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How and Where is Urban Growth? Analysis of Urban Growth in Colombo District, Sri Lanka

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ABSTRACT

Urban growth is a spatial and demographic process and refers to the increased importance of towns and cities as a concentration of population within a particular economy and society[1]. The spatial formation and the dynamics of urban growth are important topics of analysis in the urban studies. At early stages scholars considered Western and Asian urbanization process to be a result of urban rural migration. Later various scholars felt that there are some differences in the Asian urbanization process. In 1970 McGee-Ginsburg concluded that Asian urbanization is not a result of urban rural migration and that it is an economic transformation of agricultural activities to non agricultural activities. Although, the McGee-Ginsburg model captures the socio-demographic dimensions of the rapid urbanization process, little is known about the dynamics of landscape structures in the emerging desakota regions in Asia. GIS and remote sensing applications have the possibility to identify this dynamic landscape structure. Aim of this paper is to explore the landscape dynamics and socio demographic transition of Colombo district in Sri Lanka. It also expects to review its emergence of desakota regions in Colombo district.

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INTRODUCTION

Urbanization and urban growth is a common global phenomenon throughout the Western and Eastern world. In 2011, world urbanization rate was 52%, of which 77.5% was related to developed countries and 46.5% was related to developing countries. This indicates that currently half of the world's population is being urbanized [10] and cities are liable to accommodate this population with better living standards [2]. The developing countries' urban figure is controversial, and it also indicates that nearly half of the population is agglomerated in dense urban areas.

Urbanization and urban growth in the Asian countries is distinctly different from what had happened in the Western countries during the late 20th century [5]. The massive rural to urban migration is a common feature of urbanization in the Western countries and this influence did not come to Asian countries directly and its picture is completely different from that of the West [5]. "The major difference is that the urbanization in Asia takes place predominantly in already densely populated rural regions between big cities, thus does not need a massive rural-to-urban migration. Instead, the rapid urbanization in Asia is characterized by the economic transformation of the heavily populated areas from agricultural activities to non-agricultural activities" [9]. Hence the common character of urbanization in Asian countries is the densely populated rural regions between big cities. But spread of this situation is rather different from South East Asia and South Asia. There is a research gap in the studies of urban growth in South Asia related to the McGee's model. Especially Sri Lankan literature is never concerned over this matter. Sri Lankan urban scholars also have developed extensive literature describing and explaining the evolution of the country's urbanization forces from 1950 to 1981 period. [4] But they lack studies concerning the urban growth after that. Hence this study attempts to explore the urban growth in Sri Lanka during the four decades' period from 1972 to 2012. This paper presents a case study on the urban growth in the Colombo district which is the fastest growing urban area in Sri Lanka. Hence aim of this study is to fill two gaps in the literature. Firstly, to study the emergence of desakota regions in the Colombo district, related to the

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McGee Ginsburg model; secondly to stimulate the existing urban growth for further discussions on the policy implications for sustainable urban development in the 21st century.

McGee-Ginsburg model:

Classical urban theories which highlighted the rural-urban dichotomy has been a widely accepted concept in the process of urbanization and the process is similar in the Western and Asian countries. However, since the 1970s, scholars of urban studies in Asia have reported a new type of urban form as well as urbanization process that challenge conventional Western urban theories cited Marcus & Gyawali 2009 [5]. McGee (1991, pp. 4-5). It argues that the conventional view of Western urban transition is not neatly transferable to the developing countries' urbanization process. It is not a massive rural to urban migration and it takes place predominantly in already densely populated rural regions between big cities. According to Ginsburg (1990) and McGee (1991), desakota regions in Asia refer to areas with an intense mixture of agricultural and non-agricultural activities that often stretch along corridors between large city cores [5]. This model is named as "Desakota". The term desakota has been adapted from two Indonesian words: *desa* (village) and *kota* (town), to explore the unique spatial phenomenon that is emerging from villages/ towns in Asia. (figure 1).

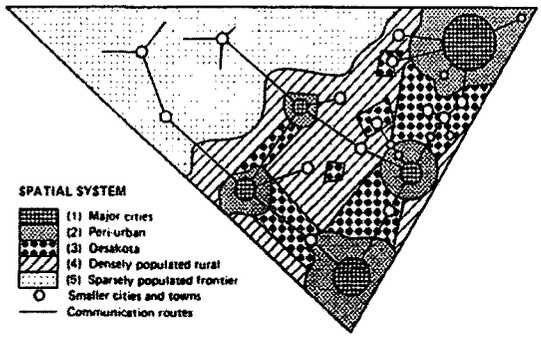

Fig. 1: Spatial System.

Method:

Maps prepared using remote sensing images have been used as a primary data source of this study. Field survey based digital 1:10,000 land use map of 1985 and 2010 of Colombo district, prepared by the survey department of Sri Lanka and Urban Development Authority are considered as the base maps of this study. For identification of past landscape changes, 20 key informants were identified and interviewed. They were selected for their knowledge in urbanization and for being directly engaged in the planning work in Sri Lanka during the past four decades. Their responses were subject to modified content analysis. These results are combined to land use dynamic changes and demographic changes and identified nature of urban growth in the Colombo district.

Study Area:

Colombo district is located in the Western province (consist of 3 administrative districts) of Sri Lanka and it is a populated district in the Western province or Colombo Metropolitan Region (CMR). Table 1.2 indicates the % of urban population in the Western province. According to that, in 2012 census, Colombo district consisted of 77.1% of the urban population in the Western province and it takes 56.4% of the country urban population. Also during the four decades, Colombo district played a major role in the urban population in Sri Lanka.

Colombo district divides into City of Colombo Municipal Council and 11 local authorities and it consists of 4 Municipal councils, 4 urban councils and 3 pradeshiya sabhas (it is not urban area). These 11 local authorities are located around City of Colombo. Those local authorities are linked to the city with countries' major transportation network. Therefore the whole district divides as City of Colombo, Immediate suburbs, Inner suburbs and outer suburbs based on urban population and urban status [11].

RESULTS AND DISCUSSION

The 2012 population data show that population growth in Colombo city and immediate suburbs indicate minus growth rate (Colombo -0.87 and immediate suburbs -0.74) in 2001-2012 decade. Before that gradually population had increased but in a decreasing rate. Now the population is decreased. But inner suburbs', outer suburbs' and Colombo district's growth rate is increasing in a low pace. However, the growth rate of outer suburbs is more than inner suburbs (Inner suburbs 1.51 and outer suburbs 2.32) and growth rate of whole Colombo district is more than that (4.21)

This picture shows the expansion of population in outer edge of the Colombo district. Population is not the only measure shows urban growth and it should be compared with land use data for get clear picture. For that

two land use data sets (of 1985 and 2010) have been used and population data of 1985 and 2010 have been compared. According to that urban change has been calculated. 1985 to 2010 annual growth rate of population in the Colombo district is 1.37% and the annual growth rate of urban area is 4.29. It indicates that land use change of urban area is faster than population growth. Its ultimate result shows rapid changes in built up areas. Thus, it does not show a clear distinction in urban and rural areas. It shows an intense mixture of urban and rural areas.

Above results prove that the urban growth in Colombo district does not show a clear rural to urban migration. It shows densely populated areas within close proximity to transport networks connecting to the City of Colombo. Further, connected road junctions have also gradually converted to growth centers of suburbs and population has been concentrated to these growth centers. After 1977, the real estate sector gradually developed and involved in land fragmentation in suburban areas. Low land values and transport accessibility were main reasons that pushed the population to sub urban areas. Hence, some of the features of desakota model can be seen in the Colombo district. Clearly defined city and peri urban areas are distinct features in the Colombo district. Colombo city connected with immediate suburbs shows a single patch of built up area. Percentage of Built up land in this area is more than 90%. Second feature is the inner urban area and it is also densely populated, but the percentage of urban uses is 60-70 percent. This urban growth pattern is mainly based on the infrastructure and in this case accessibility of public transport plays a major role in the urban spread. Transport accessibility is one of the most attractive and an important factor for growth of inner urban areas.[11] The outer urban area shows some desakota regions but it is different from the desakota regions in other Asian countries. The main character of desakota regions is the intense mixture of agricultural and non agricultural activities. Due to the development of Colombo and surrounding areas, non agricultural land uses gradually dominated this outer urban area. But this pattern goes along main roads, other public bus routes and road intersections as well as community shopping centers. After 1977, new economic reforms and non agricultural land uses have appeared in several new forms. In addition to the expansion of residential land uses to meet the demands of local population growth, development of industrial zones and recreational areas were evident in the late 1980's. During the past decade road constructions have accelerated and the conversion to non agricultural has been fast. Desakota model identified three types of urban cores in the Asian region and they categorized Sri Lanka under Category type 111, characterized by changes that occur because of high population growth and slower economic growth. But in Sri Lanka population growth is not very high in the Core city and surrounding areas, and its current economic growth is fast. As a result, urban growth gradually moves to outward areas converting agricultural uses to non agricultural uses. But there is a lack of intense mix of agriculture. However future trend shows outward migration only based on infrastructure and light industries. Thus, due to these differences, there are some limitations in applying the desakota model to Colombo suburban area.

Conclusion:

Study concluded that Colombo district has shown fast urban change during the past three decades, but it was not mainly based on industries. It was based on infrastructure development and accessibility to public transportation, industrial estates and community shopping centers. Earlier most of the people engaged in plantation and agricultural activities, but now it is decreased to 5%. Thus pure desakota regions cannot be found but some of the features of desakota regions exist in the Colombo district.

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