

Learning *from* China?

Development and Environment
in Third World Countries



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11 The operational contexts between developmental, environmental, and settlement policies

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Propositions

According to the objectives of the conference, this chapter will concentrate on the question of whether China can be considered a model for a new development strategy which integrates modernization and industrialization with ecodevelopment. My aim is to point out that such a strategy is basically dependent on an integrated environment and settlement policy. We can learn this lesson from ancient China and it is interesting that modern China is also the first country to come back to this basic relationship.

The relationship between environmental crisis and settlement structures

The previous development phases of industrial culture have until now resulted in a continuous disintegration of the close relationship between man and his environment which had existed in pre-industrial cultures. The consequences of this long-term ignoring of ecological realities and necessities are visible today in an environmental crisis of world-wide dimensions. The result is almost beyond calculation: the ability of both society and humankind to survive, either in the heartlands of industry or in the developing nations, is called into question.

The environmental dimension will inevitably become the principal factor in future development policies and survival strategies. Topical examples of the ever-increasing gravity of the environmental crisis are:

- (a) the spiralling pollution of soil, air and water;
- (b) the dying forests, rivers and fish as well as the continuous dwindling of species, both fauna and flora;

- (c) resources scarcity; waste and pollution in the wake of an industrial culture based on over-production;
- (d) the dangerous increase in modern high-technology projects with an ecologically high risk potential, such as dam construction without regard to ecological consequences (Aswan Dam), nuclear power stations, modern military technology, etc.
- (e) intensification of the sociopsychological-environmental crisis (the danger to the internal human "ecological system" as a result of the destruction of the external ecological conditions for life) – manifestations of this are increased environmental and mental illness, the growing suicide rate, drug addiction, crime, disenchantment with government, and resignation, etc.;
- (f) the growing financial crisis of the industrial nations, whose economies have not taken account of the ecological and social costs arising from their ecologically inimical production, distribution, and consumption structures, which today reveal themselves as virtually no longer capable of being financed.

The specific relevance of settlement to the environmental crisis lies in the fact that settlement structures are the most concrete and direct expression of the relationship between a society and its environment. During the process of settlement, the appropriation of environmental wealth, be it raw materials, energy, land and countryside, or water and food products, takes place – both in the form of production and of consumption. With the structures of settlement, the productive forces within society, together with the conditions for production, systems of values and specific structures of needs and requirements, take on material form. They are the product as well as the point of departure whereby natural wealth becomes cultural investment, where natural landscapes change to cultural landscapes. Structures of settlement are, in the final analysis, society's relationships to the environment in material form.

The environmental factor in town planning and building construction in ancient China

The immense importance of the arts of settlement and construction for long-term survival was, both as a result of tradition and experience, well appreciated by pre-industrial cultures, and influenced their thinking and practice. Pre-industrial settlement procedures were thus formed by an extensive knowledge of, and feeling for, the ecological laws of effect and regeneration of the natural environment itself. Remnants of such knowledge found their way into geomantics. In ancient China it

was known as *feng-shui* (the laws of "wind and water"). An awareness of the enormous importance of *feng-shui* was rooted deep in Chinese culture and governed the construction of both individual buildings and towns themselves, as well as any alteration to the natural environment.

The construction of single buildings or whole towns together with the harnessing of natural resources had to be conceived in such a way that the landscape did not undergo any transformation which would result in the harmony of the Earth's natural laws and energies being disrupted. The height and form of the building, the relationship of a building to roads and bridges, the positioning of ditch and wall, the siting as well as the formal planning had to conform as much to the laws of *feng-shui* as to the choice of building materials and the exploitation of natural resources.

The geomancer in ancient China thought of landscape and the natural environment as being a magnetic field, whose fields of energy could be altered by human intervention, both in a positive and a negative way. Thus a landscape that was originally unpromising could, for example, as a result of landscaping and construction be so transformed that desirable forces and fields of energy could be strengthened whereas the effect of undesirable forces could be weakened. In this way, for instance, the course of streams and rivers or the texture of a landscape could, by means of the construction of walls or canals, the siting or the constructional design of buildings and settlements, or the creation of lakes and ponds, be transformed. In the meantime, a critical comparison has been made with acupuncture. Just as the acupuncturist regulates the flow of forces within the human body by means of selected acupuncture upon the skin, so the geomancer, by means of his intervention, regulates the fields of energy upon the surface of the earth.

In the course of thousands of years, there occurred in pre-industrial times a highly-developed cultural synthesis between the social and the natural environment, between man and nature on the basis of the productive forces of agricultural society. That was not only the case in China, incidentally, but in all agricultural societies until the onset of industrialization and imperialism in their historically recognizable forms.

Industrial settlement structures as a symbol of the ignoring of environmental dependence and as the leading factor in the environmental crisis

The settlement structures of industrial society in their present-day form have become the symbol of an environmental alienation just as dangerous for the future as the destruction of the environment itself.

The recent phase of modern imperialism and industrialization is marked by cultural development and settlement structures which are in stark contrast to the geomantic-agricultural, human-environmental relationships described above. The process of urbanization of industrial societies has become, on the contrary, a symbol of a cultural development and settlement process which ignores natural ecological laws. The metropolitan areas and conurbations of the industrial age have grown into insatiable Molochs, or at least a senseless wastage of raw materials, energy, landscape and water. The catastrophic consequences for the future are well known and were enumerated at the beginning of this discussion.

Just as the alienation of the relationships between man and his environment, and the present-day environmental crisis materialized and consistently repeated themselves in the settlement structures of industrial societies, so, too, must such problems be overcome there. In this respect, development, environmental and settlement policies must be seen as a unity.

Modern China as the first country to come back to strategies of an integrated environment, settlement, and landscape development policy

The model character of development policies in the People's Republic of China is due to the fact that China is the first country since the industrial revolution to recognize, once more, the central importance of an integrated development, environmental and settlement policy, and to make such a policy a leading component of Maoist society. This concept will now be discussed by means of certain programmatic aims and political examples.

The concept of the "integrated settlement unit"

The basic idea is that of a close relationship between town and country as well as between industry and agriculture.

"Only by means of a close relationship between town and country can the pollution of air, soil and water be avoided." (Bao Guangqian 1979).

"Environmental problems are more easily solved: when towns form a unit with their surrounding countryside; when industry and agriculture are connected, one with another; and when their production stands in close relationship to human life itself." (Wu Tze Chin 1980).

As early as the 1950s, settlements were attempted in the spirit of the two quotations above, whereby it is possible to overcome the conflicts between town and country, achieving an integration of both rural and urban elements and, at the same time, bringing industry and agriculture together in new economic, political, and social units.

The population of settlement and rural units (units which were self-governing to a greater degree than cities) should be able to determine those conditions in close relationship to the environment. Production should therefore be planned to a large extent to fulfil local needs and requirements.

It was believed that only under conditions created by such settlement structures was it possible, in accord with modern means of industrial production, to create the necessary preconditions for the development of a new awareness of the environment. Those responsible for, as well as those affected by, damage to the environment were once again one and the same, and the connection between pollution of the environment and damage to the environment could once more be referred back to daily life within a limited context.

The encouragement of small- and medium-sized towns

In the opinion of Chinese town and environmental planners, the creation of integrated settlement units in China is more likely to be realized in small rather than in large towns. Small towns more readily present the possibility of self-contained cycles with regard to water, energy and raw materials. An optimum of resource utilization is made possible, which extends to the recycling of waste as well as sewage for use in agriculture.

Each town should, within the limits of its own potential, develop a complete industrial supply network as possible, in order to reduce supra-regional trade to an acceptable level and thereby limit transport and its infrastructure, and thus minimize their adverse effects on the environment.

A stop to the growth of large towns and cities and their decentralization

"A stop to growth" implies that the urban conglomerations already in existence are basically adequate to sustain future forms of development, both industrial and social; and that the advancing industrialization of rural areas is capable of absorbing the excess labor from the agricultural sector as well as the natural growth in population. Industrialization, the mechanization of agriculture together with the introduction of modern methods into quite different sectors of production and reproduction, should themselves produce a growing source of employment, both in

terms of quality and quantity, as well as helping to counteract some of the essential attractions responsible for migration away from rural areas.

With regard to the decentralization of existing conurbations such as Beijing, Shanghai or Nanjing, an environment-conscious concept of satellite townships was developed and realized. These also have their origins in the 1950s and were intended to enable the large towns and cities to avoid the concentration of harmful industries with high levels of pollution, and to assist in the selection of suitable industrial sites with urban surroundings. In this respect, political considerations also played a role. It was intended to prevent the towns and cities from encroaching on their surrounding countryside to the degree that valuable agricultural land also disappeared. Instead, less productive land, such as hill-sides, wasteland, or less valuable agricultural land, was chosen for the development of satellite townships.

The basis of local environmental policies can only be provided by local firms and the local community

The self-governing community is regarded as the most important prerequisite for a successful environmental policy. Those affected by their environment should be immediately responsible for shaping it. Thus there are, for example, monthly environmental debates, in which local inhabitants are involved in protecting their own environment. Similarly, there are several debates on hygiene in the course of the year (depending on the gravity of the local problems) which concern themselves with such problems as the combatting of mosquitoes, rats, mice and various bugs. Again, certain days are set aside for the planting of trees, which involves a large proportion of the town. At the same time, there are special campaigns for emission control by which means the inhabitants themselves impose unified controls regardless of the origin of the emission.

An integrated environmental protection policy is nevertheless aimed for by industrial concerns themselves, by means of pilot schemes devised by workers and management in cooperation with state research institutes or urban offices for the environment. The key aspects of industrial environmental protection are the use of technical means of controlling emission levels, the recycling of waste, and the reclamation of the green belt. Of particular interest is the introduction of plants on industrial sites to act as biological indicators, which are looked after by the workers themselves.

Environmental atlases as the basis for the development of environmentally conscious town planning

It is interesting that in Beijing an atlas of the environment had already

been drawn up in the mid-1970s to serve as the basis for the development of environmentally conscious town planning – an atlas which, to the best of my knowledge, must still be regarded as unique. The atlas contains detailed statistics with regard to pollution; the concentration of environmental diseases in specific areas of the city; the available natural potential for urban regeneration as well as concrete proposals for town planning. Similar atlases are in preparation in other large Chinese cities, or have already been completed.

Specific political and developmental frames of reference regarding the model schemes under discussion

Important prerequisites for the concept of a new and integrated environmental, settlement and development strategy, which it was only possible to present in this chapter in the form of a conceptual framework¹ were:

- (a) the extensive realization in the People's Republic of China of local conditions for development, whereby local conditions were freed from the environmentally damaging influences of the world markets;
- (b) the traditionally close inter-relationships of environmental factors within China (e.g. her huge population and distribution of population; scarcity of land and raw materials; continuous threat of droughts, floods, earthquakes as well as the dependence on elaborate systems of irrigation, etc.);
- (c) in cultural terms, an as yet not entirely forgotten link with the geomantic tradition;
- (d) the negative experience of industrialism and imperialism of both the Western and Eastern variety;
- (e) the development of a social structure of administration and organization which, based on historical experience, is both centralized and decentralized, while allowing considerable freedom for self-responsibility and experiment at local level.

Limitations

The ideas and concepts discussed here with regard to an integrated policy for environment, settlement and development, are only partially representative of Maoist and post-Maoist China. As the basis for a theory and guidelines for a new, future-orientated development strategy, they have been much discussed. In other developing and

industrialized countries the results of ignoring environmental factors, on the one hand, and assessment of innovatory pilot schemes, on the other hand, have been recorded for development and town planning.

Notes

- 1 For a detailed description and empirical criticism of this strategy, see Hahn (1983).

References

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