



SCALE DYNAMICS OF EKISTIK UNITS

Dr. Rashmi Shikha

Assistant Professor, K.S. College, Laheriasarai, Darbhanga.

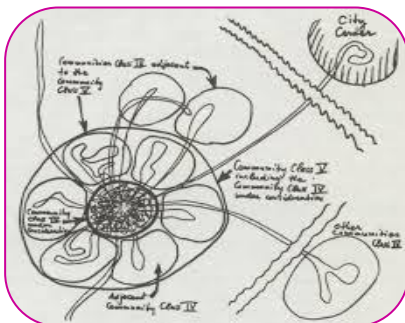
ABSTRACT

Earth's humanization manifests in the process and outcome of cultural landscape. The composite set of cultural patterns is dominated by the extent and kinds of human settlement. Human settlements have encompassed comprehensive and dynamic fields of study, comprising the contents of EKISTICS-the science of human settlements. The form and functions of ekistic units, the scientific version of settlements, underline the expressions of cultural differences, most conveniently with reference to rural-versus-urban sets. The cultural schema over the earth's surface has, always, tended to respond to technology-added pace of transformation. The transformation in structural and function form and size of human settlements invites scientific explanations as related to mechanism behind size dynamics, the processes of transformation from rural to urban, urban to metropolitan, metropolitan to megalopolitan and from megalopolitan to ecumenopolitan, or conclusively, from unit dimensions to regional dimensions.

KEY WORD: Ekistic units, Ekistics, 3Ps principle, Transformation, Scale dimensions.

1.0 EKISTIK UNITS : ESSENTIAL CULTURAL MANIFESTATIONS :

Ekistic units represent the scientific version of human settlement, and they constitute the contents of Ekistics—the science of human settlements. They have been commonly defined as organized colony providing place for human beings to live and act. They include to mean "all man-made facilities resulting from the process of settling. (Broek & Webb, 1973) They are, thus, most prominent component cultural landscape. In their locational arrangement, all ekistic units inherit foci of nucleation. They are never homogeneous in their types and sizes. They are, however, not discontinuous existence and are identified, meaningfully, as villages of different size representing the rural type set and as town-city-metropolis-megalopolis and ecumenopolis to represent the urban type set in a hierarchic settlement continuum. The size dynamics of various forms of human settlements appear to script territorial expressions of spatial system. It is, certainly, not the rural and the urban that become the expressions of cultural differences, but the function and forms of the settlements continue to mark transformation and change. It is, however, true to agree that human habitation witnessed dramatic changes, in the most recent decades in the fortunes of cities and urban regions (Eade and Mele, 2002). Cultural schema separating rural and urban has been nearing collapse. It seems more judicious to treat urban the force in rural exhibiting in its most intense form the plasticity of ekistic units.



2.0 EKISTIK UNITS: THEIR SPATIAL SPECIFICITY :

Settlements appear, essentially, as places of spatial location and they inherit the same foci of nucleation. Their spatial forms evolve out of social processes creating cultural spheres of growth implications. They in their urban recognition, resemble places of spatial specificity. Settlements may, in this sense be understood to represent physical and services resulting in aggregates of men, materials and services resulting

in structural expression and the bounds of physical urban aggregates reflect the size dimension of specific urban forms of human settlements through ages and areas. The tendency of urban centers as a small area, linked with the city formation in the past, has continued to be as great a force helping space intensification as ever it was (Spencer & Thomas, 1969). The movement of paleolithic man from ordained cave into permanent settlement forms of some kinds proved to be the initiating step for urbanization. The urban settlement formation has emerged to express the specific extent and intensity of city growth. The size variation among different kinds of settlement expresses the scale dynamics of ekistics units. Scale dynamics of urban settlement forms entails multifaceted mechanism of initiation, punctuation, elaboration, extension and interaction among units of human habitation, while organizing their sizes. The operational mechanism behind the scale dynamics owes much to the formative aspects of settlement, which operates in the background of 3Ps Principle accounting for the trio of protection privacy and proximity (Sharma, 1980) (Fig.1).

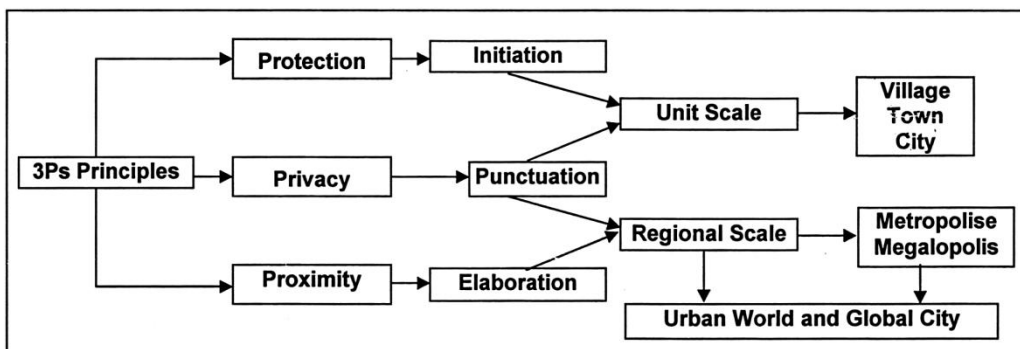


Fig. 1 : Mechanism of Scale Dimensions of Ekistic Units

The change-transformation mechanism has been in operation since time past through regions. The trigger behind the operational mechanism has been attempted to be singled out from time to time in the form of models as discussed by (Jordan & Rowntree, 1979).

The hydraulic civilization model tries to pinpoint the role of irrigation technology in transformation of incipient settlements into urban aggregate in urban hearth areas- the cradle of the old order of the contained size dimension of inhabited space. The innovation model is credited with the impulsive quality to create the saddle of the new order of the blown up dimension in colonization of inhabited space. The environmental stress model and the coercion and warfare model try to associate ecological and political issues with size dynamics of urban centres. Impulse combination stress model represents the most effective trigger behind the creation of what is most judiciously to be accepted as ever changing and evolving size dimension of urban settlement forms on regional scale.

3.0 EKISTIC UNITS FORMATION ESSENTIALLY HUMAN AFFAIRS :

In the story of the creation of society's total cultural complex urban centers happen to have a long past but short history. The intensity of the recency of its history has been subtly observed to mark the momentum on increase, which ekistic units are growing by. In the spatial processes as to "how urban centers share space by shaping their bounds", they in their orthogenetic and formative stages could appear to constitute points and lines to fabricate the spatial pattern, which in their blown up dimension have shown tendency to punctuate the pattern with representative form of urban areas. These three basic forms transformation becomes the resultant of the processes of ethnocentrism, continuum and amalgam. In its wider spectrum of recency, urbanization tends to experience loosening impact of self-contained unicentrism and tightening grip of continuum and amalgam. The situation that arises, therefore, makes it imperative to shed the concept of single bounded city and to uphold the rationale of urban areas, the nature, extent and content of which tend to symbolize the ever higher order achieved by urban settlement scale dynamics.

City formation has been found to follow some guiding principles, which mankind imbibes to create settlement (Doxiadis 1977). Among principles guiding men form his settlement, (a) man's endeavour to enjoy potential contacts to the maximum, (b) his desire to put the amount of efforts to establish such contacts at the least, (c) his sense of having optimum protective space, (d) his craving for the best suited ecological balance to feel at home in his environment. organization and economy and (e) his need to secure synthesis of all that is said figure prominent. The presence of an efficient condition of mobility, i.e. nature, intensity and extent of the means of movement in varying vigour from time to time and from place to place assisted with space-adjusting technology have been largely responsible for the restricted, blown up and potential open size dimensions of ekistic units forms through periods and regions. The scale has, however, not even a remote chance to be in space-time continuum and the only continuum that is likely to continue seems to be size continuum. Urban settlements in their size dimension, have been changing and seem to have a future in store when ekistic units may not refer to some singled out bounded physical urban aggregate, but will to see areas of significantly urbanized character.

4.0 EKISTIK UNITS: TEMPO-SPATIAL CHANGE DIMENSION :

The only consistent thing about cities is that they are always changing (Hall, 1998). The process of the Earth's humanization has been experiencing much a voluminous impact of urbanization. There appear chances of seeing unavailability of rural in existing form as a unit of human habitation. Not only this, the rationality of treating urban forms of human habitation in their traditional expression as bounded physical reality has, too, begun to be questioned. Cities, too, seem to intend to lose their eternal and formal structure. This implies that human habitation units have been changing dimensions and urban units have been doing so more explicitly.

City size has changed dimension .City size dimension has been till recently conceived in its site concept. The same has, however, begun claiming treatment in space concept. Unprecedented space intensification happens largely to be twentieth century phenomenon, being the impulsive creation of intensified technologies of resource conversion and space adjustment. The world of people has begun to visualize the emergence of new and entirely different phase of human distribution (Berry, 1973). That new and different has become rule rather than exception. The city size dimension continues not to be old version of traditional city forms perse but jumps to signify an extended elaborated and punctuated version of theirs. The new version refers to diffused and depolarized urban settlement form which on regional scale finds ramification in being territorially expressed as galloping extended urban areas of varying order and texture.

In urban phenomenology the concept of urban areas may be accepted to mean an urban schema of scale dynamics relevance in which urban settlements exhibit. (i) less and less isolative and more and more galactic tendency in distributive, frame, (ii) behaving less and less independently and more and more interdependently, (iii) becoming less and less physical reality and more and more a functional reality, (iv) remaining less and less unicameral and more and more multicameral, (v) appear to be less and less precise and more and more diverse, (vi) appearing to be less and less a unit of habitation and more and more an organization of inhabited space, (vii) swelling less and less matched and more and more mismatched to their boundaries, (viii) intensifying space under dual impulses of explosive force- pushing out the bounds of the lone city and of impulsive force, bringing cities closer to each other in terms of time-cost mechanism as has been expressed by. They, thus, are no longer discrete distributional elements alone rather interlocked beads of hierarchical urban system. To express their oneness, urban areas identify themselves with vast agglomerations of varying physical social-cultural and economic texture with which one sees emergence of regional urbanism shorn of the concept that bigness in itself equates with excellence.

5.0 EKISTIC UNITS TEMPORAL VISION AND SPATIAL REALITY :

Experiences leave explicit evidences that ekistic units-places of human habitation, do not live in time-space continuum. Ever changing and evolving they tend to be at all stages of their size development. The tendency results from urban centres' accomplishments to transform their size dimension into sequential

higher order in the wake of natural desire of human race to rush into larger urban aggregates being aggravated under the impulsive forces of space–intensification and space–adjusting technologies. The most obvious ekistic units, in settlement continuum, identify as villages→towns→cities→metropolises→megalopolises expressing in their distributional behaviour a relation in most probability where are $v > t > c > mt > mg$. As distinctively special kind of settlement urban centres have been attributed to be "a model of social organization" in being tools for furthering efficiency in economic activity. Urban centres represent the fellow product of the phenomenon of urbanization. Accordingly, level of economic development is found associated with the degree to which the region is urbanized and regions move differently in direction and manner to urbanization. In the background of these observations it becomes safe to support the conviction that urban centres are neither the same as they were nor will continue to be the same as they are. The reality exhibits that human habitation reveals spatial facts and is continuously engaged in the collective activity of producing spaces and places, territories and regions environments and habitats (Sofa, 2000). The all spatial reality creates its temporal vision as well. The real scenario exhibits that the apparent trend of increasing urban and diminishing rural is rampant and the urban elements have tended to overwhelm the spatial organization scene both in term of frequent occurrences and variety (Sharma, 2005).

6.0 THE INEVITABLE DIMENSION :

One has to cover all time risk in authenticating all time tangible size of urban centres to continue in spatial-temporal dimension. We can experience urban fortunes in terms of comprehension of temporary and creational dynamics of what the author prefers to name cities as COYSTER (cities of yesterday), CODAY (cities of today) and COMORROW (cities of Tomorrow) (Sharma, 2007). COYSTER and CODAY have shown progressive succession to create scale module in association with time modules intending to make mark of inevitable dimensions of ekistic units. Changes, as and when experienced in form, structure, pattern and scale of urban centres, relate to the issues of size dynamics which in turn replicate the conditions and implications of the impulses responsible for transformation of the sources and processes of urban through periods and places.

The speed, the recency and the tendency, as felt in case of ever evolving and changing temporal vision and creational reality of urban centres, indicate towards the inevitability that urban world is poised for taking into its fold larger sizes of settlement forms. The earth is increasingly being made over to concrete and asphalt irrespective of what area or era the transformation goes in. CODAY seems to acquire the vantage position on techno moral order so as to it represents the amalgam of COYSTERS and sets the trend direction for COMORROW and thus is in no case the end of COYSTER, but the beginning of .COMRROVV.

The world humanity appears to be caught up in a new dimension of continuing and seemingly unending period of urban growth in which population of world tends to be more metropolitan megalopolitan - less towns / cities like. The changes from urban to metropolitan and that from metropolitan to megalopolitan are with all probability expected for most parts of the world even before the realisation of change from rural to urban by them. In the wake of the realisable phenomenon on many counts and that of man's natural instinct to move towards large agglomerations, the phenomenon of urban size evolution or transformation on regional scale appears to be the inevitable dimension. The event of a great increase in the number of megalopolises and the estimate of about half the world population to be the resident of such urban areas have begun to be voiced in more than one circle (Papajannou, 1970).

FROM URBAN TO METROPLITAN :

The intermingling of Palaeolithic and Neolithic culture transpired the slow transformation of primitive campsites and villages into cities of early period Since their origin, early urban centres experienced temporal eclipses and philips. The period until Second World War became witness to a major shift of urban settlement forms into size dimensions of rnetropolises on regional scale marked also the phenomenal change of urban into metropolitan. A major city centre with its environs began to represent the highest grade of city being in a position to serve as an outstanding centre of human affairs to earn the name of an

Economic Matropolis. The extent of area depending on this grade of city became a Metropolitan Region and the organisation sustaining the grade found recognition as Metropolitan Community. The very condition of its grade superiority with / respect to settlement regionalization, volume, variety and dimension of function and organizations a metropolis, thus, represents the chief lieu (Regional Capital).

Urban India is fast becoming metropolitan. The event attracts by virtue of multiplication of the metropolitan centres, which house above 8% of India's population in their 26 occurrences. There are now 302 one lac + cities, among which 50 groups between 5 lac and 10 lac population size. The world Bank Report provides the number of 10 lac + population cities at 60 and above in next 20-25 years. They will contribute 70% of total domestic product. It has been estimated that Mumbai, Delhi and Kolkata will join world's 10 million + megacities by 2015 AD to make their population size marks of 22.1 million, 20.9 million and 16.7 million respectively.

FROM METROPOLITAN TO MEGALOPOLITAN :

The stage, at which non-rural settlements tend to be less urban more metropolitan and population agglomeration centres, metropolises in particular, happen to exceed a critical size, marks the event of transformation of urban settlement forms from metropolitan to megalopolitan. The dynamics of the megalopolitan scale will display (i) multi – nucleated formation of multi-million population bands; (ii) impressive density of cities of appreciable sizes in a regular stretch of metropolitan and urban areas (iii) supermetropolitan character in the coalescence of a chain of metropolitan areas (iv) the formation of a complex settlement system integrating discrete aggregates; (v) tendency to a progressing belted urbanisation of the form of interconnecting urban centres under double force processes of centripetal and centrifugal and (vi) vigour, with all possibility, to intensify the process of enlarging and thickening the megalopolitan networks. The transformation of metropolitan into megalopolitan and the appearance of megalopolitan size scale has been unique in dimension, exceptional in growth and pioneer in location for the nation and the continent in question. The recency started with pioneering BOSWASH continuing between the nodes of Boston and Washington D.C. in U.S.A. The swiftness of the tendency has become so much so evident that almost every major segment of the ecumen world has started to test the thrill of this unique, exceptional and pioneer trend in the process of urbanizing the territory. CHIPITTS and SAMSAM have come up in U.S.A. connecting respectively the, nodes of Chicago- Pittsburgh and San Diego-San Francisco Bay area. The U-shaped complex urban system along British Pennines, the elongated one, in association with continental "population axis" in Europe, the littoral one in close conformity with Japanese Industrial Nodes and a few more elsewhere have become inevitable ones. Megalopolises are poised for multiplication. They were said as per a mathematical model for megalopolis structure, number 163 / around the fag Jill of the 20th century. In context of India the continuous expansion of the size of large agglomerations and the formation of agglomerations around relatively small urban centres have created the condition of transformation from metropolitan to megalopolitan. The possible megalopolises formed by the urban stretch of Kolkata and industrial belt of Damodar Valley as one instance and that of Mumbai through a chain of industrial towns to the south east in the direction of Pune and to the north that of Ahmedabad as another one have already found reference through (Bonifatieva, 1976) observation.

FROM MEGALOPOLITAN TO ECUMENOPOLITAN :

Ever expanding jaws of ekistic units have already set still a bigger change in the shape of the transformation from megalopolitan to ecumenopolitan in progress. Ecumenopolis has been identified as being the stage of ekistic unit to represent (i) the biggest order in the hierarchy of settlement,(ii) the settlement form of large areal and population dimension, (iii) the settlement size dimension implying a unified settlement system including the frequently known hierarchies of urban settlement forms to form its integral parts in the form of major nodes linked together into a network, (iv) the universal city owing its formation to interconnections of urbanized regions and urbanized continents; and (v) the sort of ultimate equilibrium between human settlement and their environments at large.

CONCLUSION:

The World of cities defines earth's urban face and the cities express through the urban face the most exciting and vital human creation (Sharma, 2012). Centre-axis-system trinity may be stated to operate in conformity with the structure- process- stage triad of ecumenopolitan landscape. The creation of an urban centre lays the structural foundation, the axial development of urban centres processes the structural punctuation and the evolution of the system marks the ultimate stage of the landscape. The concept of axes of urbanisation constitutes, in essence, an all pervading principle of ecumenopolitan structure which comprehends megalopolitan network fabrication. The gamut of the ecumenopolitanisation will involve; (i) multiplication in the numbers of megalopolises, (ii) much larger areal and human scales for megalopolises on their averages and maximum, (iii) lengthening and thickening of megalopolitan network, (iv) replacement of the prevailing megalopolitan form by its primary network (urbanised region), (v) further replacement of primary network by secondary network (urbanised fabrication of the ecumenopolitan landscape in the form of fully interweaved networks of inland and littoral locations to span over the entire ecumene.)

Seeing the unprecedented size dimension of the urban system in offing, human mind has the danger of falling prey to agnosticism. The mankind must be convinced that the concept of ecumenopolis is not unfounded one. The phenomena of the spread of the continuous urban centres regions are no more a secret to agnostics. Megapolitan systems, as evolving all over the world and replicating the general directions of urban expansions, are poised to frame ecumenopolis under the conceptual duality or polarity between notions of axes and centres.

Changes in spatial patterns have been one of the greatest reality. A Future remains enshrouded with alternatives. Dynamism as experienced by urban phenomena indicates, with all probability, simply a bigger end perhaps the ultimate size dimension of urban settlement forms. The emergence of the dimension in its full vigour may be delayed just by a century or two. Under the condition such as a population on increase and the proportion of unused habitable space on decrease the possibility of even the emergence of marine ecumenopolis has begun to be voiced for that part of ecumenopolis located any where offshore with the quality of mobility and independence. The realistic view suggests to accept ecumenopolis as an "inescapable and inevitable / size dimension, may be at sufficiently remote future, and as a phenomenon not be contained. The result of the evolutionary process is to be waited and seen. Let us follow the advice of seeing "How will the "New" day begin and end?" (Breese, 1979)

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