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INTRODUCTION:

It is quite clear that the deterioration of the environment has been occurring at an accelerated rate, especially in recent decades. This is because of the very rapid growth of the human population and its aggregation in large urban concentrations, and the explosive industrialization that is spreading to the developed and developing countries. It is like wise being concentrated in and around the cities. Parallel to this urban and industrial concentration is a massive rural exodus, leading to under-occupation of rural areas and other adverse physical and social consequences.

Disappearance of traditions and customary rites, as well as changes in the mode of life, bring about very important disturbances in every country around the world. Thus, unprecedented pressures have lent a sense of urgency to the deliberations of thinking conception as human needs multiply and resources for production to meet these needs seem more difficult to accomplish in developed, as well as developing, countries.

These changes are having many effects: pollution of air, water, and soil by human and industrial wastes; rapid destruction of natural ecosystems and widespread mismanagement of them; danger of local famines and malnutrition; threats to physical and mental health; decrease in the quality of life, such as the impact of poverty, illness, delinquency, housing, and crimes; and a general lack of planning to separate conflicting and incompatible land uses. Until this point in history, the nations of the world have lacked considered comprehensive policies, planning, design, and implementation for managing the natural and social environments.

The slum dwellers and migrants in the industrialized countries are hardly better off. Although their calory intake may be higher in absolute terms, and housing and other essential amenities more easily accessible in their adopted towns, they remain beyond the reach of the economic levels at which they are compelled to exist. Also, the population of the already urbanized countries have become highly mobile. Due to fundamental economic and social changes associated with the automation of industry, mechanization of agriculture, and the expansion of service sectors, the remaining rural people and those living in the stagnating small towns move to the great metropolitan belts, or they shift from one metropolis to another.

From this point of view we can see that as conditions deteriorate industries, business and higher income families will move to suburban communities in search of a more congenial environment; and the laboring migrant and new-comer will take over the decaying central areas abandoned by the more affluent citizens. This abandonment is the cause of the sprawling and scattered development, which is the dominant form of the present growth of the metropolitan regions. This growth pattern has many serious disadvantages: consumption of huge land areas; excessive costs in providing community services; traffic problems and lengthened journey to work; formless monotony and restriction of housing choice; land speculation and leap-frogging subdivision development to threaten agricultural areas.

We do not want our cities growing with the complexity of confusion and treating us like objects in the unbalanced-dynamic changes of social systems. This impringes upon the nature without the natural and human ecosystems. The prospective concepts are to conceive and impose a certain order to the society in terms of balanced socio-ecosystems.

ANALYSES: The Impact of Social System vs. Social Organization and
Urban Artifact Settlements

Humanity is careless about many things, but the basic issues related to survival are never left to chance. They are provided for by great formal cultural structures known as institutions. Out of man's long past of trial and error all his social institutions have been built. Social institutions as formal cultural structures were devised to meet basic needs in social humanity by its social systems. The fulfillment of the most essential human needs is most fully guaranteed by organized cultural systems which man has carried forward from his past to constitute his unique social systems. Institutions are the better organized and more stable aspects of the culture. Since they emerge to meet basic human needs these needs are in some sense constant, and institutions become, in time, gigantic culture complexes.

Whatever system one is viewing, whether it is the master system of society or any of its component sub-systems, the elements that constitute it as a social system and the processes that articulate it remain the same. The main factors which form a social system are the structure and function of the social system itself. The structure of anything consists of the relatively stable interrelations among its parts. Since a social system is composed of the interrelated acts of people, its structure must be sought in some degree of regularity or recurrence of these acts. The structure of a social system includes the following factors:

- Subgroups of various types, interconnected by rational norms.
- Roles of various types, within the large system and within the subgroups. Each role system is also connected with others, of course, through rational norms.

- Regulative norms governing subgroups and roles.
- Cultural values.

Any one of these elements - a type of subgroup, a role, a social norm, or value - may be called a partial structure.

The function of a social system - the needs of the society which are the goals of the society and every social system must solve - involves four functional problems, as follows:

- The pattern maintenance and tension management
- Adaptation
- Goal attainment
- Integration

The social system structure of every system does, to some extent, solve these problems. If it did not, the system would cease to exist as an independent or distinctive entity. When we say that the social structure solves problems we mean, of course, that action in conformity with a social norm or value makes some contribution toward meeting the needs of the system. When conformity to any partial structure makes such a combination, that structure is said to have a function for the system.

All of these social systems which constitute social institutions influence social organizations and structures of people in the society. They are the dynamic factors which imprint upon the patterns and forms of the artifacts of human settlements, both vertical and horizontal shapes, lines, masses, patterns, and textures through the ages of human society. The following significant institutions are the most important ones to the growth and change of our cities from their survival mechanization in terms of a natural-social tie and line-administrative tie of organizations, and structures with their cultural

values:

Family Institution

We traced the history of the family institution, indicating that the great variability in cultural systems exists. Human beings have formed many workable systems. We then traced the family institution in its four type-parts: attitudes, symbolic culture traits, utilitarian culture traits, codes, and ceremonies which show in each aspect the gradual shift from the institutional to the companionship type. With all its instability, the companionship family has much in its favor.

We live in a society of pair relationships. With the increased anonymity of modern life, the increased mobility of the average person separating him from kinship ties and from local neighborhoods where his personality had its roots, every person, man or woman, seeks a deep and permanent emotional security in a mate.

Community differentiation can be defined as the division of the population of a community into separate aggregates or groups which are different from one another in terms of speciable aspects that are accessible for the purpose of understanding. These differentiated aggregates or groups are functionally interdependent in such family institution of groups as follows:

- Status and role in significant social institutions in the community, particularly the occupational role in the economy; the evidence of the importance of role differentiation in the sheer volume of occupations which exist in any metropolis and in the way in which the interrelations among them constitute a system of interdependent economic activities. This form of differentiation overlaps a real differentiation. Slums

attract residents and workers whose occupations either are at the bottom of the occupational scale of prestige or are entirely outside the realm of legitimate, socially approved activities. Suburbs traditionally have been inhabited by white-collar occupational groups.

- The values, norms, beliefs, attitudes, and life styles are the keys to cultural differentiation. The key which usually has been ethnic group membership and race, such as the Negro-white relationship, obviously still is crucial as a source of life style difference. The unique characteristics of suburban cultures are not the spatial environmental factors, such as many suburbs around large central cities which have distinctive social forms, their spatial organization which is less dense and more haphazard than cities, and amenities and facilities offered which are sometimes more luxurious and in other places less commodious than in big cities. The unique characteristics are instead the family, social class, and ethnic characteristics which the residents of the suburbs bring with them when they settle there. The neighboring habits, the values and interests, and the political process in different suburban communities show that they differ markedly depending upon whether their inhabitants are working class, lower-middle class, or upper-middle class.

- Ranking in terms of income, prestige, or power assigned to the groups and aggregates formed around the other aspects of differentiation. A major characteristic of urban stratification is that city dwellers use symbols of status to define class membership. This is because social contacts do not provide sufficient time to acquire personal knowledge

about all the people one sees or meets, which social classes are most easily recognizable through symbolic means, and what the content is of the symbols which urban residents employ in judging each other.

- Another aspect the residents are alike is in terms of economics and racial characteristics, but are different in terms of family structure which, measured by fertilities, per cent of working women, and the per cent of single-family detached dwelling in an area, is a particular sensitive indicator of the degree of urbanization of a population. The large families with non-working mothers and living in a single family home (low-urbanization) are much more likely to be interested and involved in neighborhood and local community life than from the smaller, apartment-dwelling family with working mothers (high-urbanization).

- Social class is the most important variable defining the culture and organization of social areas, including both the areas called suburban communities and the denser neighborhoods of the city. The strong mobility in social class represents the inevitable consequences of urbanization.

- The concentration of the present black people in the central city, their declining proportion in suburban areas. A wide variety of difficulties from which the non-white population suffers can be attributed ultimately to the prevailing pattern of residential segregation, including high rates of unemployment, poor education, disease and delinquency, and the relative lack of political power of the blacks.

Economic Institution

The Economic Institution is concerned with getting and using material goods to meet man's basic needs and to satisfy his vanity. For these purposes the factory system, which uses with great efficiency machine power, labor, capital, market, production, and management have been developed in the Western world and the United States. Goods are produced in abundance and distributed widely, both geographically and throughout the different social strata.

A counterpart of this efficiency of system is the gradual shift from self-employment to corporate employment, which has created new problems for youth entering the work world, has modified the philosophy of the worker, developed a new philosophy of leisure, and led to the organization of labor to protect the job, thus, matching the power of the corporate industrial organization in control of capital and management.

- The concentration of people, plants, stores and service in a closely packed territory helps to lower production costs and make commodities available more cheaply and expeditiously to the consumer. The classification of cities according to their economic specialization: commercial, industrial, political, social centers, and health resorts, etc.

Commercial centers grow up from the impact of the market under the conditions which favor trade and communication. This also includes industrial cities and also frequently commercial cities because of the flow of communication and traffic, but they also tend to emerge near supplies of raw materials. Political centers are located near the center of accessibility for the

majority of the population. The social centers and health resorts are found in locations which are attractive to tourists. Furthermore, there is still transportation, mining, and college towns which are different patterns of forms of the artifacts from the impact of economy.

- Another aspect of the pattern of social organizations in horizontal ties that once held together the membership of the local community have been replaced by vertical bonds which extend through the centralized structure of large corporations, trades, unions, and professional associations to dominate the original towns or villages and become one part of the identity of the urban region.

- The decentralization of economic activity from the city to the suburb has created a problem for the poor central city which affects drastically the social organization and the change of urban landuses.

- There is some importance of organization congeries in the land market which affect the land uses of urban developments as follows:

- A) The first and perhaps the most important of these congeries is the real estate and building business. Since they know more about the land market of the city than comparable groups, it is suggested that the study of the real estate-building groups would provide more insight into the dynamics of landuse change than present studies which are based on the sub-social ecological process. The analysis of real estate organizations is an especially good starting point to build a sociological ecology because these organizations interact with all of the other urban interests which are concerned with landuse.

B) The second social congerly which functions in the land market is the larger industries, business, and utilities. While they may not consume the greatest quantities of land, they do purchase the largest and most strategic parcels. Unknowingly their locational decisions tend to set the pattern of landuse for other economic and non-economic organizations. Most of the landuse decisions of these central industries and businesses are a response to peculiar historic circumstances in the community. Therefore, it would seem fruitless to describe a prior of the shape of the city as a series of rings, sector, or diamonds.

C) The third social constellation in the land market is composed of individual home owners and other small consumers of land. In a sense their positions are tangential to the structure or important only under rather unusual circumstances. Most of their decisions on where to buy, when to buy, and what land to buy are fitted into administrated land market and are not, as many would assumer, individual, discrete, free, and unrelated. The social characteristics of the consumers, their economic power, degree of organization, and relation to other segments of the community help to explain the roles they play in the market of land decisions.

- One of the most important factors to force the urban expansion and changes is the shift from an agriculture to an industrial and service-oriented economy, increasing population growth, accelerating labor force demand, and the development of the automobile and the jet plane. The patterns of these developments reflect not only the underlying economic

and demographic pressures but also the dominant consumer preferences of urban residents.

Science and Technology Institution

Science has made possible a technological age which readily permits converting natural objects into cultural objects of many forms and usages. Machines have replaced the labor of slaves and have given man an abundance of both leisure and goods. Technology has helped equalize the great gulf between the rich and the poor, the favored few and masses. On the other hand, machines tend to reduce many workers to the position of automations, who find zest in life only outside the work day. A technological civilization has forced revisions in habits of the individual and in the patterns of social institutions. It has made man change-minded and given him the tools whereby he can realize, in a short space of time, his dreams for improvement. They are as follows:

- Transportation

Transportation is the process that leads to the exchange of people, goods, and services. It integrates activities distributed at different points in the metropolitan region. Not only does transportation link preestablished sites but the development of new means of transportation is an important determinant in the location of urban settlements and landuses. A dramatic example of this impact is the proliferation of urban growth around free-way interchanges and air terminals, the contemporary equivalent of the burgeoning settlements near railway stops.

As a result, an urban network can extend over an ever wider area with no loss of efficiency and coordination because of the advance in transportation technological planning and design. Meanwhile, the resident of a metropolis gains increasing locational freedom in deciding where to live and work.

- Social Communication

Social communication is the process of exchanging information within human groups. In many circumstances, communication can be substituted for transportation as a force leading to coordination and integration in the metropolitan region. If an individual can send a message to a site, he may not have to go there in person. The modern urban community as a huge engine of communication, a device to enlarge the range and reduce the cost of individual and social choices. However, an individual can suffer from an excess of information, stimuli, and opportunity which is called communication overload. The flight to the suburbs is an available means for escaping a surfeit of stimuli.

- Utility and Energy Systems

The capacity of these systems determine the patterns, the scale, and the structure of the urban form in various aspects of design. This is from its functions and capacity of such systems available as electricity, gas, sanitary, storm water, water supply, oil, and other pipe line systems.

- Building Materials

The quality and capacity of building materials and facility equip-

ment, which determines the scale of the artifact form in height, length, and width, from its functions to be fitted to man, nature, and cultural values. These are represented in terms of character.

Education Institution

Education is as the institution which originated to transmit the cultural heritage. To this function has now been added many more, particularly those of giving an apprenticeship to vocational life and training the individual to make adjustment in a complex society. The school has had the shoulder for an increasing load, with the failure of other institutions, to meet specific needs of the individual. The school is the place to input means, instrument, tools or human capital with valuable aid in achieving certain value-goals-aid that presumably cannot be given equally well through any other contemporary type of specialized institution.

Schools exhibit diverse characteristics from society to society, from community to community, and from period to period. They vary as contrasting conditions of local or national life thrust different complexes of problems on them, or as education through educators apply different educational philosophies and techniques. One expects, therefore, that contemporary city schools of the democratic nation will differ in some respects from those of earlier, rural-dominated communities of the nation and those of nondemocratic civilizations.

The age distribution of the population, economic trends, and proposals for residential development are related to school facilities. These facilities play a vital role in providing citizens with the educa-

tion and skills needed to meet the changing economic conditions. And they are essential to the maintenance of sound neighborhoods that will attract and retain families. Because the selection of homes often depends on how well the community is served by schools, the provision of high-quality schools, colleges, and libraries are more important to improving the city's whole environment and expanding human opportunities.

School locations depend upon the pattern of neighborhoods and communities, the interrelationships of schools to other facilities, and access by the transportation system. Various kinds of levels of schools should be located together with parks and playgrounds to form useful and attractive centers of community life. Libraries need sites near business centers, elementary schools need locations that are protected from major traffic arteries, and high schools need sites served by public transportation. This is the basic factor in determining the desirability of any community for family life.

Religious Institution

The religious institutions are the cultural systems through which men cope with the powers that are conceived to control life and human destiny. The primitive sees spirit life in all objects - he believes in animism. Through various forms of magic, the primitive man tries to compel the good element to favor him, the evil eye to avoid him.

The religious system becomes closely allied with the prevailing system of morals, that is, the realm of man's relationships with man. The church in its various cultural aspects, material and nonmaterial, has become the channel for religious expression, and by means of denomin-

ationalism reaches the various class strata at the level of their intellectual and aesthetic development. Within a single metropolis, churches differ from one another in such matters as:

- Number and variety of activities undertaken
- Spatial distribution of members
- Socio-economic classes served, and
- Adaptation to contrasting types of neighborhoods.

Some aspects of religions influence on social organizations and landuses are as follows:

- Religious group membership has tended to take up the role in cultural differentiation once played by ethnic factors.
- Former religious institutions had ownership and operation of land by the religious body and the claim of the church or religious body to the income of the land.
- Religious beliefs affecting landuse practice in the society, such as taboo and for other productions to be consumed.
- The sentimental and symbolism which inspired the community not to be changed. In general, the metropolitan growth usually emphasizes the hegemony of market forces in shaping the pattern of urban activities, and land speculators, real estate developers, zoning board, and other powerful interests also influence the growth of cities and operate in a context of social values and norms. Usually these values support the market mechanism, but sometimes the areas are treated in terms of its symbolic importance. Because of the sentimental feelings of the residents, the

low-rise housing and the gardens and other amenities are maintained in the commons, and they want them as symbols. They do not want to change eventhough these areas are extremely valuable potential for more intensive development and use in terms of the economy.

- Some psychological ambivalence of some town, the residents praise rural virtues and disapprove of urban institutions at the same time that the influence of the city forces them to respect and admire the competence of national organizations. The outcome is the surrender of local policies to the decision-making of the progress and power of mass society in that area.
- Some custom and habit from the belief and tradition which starts a rational decision and accepts a rule of the society such as taste, and custom of preference in various aspects of consumption. These will affact to other institutions and landuse changes, because those values, norms, and belief systems dominate the alternatives of utilization.

Health, Safely, and Welfare Institutions

Health, safely, and welfare institutions are rather new types of institutions developed to meet man's need for security in the economic and social world of urban-industrial civilization. No longer adequately protected by a primary group and by self-employment, the worker and his family and other socially inadequate groups must have their security under written by society through taxation. The end will not have been reached until health, education, and general welfare of children and youth are protected. In the field of medical administration one finds

an interesting example of unmet human needs providing the motive power for the extensive changes in the customary institutional procedures.

Public safety and health standards are obviously basic essentials to improving the quality of life. The sense and the fact of personal security-freedom from criminal attack, property damage and disease are necessary prerequisites for individual achievement and for a viable social order.

- In view of the fundamental ineradicability of slum phenomena in human society, which should be considered the probable impact of urban renewal and redevelopment programs, generally these programs accomplish the redistribution of the slum population and slum areas to other parts of the urban community. The impact of the decentralization from the slums in the urban core causes the suburbanites to move out because they viewed any threat to change their new community into one that resembles the city as a problem. They do not want the low income groups to live in their community. They also wish to avoid the noise, dirt, and congestion which they associated with the central city.

- In some cases the destruction of old neighborhoods apparently diminishes the capacity of the migrant to function effectively even though a reduction in population concentration has occurred. The advantages of greater spaciousness are outweighed by the costs involved in having abandoned or lost the familiar social networks and cultural life-styles that were developed in slum areas. The new, clean, and more spacious housing projects sometimes improve their physical health but is unlikely to reduce the incidence of social pathologies, such as neurosis, divorce,

or delinquency.

What seems to count among neighbors in the long run are the norms, values, and social characteristics they share in common rather than their physical proximity. The true significance of the physical environment is the way in which it encourages or enables desired patterns of behavior to develop when culture, social organizations, and attitudes of the users of these environments have already disposed them toward adopting these patterns.

- An attractive community must have adequate schools, parks, social centers, churches, and business centers, as well as good housing. The transportation system, in addition to providing an essential service for residents, changes the patterns of neighborhoods, thereby influencing the distribution of community facilities. Streets, expressways, and environmental health, as well as rail lines and social centers, are recognized boundaries of neighborhoods and communities generally established.

Government Institution

The government as the over-all agency of social control is the final arbitrator of man's disputes. It exists in all societies; in the primitive time only in the form of custom. In modern society, the gigantic web of government reaches from the locality to the nation, and must ultimately include the world. Government prohibits, restricts, promotes. In all these fields it is acting as an energy of social control in the interest of the citizen. We have seen in our time the expansion of government as the complexity of modern living has made greater and greater demands on regulative authority.

We would also see the great expansion of welfare services on the part of

the government in response to demands of the citizen, who is likely to criticize the cost of the government at the same time he demands increasing services of the government. The web of government is more complex than necessary and many small units of government should be abandoned in the interest of economy and efficiency. Government operates through the political party which is so closely tied into the underworld at many points that too often the legal government is but the front for the underworld machine of patronage, bribery, and graft.

Civil service has been developed to improve the profession of government and make it serve the citizen better but the government as a competent profession is still an ideal for the future. A modern device for extending privileges in a democratic society is the income tax which equalizes the benefits of wealth by taking funds from those who have much and spending them for service and benefits for all.

The government institution influences social organization and urban landuses as follows:

- The government policies and restrictions in the framework of the constitution and the statute of the Federal and State governments have the power to legislate and relate to the control of landuses are:

- A) Real property tax power
- B) Power of eminent domain for the public land
- C) Spending power
- D) Propriety
- E) Police power
- F) Zoning and ordinance
- G) Regulation for subdivision control
- H) Building codes and construction codes

All of these policies and regulations of the government are to direct landuse, such as the organization complex is comprised of the many local governmental agencies which deal with land as zoning boards, planning commission, school board, traffic commission, and other agencies. These organization complexes are loosely knit internally, for its segments often function at cross pruposes. Their regulations to other groups in the community vary with the political currents.

Unlike other organizations, these government agencies are both consumers of land and mediators of conflicting landuse interests. Thus, political agencies do not only acquire land to placate private and public pressure, they are also called upon to resolve conflicts between different types of land consumers. Moreover, some of these governmental agencies try to fulfill a city plan which sets the expected pattern of the ecological development of the city. Once identified, the problem is to find the nature of the social relationships among these government organizational complexes. We are just wondering if a stable pattern is discernable, how the pattern manifests itself in physical space, and in what direction the pattern emerging as a response to inter-institutional trends in the broader society.

A Planning policy formulated for the benefit of a particular municipality may be harmful to other parts of the metropolis. Because that policy was formulated by an independent political jurisdiction, the development of metropolitan areas has often produced conflicting planning objectives and especially in those areas containing large numbers of government units which are physically and economically inter-dependent.

Planning policy formulation is greatly affected by these inter-governmental relationships. The formal lines of communication and authority between the planning agency and the rest of the local government are greatly influenced by the State government. The Federal Government has used grants to influence local planning policy, too. These formal relationships do affect the manner in which decisions about planning policy are made.

- Government administration is the more important one to mechanize the policies to become reality in terms of implementation of planning and design.

The generation and management of conflict - either actual or potential - is a key aspect of the formulation of planning policy, involving a transformation of human values into legally binding public policy. Since all groups and individuals in our society do not share common values, planning and politics cannot be separated. The precise manner in which the planner's technical and value judgments are transformed into public policy depends on which actors become involved in the decision-making process, what stakes they have in the outcome of that process, the political resources which they possess, and the way in which they use them.

The interaction of actors, stakes, resources, and strategies is greatly influenced by metropolitanism. We can conclude the administrative defects of issues of the government which affect the social organization and urban artifact forms as follows:

- Irresponsibilities: corruption and no moral values and norms
- Ineffectiveness

A) Faults of organization

- 1) Multiplication of agencies in overlapping
 - 2) Lack of organizational planning and no coordination
 - 3) Failure to provide adequate staff and auxiliary service for
operating unit which lacks knowledge in using human resources.
- B) Over-centralization
- C) Failure to delegate authority
- D) Formalism or too strong in-line administrative arrangement
which causes time waste in multiplication checks
- E) Lack of Planning
- 1) Policy planning
 - 2) Administrative planning such as programs and agencies
- F) Personnel defects
- 1) Inadequate payrates
 - 2) Improper allocation and utilization of personnel resources
 - 3) Inadequate human capital or training
 - 4) Preoccupation of civil servants with status and rights and
privileges for personal benefits which cause in height of
weight in organization burden.

All of these defects affect the means of planning policies and administrative mechanism and were regressed from attaining the goal's achievement for the public interests. The considerable evidence in the view that, for all in their inefficiency, metropolitan regions function with amazing resilience because it is not the time for the breaking point. Successful metropolitan planning must overcome provincial planning policy that is rooted in individual municipal goals and preference for localism, and the effective planning in a metropolis needs to be tied to a potent political base. The

base should be a government that is responsive to local needs and attitudes.

From this point of view there should be a rationally constructed set of political institutions. Consequently, there has been a good deal of interest in the possibility of establishing legal and administrative structures with authority over the affairs of an entire region and responsive to the demands of a metropolitan electorate. Running through all these recommendations is the premise that if somehow present units of government are brought together, if they can share resources and administrative responsibilities, the negative consequences of the forces now at work will be avoided and their impact guided into useful channels.

All of these policies will make it possible for the prosperity of urban regions, the emergence of federal grant-in-aid programs, the reduction of municipal corruption, the continued attractiveness of central city locations for business and residence, and the political involvement of the suburbanites in the local affairs. Each of these offers numerous benefits to the residents of urban communities. If such reorganization is not forthcoming, we have generally believed that these areas face governmental crises of substantial proportions. To drift with the tide is to court political, financial, and administrative disaster for our urban governments.

Conclusion

We can comprehend that the problems in our cities today, with the population growth, creates the changes in the population composition, structure, and social disorganization and causes the variety of forms of the physical settlements of human beings in such depressed and chaotic artifacts. This

also networks upon the nature and the society without a betterment of urban life around us.

These confusing phenomena are actually being caused by the unbalanced planning and design of our dynamic social systems from their contents to those organizations and suborganizations called institutions to be consistent with the population growth and ecosystems of the nature in social organization and structure of our society as a whole in terms of holistic goals.

SELECTED METROPOLIS COMPARISON:

The Comparative Urban Artifact Forms

between

Bangkok Metropolis

and

Chicago Metropolis

from

Their Differentiation

of

Social Systems

THE DEVELOPMENT OF BANGKOK METROPOLIS

Bangkok was established by Rama I in 2325 B.E. (1782 A.D.). It was surrounded by fortified walls and gates which could be isolated from the enemy's attack, especially Burma, by the river in terms of political and military reasons on such a great swampy plain of the site. The contrast of the horizontal lines and masses of the functional, pleasant streets, paths, waterways, and white walls with the vertical lines and masses of monastery (wats), pagodas, gates, temples, and forths which culminated with the Grand Palace and represented as a walled city within the walled city. The inner citadel was the seat of the King and the religious center of the community.

The growth of Bangkok proceeded slowly during the reigns of Rama II, 2352 - 2367 B.E. (1809-1824 A.D.), and Rama III, 2367-2394 B.E. (1824-1851 A.D.), and the great emphasis was placed on the building of temples such as Wat Arun (The Temple of Dawn), Wat Yanawa, and Wat Bovornives. A new boundary line had to be set from the prospering growth of the city, even extending outside the walls under Rama IV when the city had reached an estimated population of 400,000 in 2394-2397 B.E. (1851-1854 A.D.). King Mongkut (or Rama IV) had a new city moat dug called Klong (canal) Padung Krung Kasem, which paralleled in a wide curve of earlier moats: Klong Lord and Klong Amg. By the end of his reign, Bangkok almost tripled in the areas from the new great expansion of the boundaries.

King Chulalongkorn (Rama V) made Bangkok become modern. He, with the conscious emphasis of modern technology on new road building, the railway systems, the Post and telegram service systems, and the tramway systems. All

of these facilities of networks and artifacts were organized during his reign 2411-2453 B.E. (1868-1910 A.D.). By the year of 2443 B.E. (1900 A.D.) the population of Bangkok was estimated at 600,000. During the reign of Rama VI, 2453-2468 B.E. (1910-1925 A.D.), a scheme of development of the lower part of the Chao Phraya River Valley was introduced to implement along the river. At the same time, His Majesty presented Bangkok with parks such as Lumpini and Dusit Parks.

In 2501 B.E. (1958 A.D.) the Bangkok Metropolis (including Thonburi, the old capital which was located across Bangkok on the west side of the Chao Phraya River) enclosed some 173 square kilometers (67.6 square miles) with a population of 1,622,461. The character of Bangkok Metropolis was that of a rather sprawling city of its landuses. It lacked zoning organization for its internal-mixed landuses of industrial, commercial, and residential areas. Today, Bangkok is still the focal point of all Thailand. It serves as economic, cultural center, besides the political capital of Thailand.

THE DEVELOPMENT OF CHICAGO METROPOLIS

Chicago, from its beginning, lured all manner of citizens to its swampy site and it became bigger from the following advantages of the location in 1830:

- The forests of Upper Michigan and Wisconsin supplied building materials for this section of Illinois.
- There were iron deposits in Minnesota and Michigan, all lying within sixty miles of Lake Superior or Lake Michigan and easily shipped to Chicago.
- The Eastern Interior Coal Field, mostly in Illinois, supplied fuel for Chicago homes and gave an impetus to expanding industries.
- The rich agricultural lands of Wisconsin, Illinois, and Indiana raised crops virtually without cultivation. Farmers sent cattle and grain to Chicago for shipment.
- The city lay on a plain which offered no barrier to the laying out of streets in any direction.
- An unlimited supply of lake water at hand.

Chicago was founded, according to good old custom, on a harbor at the foot of Lake Michigan that could be reached by sailing ships. But along in the 1840's a new form of transportation - the railroad - began to put itself across the country. The little port at the end of the lake seemed like a good rail terminus. It became a point of supply for the pioneers moving on west. More railroads began to stretch out from it - north through Wisconsin, south toward the Ohio River, Mississippi, and west to the Pacific Coast. The steam engine made it possible to bring in supplies for feeding

millions of people in one spot.

Chicago became greater, and it sprawled on the crossroads of the nation. Soon it was enjoying the transplanted culture of the whole world. It did not have the least of troubles because of the fact that it was still young. Its growth had been unbelievable. In 1837 its population was 4,170; ten years later it was 16,859, and in 1860 it was 100,000. In 1870, it had grown to 306,000, and the tremendous expansion, the lusty spreading of elbows, went on and on. There were over a million people here in 1890. The population had increased to nearly 3,400,000 in 1940 and was slightly over 3,600,000 later.

Chicago accepted the millions of people and became a miraculous center of commerce and industry. During the present century the main growth has been in the areas outside the city limits, in the surrounding suburbs.

In the last quarter of the 19th century Chicago had developed haphazardly into the industrial and transportation hub of the entire nation. The furious pace of this growth left no time for thoughts of beautification. Twenty-two years before the Exposition opened, the city had been leveled by the Great Chicago fire. Faced with the problem of feeding and housing its already large population while preparing for fresh inroads of immigrants that would eventually double its size, Chicago had no choice but to throw up buildings with no thought for the future. The visible results of this rapid and unplanned expansion were inescapable and people soon became accustomed to the resulting urban ugliness.

Even the Exposition concepts inspired civic leaders with the idea of planning for a greater Chicago. In 1907 the Commercial Club of Chicago

requested Daniel Hudson Burnham to prepare a comprehensive plan for the city. The city's problems are more than those that come with rapid growth. Despite all that has been done to meet bewildering changes, Chicago still shows many traces of its rapid and uneven growth. Yesterday's planning was not much changed in the reconstruction that followed the fire of 1871. There were problems that were suddenly thrust on the city by the quick transition of changes in artifacts, network systems, and with stress and strain on social environments. It is still carrying for solution in order to keep pace as economic, social, and cultural center of the Midwest Region.

COMPARATIVE SOCIAL SYSTEMS

Family Institutions

Bangkok

The population in Bangkok Metropolis was estimated at about 1,800,678 in 1960, and some characteristics of the population are as follows:

Sex Composition and Age Groups by Percentage*

Age	School Age		Working Age	Elderly
	1-14	15-24	25-59	60 and over
Male	22	10	16	2
Female	19	11	17	3
Total	31	21	33	5

- Population Migration

The number of population migrants who settled down in Bangkok Metropolis amounted to 532,400 from the period of the 1949's-1956's. They came from the rural areas in order to find jobs in Bangkok, and the number of males was a little over females.

- Population Distribution

The highest density of the population was concentrated in the area of the central part of the city where there was the older section of Bangkok. on a small portion of the land. In 1956, 67.6% of the population lived within municipalities who occupied 5.8% of the total area. The land area was about

* City Planning Division of Bangkok Municipality: Bangkok Facts and Figures, 1969, Bangkok, pp.90.

20 persons per rai, or 50 persons per acre, and 92% of the land in the area possessed less than 1 person per rai, or less than $2\frac{1}{2}$ persons per acre.

In Bangkok, the stratification of class systems is based upon the following criteria: family background, education, economic standing, political power and connection, and the outlook on life. The five broad classes can be isolated as: an aristocracy composed of descendants of royalty and the old nobility; an elite of the top political professional and business leaders; an upper middle class such as merchants, small businessmen and white collar workers; a lower middle class which consisted primarily of craftsmen and unskilled laborers, domestic servants, peddlers, and the like. The King is considered above any class system as well as the monks in the Buddhist Order rank high in society, but they do not fit into this people-class structure.

Since then one of those status symbols, the practice of living in extended family groups within the same compound has been followed in Bangkok. However, as with the loss of the economic base or wealth power of the aristocracy, this appears to be breaking down. The young have to go to seek the new places on their own and family organization follows a more western pattern. The physical pattern of Bangkok is reflected from the various social characteristic patterns outlined above.

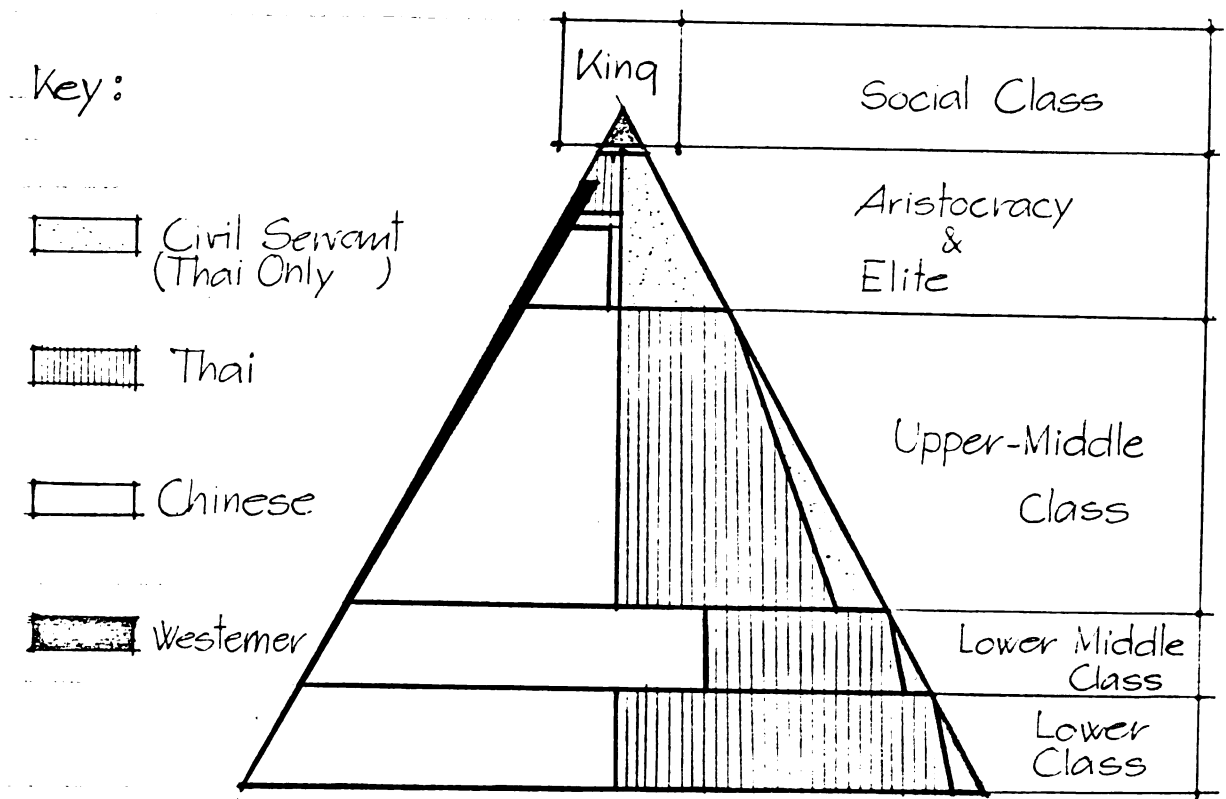
The Chinese people prefer to live in the central city where the traditional Chinese shops, business practices and way of life still persist in two or three-story row buildings on the major streets. The interiors of the blocks are filled with individual houses which the Thai people prefer. This

type of pattern eliminates the transportation problems but the higher income people still prefer to live in the suburb area which formed to the east and the north parts of Bangkok area. The low income people live densely in the central city and some areas which are close to the commercial or industrial areas. There is no evidence of residential segregation reflecting from the differentiation of class and racial system.

- Labor Force

In the Bangkok Metroplois the total labor force was employed with an estimation of about 516,000. This was about 95.5% from the gross labor force of 540,000 in 1958, and 53.4% of all persons 15 years old and a little over the school age group were in the labor force. This was about 33% of the total population in the Bangkok Metropolis in the labor force.

- Social Structure,
Social Class &
Principal Occupation *



Aristocracy: descendants of royalty, and the old nobility

Elite: Top political, professional, and business leaders

Upper Middle Class: merchants, small business men, and white-collar workers

Lower Middle Class: Craftsmen, skilled laborers

Lower Class: unskilled laborers, domestic servants, peddlers, and the like

* Wendell Blanchard: Thailand; Its People, Its Society, Its Culture, HRAF Press, New Haven, 1966, pp. 139.

Chicago

From the trends in most American city growths between 1950-1960, the city's population of Chicago declined by 70,000 persons, or about 2%, to 3,550,404. Not only the out-migration caused the city's population loss, but also the reason was the decrease in average household size. The total population of the Metropolitan area of Chicago grew from more than one million persons to 6.2 million, which was a 20 percent increase during the ten years. The fact that the suburbs attracted an increasing share of middle and upper-income families and caused the city-suburban population differences from the following changed composition during 1950-1960:

Age-Groups

The city has more young people and more of the elderly than it should have as follows:*

AGE GROUPS	CHICAGO	CHICAGO METRO. AREA
Elderly 65+	346,575	534,971
Working Age 20-64	2,016,605	3,435,336
School Age 5-17	806,552	1,538,248
Preschool Age 0-4	380,672	712,338
Total	3,550,404	6,220,913

* Department of City Planning: Basic Policies for Comprehensive Plan of Chicago, Chicago, 1964, pp.25.

-Race

The city of Chicago had the non-white population grow by 328,000 or 64% in 1960, and the non-whites comprised about 24 percent of the total population of the city and relatively smaller than 82 percent (37,000 persons) rose in metropolitan areas outside the city. The following locations were shown as the racial segregation:

- Northern part: Germans
- Northwestern part: Poles
- Western part: Italians and Israeli
- Southwestern part: Bohemians and Lithuanians
- Southeastern part: Irish

Most of the Black people lived in the West, South and Southwestern part of Chicago among Irish, Bohemian, Lithuanian, Israeli, and Italian people in terms of segregation.

-Labor Force

In 1960, there were about 1,590,000 of the laborers of the total Metropolitan labor force of 2,650,000 persons who lived in the city of Chicago, which showed that there were more jobs available than persons in the resident labor force because so many workers lived outside the city areas.

- Annual Family Income in 1959*

	CHICAGO		METROPOLITAN RING	
	White	Nonwhite	White	Nonwhite
	By Percentage		By Percentage	
High: \$10,000 +	17	3	28	2
Middle: \$ 5,000 - 9,999	40	8	53	2
Low: \$ 4,999 and below	19	21	12	3

-Households

There were 1,570,000 households in Chicago in 1960 because many single people and elderly couples maintained homes separately from their relatives. The average size of the household was decreased to just a little bit over 3 persons.

* Department of City Planning: Basic Policies for Comprehensive Plan of Chicago, Chicago, 1964, pp.24.

Economic Institutions

Bangkok

The economic development which enhanced the Bangkok Metropolitan areas and reflected the growth and change of its physical form came from the following economic base: Commerce, industries, and the port facilities.

- The trading systems which covered wholesale, retail trade and financial activities ranked highest in terms of economic importance. These activities were located in the old area of the central city, and practically all of these functions were found in Bangkok for the entire country. Warehousing and storage facilities were concentrated primarily along the water front in the old section of Bangkok for the transportation system feasibility. At the same time the concentration of grain storage facilities characterized the activities on the opposite side along the Chao Phraya River in Thonburi.

-The significance of industrial development in Bangkok areas became increasingly important. However, with the exception of a few large concerns, the greater portion of industrial activities were carried out in homes and small workshops. The milling of rice had been historically one of the most important of industrial activities in the Bangkok Metropolis. From the erection of mills throughout the country and resulting from the development of smaller fixed and portable mills. Bangkok was declined to process all of the exported rice in the area, but most of the rice for export still passed through Bangkok. However, this activity still contributed to the continued utilization of grain storage facilities.

- The deep-sea port facilities of Bangkok located at Klong Toey

had direct influence upon the location of commercial, industrial and warehouse development. Another activity that enhanced the economy in Bangkok was the transporting of lumber through Bangkok for export.

Another aspect of economic activity was the Tourist Organization of Thailand. Not only was it one of the most significant organizations that increased the Gross National Product of Thailand, but also improved the economic base in Bangkok because there were many places for the tourists to visit.

- Labor Force

The labor force and employment in Bangkok Metropolitan areas were as follows:

The civilian employment by the government was a very significant one as it provided the labor force for an estimated 25 to 30 percent of the workers in the Bangkok Metropolitan area. Other kinds of labor forces were the following types of work:

<u>ACTIVITIES</u>	<u>NUMBER OF EMPLOYEES</u>	<u>PERCENTAGE*</u>
Agriculture, forestry and fishing	41,900	8.1
Manufacturing	92,096	17.82
Construction	17,100	3.3
Electricity, Gas, and Water	3,100	0.6
Commerce	144,000	27.9
Transportation, storage, and Communication	46,550	9.0
Services	167,100	32.4
Activities not adequately described	3,800	0.7
Total	<u>516,000</u>	<u>100.0</u>

* Litchfield Whiting Bowne and Associates: Greater Bangkok Plan, Kanachang Co., LTD., Bangkok, 1964, pp. 47

Chicago

It was more than half of the workers in the eight counties of the Chicago area that lived in the city itself in 1960, and more than three-quarters of the city residents held the jobs in Chicago and the rest by commuters from outside the city. There were also more than 100,000 people who lived in the city but travelled outside it to their jobs. Most of them worked in Indiana and the suburbs of Cook County or Lake County. Industrial development outside of Chicago also helped benefit the city because of this reverse commuting phenomena, as well as the community where it occurred.

The economic development of the Chicago Metropolis was from the following major significant sources:

- The high productivity of the major industrial sectors which included metals, non-electrical machinery, stone, clay, and glass products and in the non-durable manufacturing products, industry of printing and publishing which ranked first in Chicago, chemical and the food product industry. All of these industries made Chicago rank first in the nation in the production of primary and fabricated metals. Because of the shift of meat packing to other parts of the United States, the food and related product categories declined. Two-thirds of the manufacturing areas were in durable goods production;

- Trading systems which included wholesale and retail trade;
- Professional service jobs which included advertising, entertainment, repair shops, personal services, private schools and hospitals;
- Financing systems which included insurance, real estates, etc.;
- Transportation, communication, and utility jobs;
- Civilian Government Service;

- Contract construction and mining.

The following table was the distribution of employment in the city of Chicago and the Chicago Metropolis in 1960.*

	<u>CITY OF CHICAGO</u>	<u>CHICAGO METRO.</u>
Total Employment (by percentages)	100 %	100 %
Mining	---	0.3
Contract Construction	4.4	5.1
Manufacturing	30.4	33.7
Transportation, Communication & Public Utilities	8.2	7.6
Trading Systems	22.4	21.9
Financing Systems	7.0	5.7
Services	19.4	17.1
Civilian Government	8.1	8.5

* Department of Development and Planning: The Comprehensive Plan of Chicago, Chicago, 1966, pp.22.

Technology Institutions

Bangkok

The flow systems of the public facilities in the Bangkok Metropolitan area are road, rail, water, and airway systems for transportation; and other pipe line systems for utilities and communication serve definite needs with respect to the movement of people and goods both within the intercity or interregion as follows:

- Road Systems

The road systems in the Bangkok Metropolis provide very few major streets which limite cross-city travel, and these were extremely narrow types. Many of these made were dead-ended at canals, or simply ended at the limits of development. Many of the urban roads have been constructed by ditching; however, many of them still remain to be done in terms of widening which caused running out of canal systems, and some for resurfacing streets to improve the overall construction for standardization. Bangkok still needs the major artirial highways to alleviate the by-pass traffic and the increasing traffic volume in the city itself.

- Rail-Road Systems

The railroad systems consisted of four main lines which radiated out from the Bangkok Metropolis to four other main parts of regional areas of Thailand as follows:

- Northern line: Bangkok to Chiangmai
- Northeastern line: Bangkok to Korat, Nongkhai and Ubol
- Eastern line: Bangkok to Aranyaprades with connnections to the Royal Cambodian Railway, and

- Southern line: Bangkok through the Kra Peninsula with connections to the Malaysian Railway.

There are four main stations in the Bangkok Metropolis: Hualampong, Thonburi, Bangsue, and Makkasan. Hualampong and Makkasan are located in the center of the city with inadequate facilities to provide for passengers and freight systems which caused a lot of traffic congestion. Makkasan and Bangsue stations were provided for the major repair of equipment which was still underdeveloped.

- Waterway Systems

The impact of the growth of the highway and street transportation systems caused some decrease in waterway systems in the canals for a long-haul movement of goods and passengers, but it is still essential to the people who live along the canals. Another reason was the inadequate navigation improvement and ecosystems that caused the canal systems to decline but the river systems are still vital.

The deep-sea Port Authority of Bangkok at Klong Toey had relatively new facilities at that time and 90% of all imports entered this area. In addition to, Bangkok was also the port of entry to Laos with goods transhipped by rail and ferry to Vientiane, but it caused a lot of traffic congestion from the lack of arterial highway facilities for the goods movement.

- Airway Systems

The Bangkok Airport located at Don Muang had been developed by American aid into one of the finest international airports in Southeast Asia, but there were still inadequate facilities and space to serve the increasing

passengers and freight loading systems. The passengers were approximately a little over 22,000 in 1960. The daily traffic movement averaged approximately 61, for an average of about 2.5 planes per hour at that time. It still needs expansion for the international jet-plane systems.

Utility Systems

-Water supply systems

The water supply was derived chiefly from a river intake rather than the underground water which was located at Simla, 35 kilometers (or 22 miles approximation) upstream on the Chao Phraya River for the collection distance. The water supply in Bangkok was rather inadequate from the lack of collection and distribution systems, especially in the older portion of the city and the fringe areas, besides due to the high peak demand of the population growth. It needs the progress of technology to be handled effectively and economically for the future growth of Bangkok.

- Sanitary sewer Systems

The problems of sanitary sewers in the Bangkok Metropolis were dominated by three factors:

- Bangkok was situated on a lowland of river delta so that there was practically no gradient of nature, and deep excavation was rather difficult.

- From the population density which was relatively high the problems of sewage disposal would increase.

- Bangkok is situated on the estuary of the Chao Phraya River which caused the flow of water to be restrained. To insure the proper development in the future all of these constraints should be solved.

-Storm drainage Systems

The city is located on the flat land with intersected numerous canals as subject to seasonal high intensity of rainfalls to be drained at that time. Unfortunately, after the ditches were filled to expand the roads, there was not enough capacity of storm sewers to drain the rainfalls and these caused flooding in the poor areas. Another reason was the high river stage which greatly reduced the already low effectiveness of natural drainage to be worse. To provide the effective means of rapid relief from heavy rainfalls would reduce the cost of damage for a better standard of sanitation and ecosystems which should be considered.

-Communication, Energy and Building Material Systems

From the economic and technology constraints in the domestic society of Thailand we cannot afford enough economic power to provide physical capital improvement programs for the betterment of architectural forms and functions with adequate flow systems for the low income people. Communication systems are especially very expensive to be provided at homes. These problems caused a lot of traffic congestion and social cost from the impact of face to face communication. All of these facilities should be provided for better living and the socialization of the people in the Bangkok Metropolis.

Chicago

On the daily average of activities in Chicago, automobiles were driven more than 25 million miles, and 1.3 million passengers were carried by the Chicago Transit Authority busses over the city's 3,700 miles of streets; more than 1,200 planes arrived or departed with carrying some 50,000 passengers. Three and a half million people went to work, conducted business, visited, shopped, went to school, and sought entertainment. The city's industries produced more than 65,000 tons of steel and 85 million kilowatt hours of electricity. All of these activities were in 1960.

Transportation Systems

Among the interrelated functional systems of the city transportation networks, which provided for access and communication, had been and would continue to be the single most important influence over the city's structure. The public rapid transit and private rail lines focusing on the central area, and a uniform grid of mile, half-mile, and quarter-mile streets consisted as the basic form of the present networks. There were a few diagonal streets extending to the center of the city, and the existing expressways generally followed a modified radial form. The circumferential railroad freight lines connected other railroads and distributed goods among them.

Chicago water port systems consisted of two main parts: Chicago Harbor, at the entrance to the Chicago River from Lake Michigan; and Calumet Harbor, including the facilities in Lake Calumet with the Calumet River connecting it with Lake Michigan to the east. Chicago Harbor was near the center of the

business activity area and the terminal of local transportation was limited because of its location which prohibited the handling of bulk or hazardous cargo. At the same time Calumet Harbor was well suited for handling both general and bulk cargo.

Chicago-O'Hare International Airport was the world center for the mid-continent region and the air transportation center for the the Midwest. Another important airport was Midway Airport for the commercial traffic and private flights. Both of these had been developed with new facilities from the great extent of technological innovations in aircraft design, air traffic volume, and controls with the connections with expressways for the access to the Central Business District and other inter-regional city nodes.

Utility Systems

-Water Supply Systems

Because of its easy access to an abundant supply of water from Lake Michigan, the Chicago Metropolitan areas had a great advantage in water use for domestic, industrial, and other uses with adequate facilities.

- Sewer Systems

There were various engineering techniques which could accommodate the sewage system and the storm water drainage system with adequate facilities in the Chicago Metropolis.

- Pollution Controls

The city should consider action to improve the quality of air, land, and water on the basis of the knowledge available to protect and prevent pollution from the high density of population. This should be with the

high intensive use of space heating and incineration, motor vehicles, industrial wastes and sanitary disposal of refuse, and conducted regulation research which would be necessary for the great Chicago Metropolis.

Communication and Energy Systems and Building Materials

The United States is the typical standard of communication and energy resource systems with adequate facilities and techniques to provide for the feasibility of the artifact uses for the society, as well as in the Chicago Metropolitan areas. Furthermore, there is no problem in terms of materialism in Chicago from the progress in scientific, technology, and economic values plus human-resources efficiencies which convert the natural resources to cultural productions for the social uses.

Education Institution

Bangkok

The primary and secondary educational history in Thailand might be divided into three eras: Prior to 1853 no formal schools existed, and the only education available was that given in the Buddhist temple by the monks, and was offered to boys only. This was offered to boys only because the ability to read and write was not considered worth acquiring unless needed for earning a living. Such education was conceived by only a small percentage of the people.

The beginning of a new era began to take shape when Western missionary schools were encouraged to establish in Thailand a little over a century ago, and a palace school was established for the Royal children of the country in 1871. When enrollment increased so rapidly, additional schools were soon established in the system. The school for girls was founded in 1880, and in 1887 the Ministry of Education was established with private and temple schools, which were brought under government control.

The beginning of the Compulsory Education Act was established and adopted about 70 years ago to usher in the third and current era. The total enrollment combined approximately 60 percent of the school age population during the Compulsory Education Act's first ten years in force, and tripled in the process. The enrollment of girls increased from less than 10 to nearly 40 percent of the total, and the total enrollment within the Greater Bangkok area was approximated as follows in 1959-1960: primary and secondary students were 200,000 and 175,000 respectively, and over 15 percent were in the vocational programs. The primary and secondary pupils were approximated at 60 percent and 14 percent of pupils who were in private schools. Enrollment

figures of pre-primary enrollment had not been included.

At that time the education system still lacked good conditions of buildings and facilities. The government provided an inadequate budget for education systems throughout the country and caused a lot of students to migrate to Bangkok in order to obtain an education. This also caused the concentration of five universities in Bangkok, and Bangkok could not admit all those students to study in higher education because of the lack of space and facilities to be provided for them. Although the Thai Government had established the new three universities in other parts of the region and one in Bangkok, those universities could not keep pace with the rapid growth of the demand for the rest of the accumulated students from the high schools.

Not only had the students who wanted to go further to study in the university faced the problems of inadequate space and facilities to be provided but also students in the elementary, secondary, and high schools had tremendous problems to get in because of the growth of demand. At the same time the government tried to use the priority of policies for the national stability in terms of national defense stress, and education systems were not given enough budget to broaden such facilities for human capital development. Another reason was from the lack of neighborhood education planning systems for convenience, safety, and feasibility for neighborhood movements. This caused a lot of problems in transportation systems in Bangkok from the impact load of students travelling to schools. The congested traffic was still not alleviated as well as the increased stress, strains, and social cost to the people in the Bangkok Metropolis.

- Library and Museum Systems

There were very few library and museum systems for the people in the Bangkok Metropolis. There was only one major free public library, the National Library. Furthermore, there were very small library facilities operated by the Education Department in various schools, and some were operated by Wats (Monastery) and by the Bangkok Municipality, including those in the universities and colleges; however, there were some libraries operated by the foreign information service and by international organizations primarily available to the public reference only, such as USIS and BIS organizations.

The National Museum was the only museum available to serve the people in Bangkok, and needed additions or expansions, as well as library systems.

Chicago

Great pressures had been placed on Chicago's school systems in recent years. More than 193,000 pupils had been added to the kindergarden through college enrollment for the public school systems since 1950, pushing total enrollment to nearly 600,000. This happened because of the high birth rate of the 1940's - 1950's, and also because more children had been staying in schools.

The Board of Education had constructed 145 new elementary schools and 6 new high schools since 1950 in order to meet the demand of the post-war school population. Furthermore, the high pressure of high enrollments had made it possible to replace all obsolete buildings and added new school sites in such a short time. Public elementary and high schools which were operated by the Board of Education, as well as private schools, had different requirements in Chicago, as follows:

-Elementary & High School Systems

Elementary schools were generally located in each residential neighborhood for convenience and safety for young children to walk to. High schools and vocational schools were more widely spread throughout the city and were served by public transportation facilities in order to provide the opportunity for flexibility in attendance districts.

- Higher Education Systems

There were three categories of higher education in Chicago: the junior college systems, State of Illinois colleges, and universities, and private colleges - universities. The Illinois Board of Higher Education had determined anticipated future capabilities and requirements of space and fac-

ilities of State and private colleges and universities in the Chicago Metropolis.

- Library Systems and Museums

The systems of the public library in Chicago, with a hierarchy of facilities which was mostly distributed through residential areas of the branches - systems, were adequately available but there would be need for the new public systems in the future in order to acquire sites and buildings. There were various kinds of museums available for the public interests, such as the Museum of Natural History, Museum of Natural Sciences, and Art Museums, etc.

Religious Institutions

Bangkok

Religious institution had been brought up with the Thai culture for a long time and it did have the impact upon the landuse patterns of the community and way of life of the Thai social structure and organization. It was not only the place for worship or homage payment to the Buddha, the doctrine, and the monks but it was also the heart of the community in terms of multidisciplinary purposes for the Thai society: community center, education, symbol of the city, recreation, and the holy place for the people to be taught in the daily way of life, traditions and customs with other important ceremony festivals, etc. We could see the Wat(monastery) everywhere in the community, especially in the Bangkok Metropolis as the symbols which characterized or identified the uniqueness of the Thai physical form of the city and human settlements.

The Buddhist temples and doctrines formed the Thai society as the natural social ties in terms of social structure and organization. Furthermore, it had influence on the fantastic architectural, and other facilities innovations as cultural artifacts. Unfortunately, the impact of the population growth, economic depression, increasing impersonal socialization, and the weakened political organizations caused deorganization of the natural social ties in the Bangkok Metropolis. Less people and government organizations were interested to enhance the vitality of Buddhist religions and Wats. These caused the coming generations to know little about the significance of Wat reality. In the recent years less Wats were established for the society but all of them which were available everywhere were still dedicated to the public interests anyway.

Chicago

The religious systems in the Chicago Metropolis, or other parts of the United States, did not have much part or influence as land consumers in recent decades as in the ancient time because of the impact of urbanization which was stressed by other institutions. Chicago was composed of a variety of the aggregate of ethnic groups who lived together and formed loosely the society in the metropolitan areas. Religious institutions did have influence on the social structure in terms of the neighborhood opportunity choices. The various ethnic groups could attend at their convenience churches and other cultural centers available in that neighborhood.

The churches were defined as the symbolic systems of their unique neighborhoods in terms of the identification of who was there from their religious systems. They were also defined as beliefs which caused the population distribution in terms of the belonging of the neighborhoods from their different religion and belief systems. These factors caused the variety of nodes of communities which distinguished them from others, and they did have impact upon the social structure, organization and the artifact forms of various landuses from the differentiation of races, way of life, and religious systems. To integrate these people together would be beneficial to the cohesion of social organization and sound landuses, but these problems have to take time for solutions.

Health, Safety, and Welfare Institutions

Bangkok

From the impact of growth and change of greater Bangkok, health, safety, and welfare organizations were unable to improve and provide adequate facilities and techniques for the society when compared with the Western standards, as follows:

-Fire Department

The high incidence of fire in Bangkok mostly took place in the crowded areas and relatively inaccessible conditions. They were completely inadequate in terms of numbers and conditions of physical facilities and services to cover all areas in the Bangkok Metropolis, plus a shortage of water for the fire fighting purpose had been provided. At that time there were only twelve stations for the total numbers, including the General Head Quarter. Three of these were special stations belonging to the Royal Thai Navy, the Port Authority of Thailand, and the Tobacco Monopoly organizations.

-Hospital

In the Bangkok Metropolis the ratio of hospital beds were 2.8 per 1,000 persons and 1.1 per 1,000 persons in special categories, which was still inadequate. As regards location, the hospital systems were satisfactory. They were sited primarily along the major streets in the heavily built-up areas and easily accessible to the majority of the Metropolitan population. There were some special hospitals which were suitably located in the rural fringes of the urbanized area, but they still required modification as new developments in health, medicine and facilities for the better standard of the people in the areas.

- Refuse Disposal

The refuse was dumped in the low land in the northeast part of Bangkok which was not suitable for the health standard. The Municipality of Bangkok had had completed, under contract, the construction of a compost plant with a capacity of 3,300 cubic meter per day. This plant was located next to the original dumping area. It was one of the largest installations of its type in the world, which needed for the future expansion or addition of new ones.

- Recreation and Open Space

The recreation areas and facilities, both active and passive types, were still inadequate from the following categories: play areas, parks, special recreation areas and Wats. However, these types of supplies clearly did not approach the demand. The total areas of all public and private recreation land above provided approximately 1 ½ square meters per capita, which contrasted to the United States standard of 40 square meters per capita. The provisions of open space and recreation facilities were still required for the people of the Bangkok Metropolitan areas.

-Police

The impact of the population growth, lack of the positive input of socio-economic values, and recreation areas and facilities, together with stress and strain of impersonal socialization, caused the negative regulation of law enforcement. The inadequate policing along with facilities and techniques caused the crime rate to increase in the Bangkok Metropolis. To input both positive and negative values are necessary to improve social betterment for the public safety and the reduction of crime rates.

Chicago

The people of Chicago demonstrated their awareness of the security and welfare of citizens and their community. The city agencies have initiated the programs to encourage citizens support and involvement in health, safety and welfare: police and fire departments, Board of Health, major medical centers, environmental health, including human relations and urban opportunities, etc.

-Police

The Chicago Police Department had produced one of the nation's outstanding law enforcement agencies in 1960. The Chicago crime rate declined with efficient techniques and facilities over the past 10 years in the 10-25 year old age group.

- Fire Department

Chicago's disastrous great fire of the 1871's shocked the world and dramatized the need for fire-fighting technique improvement. The major achievement in the city's continuing efforts to provide safety from fire caused the cost of fire insurance in Chicago to remain low. The fire department of Chicago extended its functions to respond to calls for help in case of automobile accidents and dangerous conditions, too. It also provided service for some nearby suburban municipalities on a regular basis , at rates established by ordinance, and to respond to emergency fire alarms from anywhere in metropolitan areas with adequate facilities, personnel and service.

- Health Care

Chicago's public health agencies were responsible for filling un-

met health needs by supplementing private services, and providing leadership and assistance for the city's private health institutions and agencies in order to assure the maintenance of health standards. All of these programs were city-wide public health services and facilities, local health centers, services for the medically indigent and mental health care.

The city of Chicago has extensive programs for residential improvement for the quality of environment. This is by elimination of sub-standard housing and correct environmental deficiencies, to maintain and rehabilitate older housing, and broaden equal housing opportunities for both public and private investment with adequate community facilities and services for the quality of life in day-to-day activities. Furthermore, it encouraged participation in local civic centers, recreational activities which included open space, parks and recreation facilities and cultural purposes.

Government Institution

Bangkok

The government policies of assessed land values provided by the Department of Land, Ministry of Interior, reflected the special distribution of various activities within the Bangkok Metropolis. These policies influenced the way in which individuals sought to use land for various locations and densities which affected the shape and artifact form of Bangkok landuses, buildings and network systems. In general, the assessed land values were highest when immediately adjacent to roads and canals and decreasing to the lowest values in the interior blocks or other areas where relatively inaccessible.

Since Bangkok is the national seat of the government, traditionally the King had possessed large land holdings: Crown property including Royal property, the latter being the personal property of the King. Government and ownership was an important factor in the formation of plans and suggests which device to carry out the landuse plans as follows:

- Government land, including national and municipal owned land
- Government sponsored organizations, including such individual enterprises as: Siam Cement Co., the Port Area, the State of Railways, and utilities and facilities for the public interests
- Military, including army, navy and air force which located within the confines of the Bangkok Metropolitan areas. These included areas for schools, housing, and training facilities
- Government institutions such as public schools, universities, ministries and other equal organizations, and
- Open space, parks, and a zoo for the public use.

The total land area of the Bangkok Metropolitan Municipalities was

108,390 rais or 43,275.6 acres, which belonged to the government.

The Bangkok Metropolitan government lacked the efficiency of administrative performance and coordination with other involved agencies to form the recommended policies which represented a synthesis of all means of effecting change that could be used to carry out the plan's proposals among the political jurisdictions. These problems caused the policy-making in Bangkok to become too lenient regarding capital improvement and community development. Zoning and ordinance programs made the confusion of landuses and the sprawling development with order. These caused the functions and forms of landuses to become wasteful in terms of the public interests and feasibility. All of these problems should be considered, otherwise the Bangkok Metropolis would be difficult for adjustment and a tremendous disaster would happen to the society.

Chicago

The Chicago Metropolitan Government had created the recommended policies to take into account the forces of change which was continually remaking the city of Chicago. The three major methods of inducing change available to the government were as follows:

-Capital Improvement

The capital improvement by the city government of the Chicago Metropolis had completed many projects which included transit lines, expressways, streets, water and sewer facilities. Airports, ports, schools, parks, and public buildings with services provided by public agencies were also directly related to the attainment of the plan's objectives. Some of those projects that had been completed in the past decade were: The Eisenhower, Kennedy, and Dan Ryan Expressways; the Chicago Skyway; the major street improvements, Damen Avenue; the Viaduct had been completed; the Navy Pier had been improved; Lake Calumet Harbor was opened; and the O'Hare Airport was developed.

- Community Development

Community development projects had been provided as a means of direct, joint action by public agencies and private investors in order to up-grade specific parts of the city of Chicago. These included urban renewal conservation projects which improved conditions and smaller redevelopment projects which made land available for housing, industry, commerce, and institutions. In the city's urban renewal programs more than a square mile of slums had been cleared, and more land had been made available for new

housing, industries, business, and institutional buildings. Conservation projects had helped to improve more than two square miles of residential area. School construction had added more than 4,800 classrooms.

Major improvement had also been made to basic utilities and services - water and sewer lines, street lighting, the Central District Filtration Plant. Private enterprise had been supported and encouraged by Chicago's public improvement programs and continued to invest in new homes, industries, and business buildings.

- Regulations

Controls over private development through zoning, subdivision regulations, and building and housing codes were a most important method of development of the city of Chicago. They tried to improve the use of these measures, as well as some revisions in existing legislation in order to carry out the recommended policies in the effective plan for the Chicago Metropolis.

All of these activities involved various institutionalization of the Chicago Metropolis including the policies, planning, administration, and operations which were coordinated together as follows: Department of City Planning and the Chicago Planning Commission; Administration Office of the Mayor; Department of Urban Renewal, Commissioner of City Planning and Community Renewal Program, and other agencies which had worked in formulating the policies, planning, administration and operation which became reality. All of these had been integrated by the government actions of Chicago, municipality of local areas through State and Federal Government relationships together with other dependent, independent, and interdependent agencies.

COMPARATIVE LANDUSES:

Landuses of Bangkok Metropolis in 1958*

<u>Types of Landuses</u>	<u>Areas in Square Miles</u>	<u>Percentage</u>
UNDERDEVELOPED AREA:	11.34	16.76
-Open	5.78	8.54
-Wooded	0.18	0.27
-Water	5.38	7.95
AGRICULTURAL AREA:	26.89	39.28
-Rice Paddies, Farms, Vegetable Gardens	8.65	12.32
-Orchards, Plantations	18.24	26.96
RESIDENTIAL AREA:	16.57	24.49
-Farmer Type	1.01	1.50
-Compound	5.69	8.40
-Small Lot	4.19	6.16
-Attached, Apartment	0.17	0.25
-Condense	5.52	8.18
INDUSTRIAL AREA:	1.66	2.54
-Industrial & Residential	0.06	0.09
-Other Industrial	1.60	2.36
COMMERCIAL AREA:	1.71	2.53
Commercial & Residential	1.42	2.13
-Retail Stores	0.007	0.01

* Litchfield Whiting Bowne and Associates: Greater Bangkok Plan, Kanachang Co., LTD., Bangkok, 1964, pp. 54.

<u>TYPES OF LANDUSES</u>	<u>AREAS IN SQUARE MILES</u>	<u>PERCNETAGE</u>
Commercial Area (cont.)		
-Gas & Auto Repair	0.10	0.15
-Offices, Hotels, Motels, Movies, and Restaurants	0.11	0.16
-Markets	0.05	0.08
WAREHOUSE & STORAGE	0.68	1.01
UTILITIES:	1.07	1.58
-Water, Electrical & Communication Pipelines	0.16	0.23
-Transportation	0.88	1.35
INDUSTRIAL AREA:	7.1	10.51
-Schools	1.2	1.83
-Government Buildings and Land	4.02	6.03
-Embassies & International Organizations	0.20	0.29
-Private & Public Hospitals and Libraries	0.05	0.08
-Temples, Churches, & Cemeteries	1.54	2.28
PUBLIC & SEMI-PUBLIC OPEN SPACES	0.94	1.39
TOTAL	<u>67.64</u>	<u>100.00</u>

Landuses of Chicago Metropolis in 1960*

<u>TYPES OF LANDUSES</u>	<u>AREAS IN SQUARE MILES</u>	<u>PERCENTAGE</u>
Manufacturing	11	4.87
Commerce	8	3.54
Business	9	3.97
Institutions	5	2.21
Residence	71	31.43
Recreation	17	7.52
Schools	4	1.77
Streets and Expressways	54	23.89
Railroads	16	7.08
Airports, Ports and Utilities	10	4.42
Cemeteries	2	0.89
Rivers and Inland Lakes	5	2.21
Vacant Land	14	6.49
TOTAL	<u>226</u>	<u>100.0</u>

* Department of City Planning: Basic Policies for the Comprehensive Plan,
Chicago, 1964, pp.18.

CONCLUSION:

From the differentiation of the comparative landuses and other artifact productive innovations of both Bangkok and the Chicago Metropolis we can perceive that all of these types of subsocial systems have a tremendous impact to the growth and change of the artifact form, and social organization of our urban settlements. This is because the social system is the dynamic force on the static elements of artifact and nature, both horizontal and vertical dimensions. We should recognize these types of untouchable dynamic factors and integrate them into our planning processes. This should be done in such a way that the social system can be easily adjusted to fit with ecosystems from the creation of the socio-ecosystems stabilization to the society as a whole.

SYNTHESES: Goal Policies

Today the fact is that we have been overcome by the dynamic changes of social systems which we still do not even try to impose a rational order upon so that we will be able to plan for the whole organism in advance and guide its growth in a rational way. Social space needs some proper structuring which defines the relationships of every unit to the others. This has to take place on the basis of the hierarchy of units and their relationships.

Our challenge is to give a practical form to the coming urban settlements, the universal city of man which will help man to survive and realize his ideals. We should not be afraid of our subject. We should face it and tame it before it tames us. We must deal with all universal elements in our biosphere which are man, culture, social system, artifact, and nature in terms of wholistic realization and integrate them together with the best processes to our knowledge.

For the synthesis of our urban settlements we should not forget that it is not enough to place all our elements side by side; we have to form how the one meets and blends with the other - man with man, man with nature, culture, social system, and artifact and their combinations. Such an overall conception of the future urban settlements would lead to the symbiotic stabilization of our society from the following convictions:

MAN:

Even man has been biologically almost the same for the last one hundred years, and to the best of our knowledge he is going to remain so for the

period of our projections of our city, but he is continuously evolving and developing from a cultural, psychological and social point of view. Such considerations should not exclude any variation of human species which the future city should be the place to serve all human types for their happiness.

Such requirement of human needs is a certain space with both organic and physical nature for man's body; sensation and perception of his organs; emotional satisfaction of human relations, aesthetic and moral values. Besides, the efficiency of basic material needs economically related to the artifact functions and forms and other systems from the anticipated social organization dimension.

CULTURE:

Culture is a tool or means to form the social system which tells the people how to behave in that society. This is accomplished in such a way that it will create a livable social structure and organization from the applicable utilization of the following variable cultural systems: beliefs, norms, sentiments, roles and positions, influence of power, authority power, a hierarchy of status, and facilities to achieve their goods. These cultural values form and shape the collectivity of people in a meaningful interaction of behavior of socialization in order to attain the wholistic cultural components of values:

- Speech:languages

- Material Traits:

- a) food habits

- b) Shelter

c) Transportation and travel

d) Dress

e) Utensils, tools, etc.

f) Weapons

g) Occupations

-Art: carving, painting, drawing, etc.

-Mythology and scientific knowledge

-Religious practices

-Family and Social System:

a) The forms of marriage

b) Methods of relationship

c) Inheritance

d) Social Control

e) Sport and game

-Property:

a) Real and personal

b) Standards of value and exchange

c) Trade

-Government:

a) A political form

b) Judicial and legal procedures

The city should express these meaningful values of the people who live together in terms of survival organization and society as a whole.

SOCIAL SYSTEMS:

The better city should express a proper social organization, its inter-

action, and its settlements of the people which are indispensable for the greater future city. These imply that man, family, and his home, and human community are based on the natural connection among their members. Such social interaction and organization of the society will be expressed physically by a proper structure of the city at all its levels and the optimum degree of freedoms for the people to live together by the best process of utilization.

The planners and designers should realize and integrate the institutionalization and impose them in such a way that will be consistent and balanced with other systems and components in the world in order to attain such reality for the society of the people as a whole.

NATURE:

The nature is the container that we live in. We do not only look at the nature as an element of beauty, but the main value of it for man is its supplies of food, water, land, air, and raw materials to be converted to cultural artifacts for human utilization. The future city should guarantee all values which are provided by nature for the purpose of allowing man to survive under the best conditions in terms of both natural and human ecosystems.

ARTIFACT:

-Architecture

Every person should have his room for protection from over-exposure to nature and socialization where he can isolate himself from others. In this

same way he has freedom from his roommates, other neighborhoods, and societies. Our tasks are to create architecture properly to attain these values and dimensions involved from the proper architectural design in the best sense of the word of architecture, and the expression of the community beyond our own life-time from housing through various kinds of facilities and levels of scale of the human settlements with relationship together by the proper utilization of man, culture, social systems, nature, and the artifact itself in human society.

-Networks

The city requires a very revolutionary conception of all types of network systems as human facilities: transportation, power, utility, energy, communication, computer and information systems. Greater technological development will imply greater services to the people. All of these types of networks will develop the total world into one neighborhood. With such an achievement, the surface of the earth is going to be free from the intrusion of such type facilities which will deprive man, society, culture, and his natural dimensions. The planners should consider these applicable network systems and try to impose them with the optimum benefits to the society and avoid confusion to other systems and components.

Man is to be better able to manage his social systematic relations with ecosystems. It has become clear, however, that earnest and bold departures from the past will have to be taken nationally and internationally if significant progress is to be made. No man, no people, can travel this road alone. This recognition of the necessity of cooperative action of five elements has given a spirit of optimism in the face of unprecedented challenges to man's wisdom and his goodwill in society.

EVALUATION

From this point of view we can conclude that all urban settlements, from very small to very large, from traditional to new, are going to grow dynamically and continuously and become interwoven into one system of increasing complexity. It is this complexity - far greater today than ever before - that makes it difficult to comprehend the overall systems. Therefore, we are still confused.

Every part of these complex systems, every part of the city consists of five elements: man, culture, social systems, nature, and artifact with their functional relationships, and they are now interconnected into one system which can be called room, house, neighborhood, community, city, metropolis, megalopolis, and so on. The conceptions of human settlements are usually restrained tremendously by the social system, and most of those cities become disorder from its impact without relationships to its subsystems and other elements. Social organizations and the city have to be practical and to deal not only with the social system, but with man, culture, nature, and artifact in a systematic method.

Large size cities and their dynamic growth of organization and artifact form are already facts; the task of the planners is to organize these great cities of man and give them a structure which will allow them to function properly and serve man. This means that the city should be created with the framework of five-element organizations for a very orderly formation of the universal city at all its levels.

The chance for achieving the maximization of this goal of planning for the future urban change the planners should conceive in so far as most organ-

ized human activities which are involved require some degree of forethought and effort to attain the goal. Social change in some measure is always planned change in the context of the best planning processes in order to make an effective contribution both socially and to artifact planning to human society. In improving the quality of urban life, and in helping to make the administration of urban affairs more rational and efficient planners have made the great development of urban settlements for the better social structure and organization in society.

A system of five elements which function in five different ways leads to multidisciplinary combinations. Social system is one element which is the heart of these elements as it mechanizes and utilizes the total elements and becomes reality. So we can say that all of the subsystems of social system, which are called suborganizations or social institutions, control the structure of the social organization and the artifact form with the other four elements used for shaping the population growth and change for a better living society.

If we want to reach the goal of our future order of social organization and human urban settlements, we should consider that our urban settlements consist of units of many different sizes, from the human microspace which contains man's body, to room, house, neighborhood, community, city, metropolis and even beyond to a macrouban settlement with a balanced order of goal, policy, planning, design, and implementation from the arrangement of the five elements with the efficiency of the social system for the survival of our total social organization and artifact form, with feasibility in biosphere with dignity in terms of socio-ecosystems.

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