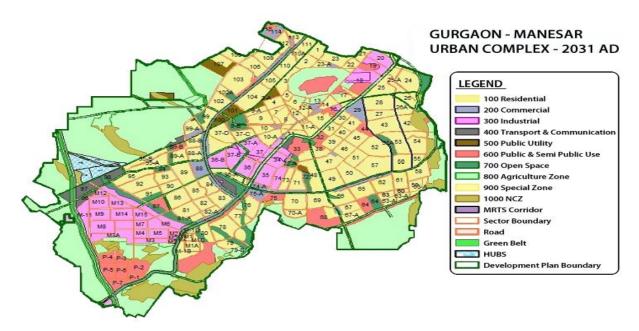
Source: Town and Country Planning Department, Gurgaon

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These units are exporting their products to many foreign countries thus earning valuable foreign exchange for the country. Some of the units have also been rewarded with National Government of India. The prestigious units include Orient Craft Ltd. Pearl Global, GIVO, DCM Benetton, Gaurav International Dynamic Fashions. The next category of Industry having more potential and growth is of IT (Information Technology) and IT enabled services. Gurugram has emerged as a preferred destination for IT Industry after the announcement of IT policy by Govt. of Haryana. The total export from the district in the IT and IT enables Services Industry has touched a figure of 9000 crores. Haryana Govt. through its enterprise namely Haryana State Electronics Development Corporation Limited (HARTRON), has been undertaking various schemes and activities for the develop0ment of Electronics and Information Technology industry in a systematic and scientific manner in the state since its formation in January ,1983. The emphasis has been on the development of the state of the art technology and it has been offering its expertise both in infrastructure as well as project promotion. The world famous IT companies like Hughes Software, Tata Consultancy Service, Alcatel, HCL, Siemens, GE Capital, Silicon Graphics etc. have their units located at Gurugram. The Electronic-City in Gurugram spread over an area of 40 acres for hi- tech and export oriented electronics per IT Industry. Software Technology Park over an area of 14000 sq. feet developed within the Electronics city. It is allotted to software units. Here Satellite Communication Link has been provided for the benefit of units located in the park. Information Technology and Telecommunication Complex in the Electronic City has been planned for computer per software export with world class facilities like Earth Station, Teleconference, Internet, E-mail Service and other state of the art communication services. The ITES (IT Enabled Service) segment is the fastest growing segment of IT sector. List of multinational companies is shifting their work requirements to outsource from India. It is due to availability of cheap as well as English speaking personals, liberalized industrial policies, will developed infrastructure, roads, telecommunication network etc. The latest Nasscom – Mcknsey report has scaled up the revenue projections for ITES sector21 to 24 billion by 2008. The IT policy farmed by Government of Haryana is likely to give further fillip to this industry with the creation of more employment opportunities. The major incentive given to these units include relaxation in floor area ratio, rebate on registration, transfer of property charges, exemption under Haryana shops and Commercial establishment Act. The other industries working in the district are Rubber and Plastics, Agro based and Food Processing, Pharmaceuticals, Electrical, Leather as well as few companies in the field of Bio-Technology. The main industries in this field are, Cosco, Enkay Rubber, Perfetti, Haldi Ram, HFCL, Martin Haris, TERI, Ranbaxy Laboratoriesetc.



Source: Town and Country Planning Department, Gurugram.

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CONCLUSION:

Gurugram is large metropolitan city in India, and situated in the NCR reason and also belong to Haryana as a symbol of urbanization. The role of national highway 8 and transport system of Gurugram is also increasing its value in NCR secondly the role of Manesar is very important. Manesar is a fast-growing industrial town in Gurugram district of the State of Haryana in India, and is a part of the National Capital Region (NCR) of Delhi. Haryana Government wants to acquire 1,800 acres of land near IMT to form IMT-2. Villagers from the seven villages namely: Kasan, Baskhusla, Mokalwaas, Khardi, Baslambi, etc. and Tapukara, Bhiwadi, (Rajasthan) is also give a big support to Gurugram industrial area and its industrialization

REFERENCES

- 1. Tripathi, S. (2013): An Overview of India's Urbanization, Urban Economic growth and Urban equity', MPRA Paper No.45537, Posted 26, pp.10-42.
- 2. Saha, B. (2012): Regional Pattern of Urbanization in Kochbihar District, West Bengal', International Journal of social science Tomorrow, Vol.1, No.3, pp.1-7.
- 3. Goel, S. (2012): Level, Trends and Patterns of Urbanization in Haryana, 1971-2001', Asia-Pacific Journal of Social Science, Vol. IV, No. 2, pp. 1-41.
- 4. Kundu, A. and Saraswati, L.R.(2012): Migration and exclusionary Urbanization in India', Economic and Political Weekly, Vol. XLVII, No. 26&27, pp. 219-227.
- 5. Premi, M.K. and Das, D.N. (2012): Population of India 2011', B. R. Publishing Corporation, Delhi.
- 6. Bhagat, R. B. (2011): Emerging Pattern of Urbanization in India', Economic and Political Weekly, Vol.XLVI, No.34, pp.10-12.
- 7. Bhagat, R.B. and Mohant, S. (2009): Emerging Pattern of Urbanization and the Contribution of Migration in Urban Growth in India', Asian Population Studies, Vol.5, No.1,pp.5-20.
- 8. Basak, A.(2009): Unbalanced Urbanization: The case of India', Geographical Review of India, Vol.71, No.2, pp. 162-169.
- 9. Rao, D.P. (2008): Urbanization in India: Cause and Consequences', Nagarlok, Vol.XL.No.2, pp.1-13.
- 10. Datta, P. (2007): Urbanization in India', Indian Journal of Regional Science, Vol. XXXIX, No.1, pp.124-133.
- 11. Nath, V. (2007): Urbanization, Urban Development and Metropolitan cities in India', Concept Publishing Company, New Delhi.
- 12. Ahmad, A. and Ali, M.J.(2006):Levels of Urbanization in West Bengal: A Quantitative Approach', Geographical Review of India, Vol. 68, No. 4, pp. 407-416.
- 13. Kawas, V. (2005): Urbanization in the North-East: Patterns, Trends and Policy Prong', Social Change Journal, Vol.35, No.2, pp.47-69.
- 14. May, T. and Perry, B.et.al(2005):The Future of Urban Sociology', American Journal of Sociology, Vol.39.No.2,pp.343-370.
- 15. Atsushi, L. (2005): Urbanization and Development of Infrastructure in the East Asian Region', JBICI Journal Review, No.10, pp.88-109.
- 16. Bhagat, R.B. (2004): Dynamics of Urban population Growth by Size Class of Towns and Cities in India', Demography India, Vol.33,No.1,pp.47-60.
- 17. Sandhu, R.S. (2003): Urbanization in India: Sociological Contributions', Sage Publications, New Delhi.
- 18. Krishnaiah, K. and Ramanaiah, Y.V. (2002): Urbanization and the Level of Development in A ndhra Pradesh with Special Reference to the Drought Prone Rayalaseema Region', Indian Journal of regional Science, Vol.XXXIV,No.1,pp.53-61.
- 19. Betal, H.R. (2001): Use of Statistical Techniques to Study Urbanization in North Bengal', Geographical review of India, Vol. 63, No. 3, pp. 258-276.
- 20. Tiwari,R.K.(2001):Regional Pattern of Urbanization in Jharkhand ,India' Geographical review of India,Vol.63,No.2,pp.36-45.
- 21. Singh, N. and Sangwan, B. (2001):Urbanization in Haryana: The Emerging Scenario', Geographical Review of India, Vol. 63, No. 2, pp. 153-160.
- 22. Tripathi, R.M.(1999): Urbanization and Urban Hierarchy in Uttar Pradesh', Geographical Review of India, Vol. 61, No. 1&4, pp. 242-253.
- 23. Bala, B. (1997): Urbanization in Rajasthan state: 1991', Trans. Inst. of Indian Geographers, Vol. 19.No.1, pp.46-56.
- 24. Karma, S. (1991): Urbanization and Social change of Punjab', Social Change Journal, Vol. 21, No. 4, pp. 22-28.
- 25. Ramachandran, R. (1989): Urbanization and Urban System in India', Oxford University Press, New Delhi.
- 26. Bala, R. (1986): Trends in Urbanization in India: 1901-1981', Rawat Publication, Jaipur.
- 27. Chandna, R.C. (1986): A Geography of Population: Concepts, Determinants and Patterns', Kalyani Publishers, Ludhiana.
- 28. Bala,R.(1984):Urbanization in Rajasthan State:1981', The National Geographical journal of India, Vol.30, No.1, pp.13-20.
- 29. Bala, R. (1980): Some Hypotheses on Urban Growth in India', Population Geography, Vol. 2, No. 1&2, pp. 59-77.