TEMPORAL DIMENSIONS AND GLOBAL URBAN SYSTEMS: THEORETICAL EXPOSE AND EMPIRICAL EVIDENCE

*William F. Banyikwa**

Abstract

Over the last two centuries, a major change has been taking place in the distribution of population in the form of increasing concentrations of people in highly urbanized areas. This trend has been very well captured by the publications of the United Nations Population Division and those of other authors. The treatment of these changes, however, has not only been simplistic but it has also missed out on the link between changes in epicenters of global socio-economic and political systems and locational shifts of global urban systems.

This article provides a theoretical expose and empirical evidence of the link between temporal dimensions and the evolution of global urban systems. It argues that the spatio-temporal changes in the epicenters of the world's socio-economic and political systems explain the locational shifts of the world's urban systems. Urban systems are not just physical entities: They are a mosaic of accumulations of time over space.

1. Introduction

Over the last two centuries, a major change has been taking place in the distribution of the World population in the form of increasing concentrations of people in highly urbanized areas. While these agglomerations (10 million people and above) were only 2 in 1946, 4 (1962) and 5 (1975), they are expected to increase to 20 by the year 2005 and, by the year 2015, their number will have reached 27 (U.N., 2002:77). The spatial distribution of the World's largest cities shows that the developed world will have only 4 megacities and the developing countries will be home to 23 megacities. This trend of growth has been very well captured by publications of the United Nations Population Division and those of the other authors (Simon, 1992; UN,1993; UNCHS (HABITAT), 2001; UN, 2002; Pacione, 2003). These data are useful in their own right. But, their treatment in the U.N. publications and those of the others is not only simplistic, it also conceals the major locational shifts of the largest urban centres that accompanied changes in the epicenters of global socio-economic and political systems.

* Senior Lecturer, Department of Geography, University of Dar es Salaam

The physical infrastructures, urban activity systems and the population structure of an urban centre, at any point in time, are not just physical entities. They are a mosaic of changes occurring in the epicenters of the world's socio-economic and political systems. The epicenters of the world's socio-economic and political systems have exhibited spatial shifts over time. And, the changes experienced in the epicentres had far reaching impacts in geographical zones which were farther removed from the epicenters themselves. The organisation of space in the peripheral areas acquired the structure of derived spaces (Santos, 1984). In order to understand the nature of global urban systems, one must place an urban system of a particular era within its proper historical context.

This study attempts to provide the link between temporal dimensions and the evolution of global urban systems. The underlying idea is that the location of the great cities of the World have always been changing, from certain broad geographical areas to others, in response to the major shifts in the global socio-economic systems. It is the spatio-temporal changes in the epicenters of the world's socio-economic and political systems that should be used to explain the locational shifts in the world's urban systems.

2.0 Temporal Dimensions and Global Urban Systems: A Theoletical Expose

2.1 Temporal Dimensions

At the world scale, changes in socio-economic systems can be said to coincide with temporal (historical) dimensions. Temporal periodisations are a step taken from outside reality but which are obedient to the aim of the researcher. The objective of a periodisation is to find throughout history, sections of time in which, commanded by one meaningful variable, an "ensemble" of variables of a socio-economic system maintain a certain equillibrium. A single variable will entirely be deprived of meaning outside the system to which it belongs.

The elements of a socio-economic system, that are relevant to urban systems, are generally four. These are: a conducive physical environment, social surplus product, technological advancements and a supportive social organization (Smailes, 1953; Sjoberg, 1966; Harvey, 1973; Carter, 1983, Manninon, 2002). These elements are not static over time. They undergo changes which have fundamental impacts on the nature of urbanism. First, some elements may lose importance and partially give way to other more recent ones of a similar kind. Second, some elements may resist modernization but still remain in place for a long time. Third, in some cases, elements from different historical periods may co- exist at a place at the same time. Fourth, some elements may lose importance and disappear altogether without successors. And fifth, completely new elements may establish themselves and bring brutal changes in the entire socio-economic system. The life- support system of urban systems is, therefore, dynamic. It changes with changes in the socio-economic systems. Urban systems are a reflection of the changes that periodically occur in the global socio-economic system [Pacione, 2003:256].

2.2 Global Urban Systems

Urbanism may be defined as a patterning of non-primary sector activities which, when combined, forms a mode of economic, social, political and demographic integration capable of mobilizing, manipulating and concentrating a significant physical and social output over a narrow geographical area (Harvey, 1973:238-239). The physical expressions of urbanism are human settlements in which a high proportion of the residents derive their livelihoods from sectors other than the primary sector (Hudson, 1976:81; Palen, 1987:180).

The successive changes in urban settlements create global urban systems. These are towns and cities which are linked together in such a way that activities in one set of cities influences location, distribution and economic structure in other towns and cities even when the two sets are located in geographically distant places (Pacione, 2003:250). The linkages in sets of global urban systems are basically three, namely, socio-economic, political and cultural. The elements of the socio-economic linkages are flows of goods, finances, technology and labour. The elements of the political linkages are flows of ideology, messages and political power. The elements of the cultural linkages are flows of fashions, innovations and religious beliefs. It is these flows that sustain the growth and prosperity of urban systems. Over time, towns and cities qualify to local, regional, national and international centre status. The increase in the population size of urban settlements takes place at the expense of the population in the rural settlements. Over time, the ratio of urbanites in the towns rises and that in the rural areas goes down.

The behaviour of urban system in the World is generally determined by the needs of the nations of the centre of the World Economic System. At each moment of local, regional, national or world history, the actions of the diverse variables of the urban systems facing one another depend on the conditions of the corresponding temporal system, as it is orchestrated by the nations at the centre of the global economic system. A valid interpretation of the locations, distribution and structure of urban systems cannot be fruitfully done at the local scale because, local urban systems are nothing but the result of, direct or indirect, forces whose gestation occurs at a distance. The notion of global urban systems is thus inseparable from the idea of spatio-temporal systems.

2.3 Temporal Dimensions and Global Urban Systems

Studies of modernization link, much too often, present patterns of urban systems with one variable of past circumstances. (Peet and Thrift (eds) 1989:43-148).

This approach is not hopeful because, from the spatial point of view, the successive shift in the location, distribution and economic structure of urban systems should be considered more as a succession of socio-economic systems as a whole and not that of isolated elements of a socio-economic system. The temporal (historical) dimension is therefore necessary in order to avoid ecological or chorographic analysis.

A historical period is named after a significant socio-economic variable that determines the behaviour of other activity systems of an urban economy. The dominant variable is equated to a sector of the economy that contributes the highest volume of wealth to an urban economy. An epicenter of a historical phase is equated to a geographical zone where the urban activity systems were the most innovative. Based on the foregoing, the evolution of global urban systems may be categorised into four broad periods namely, antiquity, medieval, industrial revolution and contemporary periods. The period of antiquity was dominated by the primary sector. The epicenters of this period were the Middle East; the Indian Sub-Continent; the Mediterranean Zone; the Orient and South America. This period lasted up to the 15th Century (Smailes, 1953). The medieval period was dominated by large scale international commerce. The epicenters of this period coincided with Spain, Portugal, Belgium and Holland. This period lasted from the 15th Century to the mid-1850s (Davis, 1959). The industrial revolution period was dominated by heavy manufacturing industry operated under the factory system. The epicenters of this period were Britain, France and Germany. This phase lasted from the 1850s to 1945 (Carter, 1983). The contemporary period is dominated by sophiscated light manufacturing industry and the tertiary sector. The epicenters of this period are the United States of America, Germany, France, Britain and Japan. Historical geographers agree that this period is still ongoing and it has been equated to the globalisation of the world space economies (Simon, 1993; Rugumamu, 2005). Periods 2, 3 and 4 have caused the most profound transformations of the urban systems in the World.

3.0 Temporal Dimensions and Global Urban Syastems: Empirical Evidence

3.1 Urbanisation During Antiquity

Based on fragmentary archaeological evidence, it has been possible to piece together data that prove that, in particular regions of the world, towns emerged prior to the Christian Era (Davis, 1959:57). One may agree with the dominant view that the diverse technological innovations associated with the Neolithic Era, the production of a social surplus product, the favourable natural environment and the supportive social organisation were the condition sine qua non for the existence of large urban communities. When these pre-conditions are combined, in certain unusual regions, the result was a sufficiently productive economy which made the concentration, in one place, of people who did not grow their own food possible. The earliest urban communities arose in the Middle East, Southern Europe, the Indian sub-continent, North Africa, the Orient and Middle America. Urban historians have emphasized that it were in these areas where supportive inventions such as the ox-drawn plough, wheeled cart, sail boat, metallurgy, irrigation and domestication of high yielding plant varieties occurred. Towns of antiquity were not only walled for defence purposes but, they were also dignified by palaces, temples, pyramids and market places, tributes to both earthly and heavenly potentates (Davis, 1959:60).

The towns of antiquity were conditioned by the amount of food, fibers and other bulky materials that could be obtained, by labour intensive methods, from their immediate hinterlands. Apart from the synergies which developed between the towns and their hinterlands, a number of more distant trade links were fashioned because the towns needed certain commodities which their own hinterlands could not supply. Since, however, they continued for long to depend for their food supplies upon the productivity of the immediately surrounding land, these towns could not grow into large cities. The great towns in the Middle East were Babylon, Ur and Erech. Babylon embraced an area of roughly 1.2 km2: Ur occupied 0.73 km2 and Erech encompassed an area of just 0.77 km2. The great towns of Southern Europe and the Levant were Athens, Rhodes, Antioch, Carthage, Damascus, Byblos, Ugarit, Tyre, Sidon, Mycenae and Knossos. None of these towns boasted an area of more than 308 km2 (Palen, 1987). The great towns of the Indian sub-continent were Mahenjo-daro and Harappa. The populations of each of these two towns have been estimated at less than 15,000 people. The towns of North Africa were Thebes, Memphis, Tell-el-Amarna and Alexandria. Thebes and Alexandria, the greatest towns of ancient Egypt, had 225,000 and 650,000 people, respectively (Palen, 1987). Farther afield in the Orient (Hwang Ho Valley of northern China) existed the Anyang, Sian and Loyan towns. Across the Atlantic in Middle America, there existed the Mayan towns named Chan Chan (in Mexico) and Manchu Pichu (in Peru). The physical separation of the Orient and Middle America from the Middle East, notwithstanding, towns in the two were similar in character to the riverine urban settlements of the near East (Hudson, 1977:87).

Because the world had not yet developed any dominant epicenter of socio-economic organisation, the earliest urban communities emerged in geographical zones which were separated by vast physical distances. It is important to point out here that none of the towns of antiquity dominated the others. Urban settlements emerged and thrived in geographical zones which were independent of one another.

3.2 Urbanisation During the Medieval Period

Between 1500 and 1750, many urban centres in the previously less urbanized parts of Western Europe expanded considerably as hubs of domestic handicraft, centres of internal commerce and sea ports. Now, far more than previously, a few cities began to tower over the rest as a result of the amalgamation, under single rulers, of large tracts of territory and of the burgeoning of trade. The rise of nation states in Western Europe was accompanied by the acquisition of new wealth from which stemmed growing prestige. It was also accompanied by a strengthening of important sea ports which, through the Asiatic and Atlantic trade, took over the old roles of the ports of Venice and Genoa in the Mediterranean. As a result, the location of the great cities in the world shifted from the scattered zones with unique physiographical and socio-economic conditions to the coastal ports of Versailles, Lisbon, Antwerp, Amsterdam, London and Barcelona. These ports served as the new epicenters of the socio-economic system at the time, at the global level (Hudson, 1977:93).

The medieval period was characterised by innovations in the shipbuilding technology and the utilization of ocean going vessels in support of international commerce. The most innovative countries in the shipbuilding technology were Portugal, Spain, Holland and Belgium. The availed possibility to conquer the oceans saw the creation of sugar-cane, tobacco and cotton plantations in the Americas. An essential component of the plantation economy was the shift of labour from Africa to the Americas to work in the plantations. The contacts among western Europe, Africa and the Americas have been described as the great triangle in international trade [Davis, 1973:135]. The products produced in central and south America were mobilized and siphoned-off to the markets in western Europe. It were the proceeds of the merchantilist triangular international trade which were used to build the great cities of western Europe during the medieval period. International trade had successfully replaced the primary sector as the city building factor.

Urban systems in Western Europe acquired the character of large coastal urban settlements which had a very wide reach in the mobilization of investible surplus. Urban systems in Africa and central and south America acquired the character of small coastal trading ports for the export of labour, from Africa, and for the export of agricultural commodities, in central and south America. The dynamics of urbanization in Europe, Africa and the Americas were orchestrated from western Europe. In this way, the development of urbanism in western Europe and the underdevelopment of urban systems in Africa, central and south America were organically linked. The foundations of the core geographical zone (western Europe) and the dependent peripheral zones (Africa, central and south America) were firmly laid during the medieval period.

3.3 Urbanisation During the Industrial Revolution Period

The industrial revolution, first convulsing society in England and then erupting in the continent produced a greater impact on the economy and society in Europe and beyond. Handicraft had long held a place in most towns but the concentration of industrial activity in urban settlements, some of which had formerly been mere villages, was as new as the power driven machines and factories which housed them. The socio-economic and political changes which occurred in Europe after 1750 and the impact that they created both in Europe and in the other eventually colonized lands, may be better understood when the changes in the socio-economic and political system in Western Europe are given both the depth and breath dimensions.

3.3.1 The Growth of Capitalism in Depth in Europe

Changes in the economy in the rural areas in Europe during the 18th Century involved improvements in agricultural husbandry, sophiscation of agricultural rotation system, introduction of extension services, application of fertilizers and other agricultural inputs and the adoption of the enclosure system. The consequences of these changes in the rural areas in Western Europe were basically three. First, there arose an alienation of peasants from the land and the ensuring landlessness in rural areas. Second, there

occurred part replacement of human labour on the farms by the use of agricultural machinery. Third, there occurred increased agricultural productivity and the ensuring larger rural surplus product. Changes in the economy in urban areas in Europe during the 18th Century involved discovery and utilization of the steam engine in manufacturing industry, mining and the utilization of iron and coal in manufacturing industry, emergence of the factory system with the expanded need for blue collar labour power organised under family ownership and the emergence of mass production of manufactured products which needed expanded market outlets. The consequences of these changes in urban areas in Western Europe were basically four. Firstly, there was a huge increase in the demand for industrial raw materials to feed the new factories. Secondly, there occurred a shift in the base of the economy from the primary sector to the secondary sector and, in particular, to heavy industry. Thirdly, there arose a huge demand for blue-collar labour force to work in the newly created factories. And fourthly, there was a huge rise in the demand for food to feed the urban-based labour force.

In the light of urbanisation during this period, the impact of the development of capitalism, in depth in both rural and urban areas, was felt by way of an increased pace of urban growth. The populations of industrial and commercial cities of Western Europe grew not so much by natural increase as by immigration from the rural to the urban areas. Many areas differently endowed with productive agricultural land and, many places unable to benefit from sites on navigable rivers and coastal inlets in western Europe, now assumed importance. The need for coal to raise steam in early factories was the main locating influence on the new industrial towns. In Britain, for instance, of the thirty-three towns with more than 100,000 people in 1901, twenty-three were located on or close to coalfields (Hudson, 1977:93). Contrary to the situation during the medieval period, these industrial cities were located far inland. The same inland locational feature of cities occurred all over the pioneer industrial countries. The growth of cities had shifted from sites of navigable rivers and coastal inlets of the medieval era to inland locations associated with industrial manufacturing. Examples of these cities were Birmingham, Nottingham, Sheffield, Manchester and Leeds (in Britain); Paris, Lyons and Bordeaux (in France); Berlin, Potsdam, Cologne, Rhine/Ruhr, Munich, Dresden and Leipzig (in Germany), Turin and Milan (in Italy) and Brussels and Antwerp (in Belgium) (Davis, 1959:63). The construction of improved roads, canals and, later the invention of rail and motor vehicle transport, allowed such settlements to develop as hubs of communication even when they possessed little, if any, natural nodality.

3.3.2 The Growth of Capitalism in Breadth in Europe

A breadth of an economy is the spatial extent over which the materials to support it are sourced. The countries of Western Europe which were industrializing and urbanizing fast during the 18th century were Britain, France, Germany, Belgium and Russia. The ability of the territorial extents of these countries, with the exception of Russia, to support the new economic formation became very severely constrained. These

countries were faced with an economic catastrophy and a solution had to be found and fast. The number of rural inhabitants required to maintain one urbanite was greater - greater than one would imagine from the rural-urban ratios within each of the highly industrialized and urbanized countries. The reason was that much of the agriculture around the World was still technologically and economically backward. New lands had to be acquired to provide for the shortfall in western Europe. Acquisition of new lands became inevitable and this explains the scramble for colonies in the developing World [Gutkind and Wallerstein (eds.), 1986; Banyikwa, 1988].

3.3.3 The Growth of Capitalism in Depth and in Breadth in Western Europe and the Creation of Derived Space Economies in Developing Countries

Derived space economies in developing countries are linked directly to the development of capitalist in depth and in breadth in Western Europe. The link involved seven distinct aspects. First, colonies were forcibly acquired as subordinate spaces of the colonizing power. Each acquired colony became an exclusive territory of the power. Second, in particular zones of the colony, the indigens were forcibly dispossessed of prime land and the alienated land given out to European immigrant communities. Third, in each of the alienated prime lands in the colony, exotic fauna and flora were introduced to produce export products, which were needed in the colonizer's market. Fourth, certain parts of the colony were deliberately designated as labour reserves to provide labour for the plantations. Fifth, the colonial powers undertook mineral prospecting in the colony and, wherever the minerals were found, they were exploited and shipped to the colonizer's space almost raw. Sixth, transportation infrastructures were selectively created to service the newly created colonial space economies. Seventh, urban settlements were strategically established to police the colonial space economy [Abu- Lughod and Richard, 1979; Rodney, 1976, Ross, 1984] A combination of the seven aspects pointed out led to the internal disintegration of the space economy of each colony but, to the external integration of the space economy of each colony to the colonizer space. The colonies acquired the character of derived spaces, (i.e. the utilization of space in each colony was dictated by interests based in the colonial power) (Santos, 1984).

The urban settlements which emerged in the colonies during the 18th century depicted five basic features. First, there emerged coastal export enclaves which, at the same time, served as seats of the colonial powers in the colonies. Second, there emerged interior urban centres in those zones which specialised in crop and animal husbandry for export products. The interior centres were basically established for the immigrant communities and the indigens were largely debarred from settling permanently in them. Third, there were developed small-sized scattered towns in the countryside of the colony which helped to mobilize rurally produced surplus products, from smallholder producers, for circulation in the urban settlements within the colony. The small-sized scattered market centres helped also in the distribution of imported commodities to consumers in the colony. Fourth, there emerged mining towns in those areas where mineral prospecting had become successful. Mining towns were essentially islands of

urbanism which were located far away from rural settlements. Fifth, there were created some military outposts which helped to administer the remote areas of the colony. Urban settlements did not emerge as a response to internal economic forces within the colonies. Instead, they were largely imposed by the colonial powers. The colonial economy was basically rurally based and the towns which emerged were not expected to play industrial manufacturing functions. Since the productive base in the colonies was deliberately confined to the primary sector, the hands of producers were also kept away from the towns (Ross, 1984).

While urbanization proceeded apace in western Europe, urbanism in the colonies was deliberately kept in check. And, because the colonial economy was basically extractive, a greater part of the wealth created in the colonies leaked away to the colonizer spaces. In this fashion, Western Europe developed economically and the colonies became underdeveloped. The development of Western Europe and the underdevelopment of the colonies became organically linked. While Western Europe became rapidly urbanized, the colonial countries remained very lowly urbanized. Western Europe had successfully established itself as the epicenter of socio-economic and political system of the World and the colonies were relegated to the role of dependent peripheries during this period.

3.4 Urbanisation During the Contemporary Period

The contemporary period is characterised by discoveries and utilization of modern technology and changes in social organisation. It may be instructive to enumerate some of the most important technological discoveries and changes in social organisation which have significantly impacted on the urbanization process during the contemporary era.

3.4.1 Technological Discoveries

Eleven technological discoveries have been sampled to show changes which have made the greatest impact on the creation of wealth during this era. These discoveries are the discovery of the electric circuit and its utilization in many spheres of human endeavour; the discovery of oil extraction and petrol refining technology and its utilization in industrial and transport sectors; the discovery of the internal combustion engine and its utilization in the transportation sector; the discovery of petrol motor and its utilization in many spheres of human endeavour; the discovery of the aircraft technology and its utilisation in civil and military transportation; the discovery of the radio and television technology and its utilization in the communication sector; the discovery of the telephone, telex and fax machines technology and its utilization in the communication sector; the discovery of satellite technology and its utilization in the communication sector; the discovery of cement technology and its utilization in the construction industry; the discovery of the elevator and its utilization in the construction industry and the discovery of the typewriter, Xerox machine, adding machine, carbon copy paper, the computer and the internet and their utilisation in many spheres of human endeavour. These innovations have radically changed the means of creating wealth from the heavy industry to the light and sophiscated industry which is supported by the tertiary sector.

The new means of creating wealth have also been accompanied by capacity building and expanded employment opportunities for women. The new means of creating wealth have also changed the locational attribute of manufacturing industry from the, hitherto, raw material orientation to footloose attributes (Smith, 1971).

3.4.2 Organisational Changes

Three organisational changes have been the most significant in the creation of wealth during this period. These are a shift of capital base for investment from individual savings or savings of families to partnerships; a shift from the competitive market economy seeking maximum profit to a monopolistic market economy which seeks satisficer returns under internationally agreed upon arrangements and the emergence of multinational corporations which operate branches worldwide. These organisational changes have burst the, hitherto, market protectionism of the 18th Century and created what is romantically called the global village (Simon, 1992; Rugumamu, 2005).

3.4.3 Effects of Technological Inventions and Organisational Changes on the Global Economy and Society

Firstly, the use of electricity, dynamo and alloy expanded the scope of processing and manufacturing from the heavy manufacturing to lighter manufacturing. Light sophiscated engineering has rationalized the use of inputs and widened the quantity and quality of finished products which are delivered to the world market. Technological innovations have also changed the locational attributes of industries from the raw material to the market sites to gain from the largest volume of sales.

Secondly, a combination of technological and organisation changes of this period has led to an unprecedented expansion in auxiliary services, white collar employment opportunities and employment opportunities for women. Additionaly, success in business during the contemporary period is a function of the utilization of the latest technology in production and marketing of commodities. To this end, the advertisement industry, which uses the latest communication technology, has acquired an ever increasing importance in creating demand for all types of goods. The services sector is, undoubtedly, the greatest means of creating wealth during the contemporary period.

Thirdly, technological inventions and organisational changes which occurred after the second World War rendered the colonial economy obsolete. It no longer paid to control the colonies politically if the goods could flow home using market mechanisms. Beginning in the 1950s, many colonies gained political independence. And, with the attainment of political independence, the door to the towns, which had for long remained closed under the colonial economy, was burst open. The result has been an unprecedented high rate of urbanisation in the developing countries. Rapid urbanization in the developing countries is, however, not supported by rapid industrialization. Instead, there is a direct shift from a low level of urbanization to tertiary urbanisation. (Ngware, 2000; Bryceson and Potts (eds), 2005).

Fourthly, innovations in the buildings and construction technology has increasingly expanded the capacity to construct very high rise buildings. This technology has dramatically changed the sky lines of many metropoli in the World. Unprecedented lateral and vertical expansions of the megalopoli are a phenomenon of the contemporary period.

In the light of urbanisation, the contemporary period has been associated with very many and very large urban agglomerations as it is shown in table 1. Table 1 shows that, in 1946, there were two cities in the World, each with populations of more than ten million people. These cities were New York (USA) and London (Britain). Other cities with substantial population numbers were Rhine/Ruhr (9,049,000), Tokyo (8,139,000) and Paris (6,737,000). By 1962, the number of agglomerations with population numbers upwards of ten million people had increased to four. These cities (and their population numbers) were New York (14,759,000), Rhine/Ruhr (13,628,000), London (11,547,000) and Tokyo (10,419,000). It may be appreciated from the figures of the 1940s and the 1960s that very large agglomerations were a privilege of the industrially advanced societies. The industrially advanced countries were until the 1960s the undisputed epicentres of the World socio-economic system.

Table 1: The Number of Large Agglomerations by Size Categories in the World, 1946-2004

Size Class of Urban Settlement	Year	Number of Urban Settlements		
		World	Developed Areas	Developing Areas
> 10 million people	1946	2	2	-
	1962	4	4	-
	1975	5	4	1
	1995	14	4	10
	2000	17	4	13
	2004	20	4	16
5 million to < 10 million people	1946	3	3	-
	1962	8	6	2
	1975	16	8	8
	1995	21	5	16
	2000	24	5	19
	2004	27	6	21
1 million to < 5 million people	1946	90	75	15
	1962	120	70	50
	1975	175	76	99
	1995	311	101	210
	2000	348	104	244
	2004	416	112	304

Source: *Hall, 1977:23; U.N., 2002:77.*

Between 1975 and 2004, the number of urban agglomerations with population numbers of ten million people and above had grown from five to twenty. Four of these agglomerations were located in the industrially advanced countries and sixteen agglomerations were located in the developing countries. The populations of these agglomerations in the developing countries have increased not so much by natural increase as by immigration from the rural to the urban centres. The drift to towns in the developing countries during the 1970s was headed towards the capital cities of the countries (Hall, 1977, Ngware, 2000).

Between 1975 and 2004, the number of large cities with populations of between five million people and slightly less than ten million people changed from sixteen to twenty seven. Six of these cities were in the developed countries and twenty one cities were in the developing countries. During the same period, the number of cities with population numbers between one million people and just less than five million people increased from 175 to 416. 112 of these cities were in the developed countries and 304 of these cities were located in the developing countries. These figures reveal that megalopolitan explosion is not only a recent phenomenon but, it is also very strongly represented in the developing countries. The technological inventions and organisational changes which occurred during the contemporary period should be credited with the demystification of the urbanization phenomenon at the global level. It is during this period that the urbanization phenomenon is truly decentralized at the global scale. And, the very large agglomerations will not be a typical feature of urban population distribution at the global level. Instead, urban population numbers will stabilise at the medium-sized urban settlements as it is revealed in table 2.

Table 2: World Urbanisation Prospects by City-Size Categories (%), 1975-2015

Size Category	Percent Population Distribution		
	1975	2000	2015
> 10 million people	4.4	9.2	9.8
5 million people to < 10 million people	8.2	6.1	6.5
1 million people to < 5 million people	21.2	26.7	26.3
500,000 people to < 1 million people	11.4	10.1	9.8
< 500,000 people	54.8	47.9	47.6

Source: *U.N.C.H.S. (HABITAT) The State of World Cities, 2001:23.*

Table 2 shows that, in 1975 the urban population in cities of 10 million people and above accounted for 4.4 percent of the world's urban population. This ratio will have doubled up by 2015. Cities of 5 million people and above stood at 8.2 percent of the world's urban population in 1975. By the year 2015, this ratio will have gone down to 6.5 percent of the world's urban population. These two size categories will account for less than 17 percent of the total world's urban population.

Table 2 shows further that, in 1975 the urban population in cities of 1 million people and above stood at 21.2 percent of the world's urban population. By 2015, this ratio will have increased to 26.3 percent, a very slight change.

Table 2 shows further on that, in 1975 the urban population in cities between 500,000 people and 1 million people stood at 11.4 percent of the world's urban population. By 2015 this ratio will have dropped to 9.8 percent.

Lastly, table 2 shows that in 1975, the urban population in cities of equal to or less than 500,000 people accounted for 54.8 percent of the world's urban population. By 2015, this ratio will have slightly gone down to 47.6 percent.

Three patterns may be observed from table 2. First, the largest urban agglomerations will continue to attract urbanities over the years. But they will account for a very small share (16%) of the world's urban population. Second, population ratios in cities of 5 million people to less than 10 million and in cities of 500,000 people to less than 1 million will go down between 1975 and 2015. The shift upwards in the ratio of urbanites living in these two size categories is not expected to take place. Third, the largest share of urbanites lived in cities of less than 500,000 people in 1975. The same situation is expected to prevail in 2015. In fact, about 50 percent of all urbanites in the world will reside in cities of equal to or less than 500,000 people.

These three patterns lead to a general observation that the alarm being raised about megalopolitan explosion is not borne out by the facts. It may be safely said that the majority of the urbanites will continue to live in medium sized urban settlements.

4.0 Conclusion

Based on the conceptual framework, patterns of the evolution of global urban systems have been demonstrated. It has been revealed that the epicenters of global socio-economic and political systems significantly impact on urbanism both in local and outlying geographical areas. The empirical evidences have illustrated that over the two centuries, hearths of urbanism, having initially and independently emerged in geographical areas with unique socio-economic and physiographical features, subsequently shifted to particular geographical zones in response to changes in the epicenters of socio-economic and political systems. The coastal cities in the Mediterranean zone coincided with the medieval period. The inland industrial cities of Western Europe coincided with the industrial revolution era. And the decentralised urbanism worldwide has coincided with the contemporary period. The temporal

dimensions and global urban systems approach is, therefore, a powerful device for the analysis of the evolution of global urban systems and the prognosis for global levels of urbanization.

References

Abu-lughod, J. and H. Richard Jr. (eds), 1979. *Third World Urbanisation.* London: Methuen.

Amos, H. 1971, *Urban Society: An Ecological Approach.* New York: The Ronald Press Company.

Banyikwa, W.F. 1988, "The Making of a Hybrid Millionaire City in Dar es Salaam, Tanzania". in *African Urban Quarterly.* Vol. 3, Nos. 3 and 4.

Bryceson, D. and Potts (eds.). 2005, *African Urban Economies.* London, Pilgrave Mc Millan.

Carter, H. 1983, *Introduction to Urban Historical Geography.* London: Edward Arnold.

Davis, K. 1959, "The Origin and Growth of Urbanisation in the World", in: Mayer, H.M. and C.F. Kohn (eds). 1959, *Readings in Urban Geography.* Chicago: The University of Chicago Press.

Davis, R. 1973, *The Rise of the Atlantic Economies.* London: World University.

Gutkind, P.C.W. and J. Wallerstein (eds). 1986, *The Political Economy of Contemporary Africa.* London: Sage Publications.

Hall, P.G, 1977. *The World Cities.* London: Morrison and Gibb Ltd.

Hudson, F.S. 1977, *A Geography of Settlements.* Plymouth: McDonald and Evans Ltd.

Mabogunje, A.L. 1970, Systems Approach to a Theory of Rural-Urban Migration, in: *Geographical Analysis.* Vol. 2.

Ngware, S, 2000, *Urbanisation in Tanzania, Dar es Salaam.* Dar es Salaam University Press. Ltd.

Paddison, R. 1988, *Ideology and Urban Primacy in Tanzania.* Glasgow: Centre for Urban and Regional Research, University of Glasgow.

Palen, J.J. 1987, *The Urban World.* New York: McGraw Hill Publishing Company.

Peet, R. and N.Thrift, (eds.) 1989, *New models in Geography: the Political Economy Perspective.* London, Unwin Hyman.

Peter, J.U. 1972, *Man, Settlement and Urbanism.* New York: Duckworst Printer.

Rodney, W. 1976, *How Europe Underdeveloped Africa.* Dar es Salaam: Tanzania Publishing House.

Ross, R. 1984, *Colonial Cities. Essays on Urbanism: A Colonial Context.* Niijhoff Dorddrecht: Martims.

Rugumamu, S. M. 2005, *Globalisation Demystified.* Dar es Salaam University Press Ltd.

Santos, M. 1984, *The Shared Space: The Two Circuits of the Urban Economy in Underdeveloped Countries.* London: Methuen.

Simon, D, 1992. *Cities, Capital and Development. African Cities in the World Economy.* London: Belhaven Press.

Smailes, A.E. 1953, *The Geography of Towns.* London: Hutchinson.

Smith, D.M. 1971, *Industrial Location. An Economical Geographical Analysis*. New York. Wiley and Sons.

U.N. 1993, *World Urbanisation Prospects*. New York: United Nations Department of Economic, Social Information and Policy Analysis.

U.N. 2002, *World Urbanisation Prospects.* The 2001 Revision. New York: Population Division, Department of Economic and Social Affairs.

U.N.C.H.S. (HABITAT), 2001. *The State of the World's Cities.* 2001. Nairobi: United Nations Centre for Human Settlements (Habitat). Publications Unit.

Waugh, D. 1995, *Geography: An Integrated Approach.* London: Thomas Nelson.