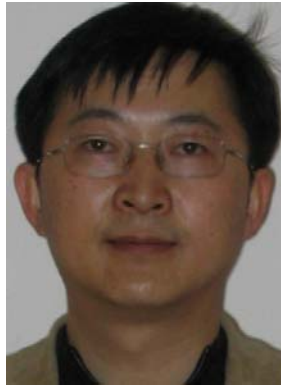


# Urban Development in Gansu Province

## Housing Shortage and Environmental Challenges

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Facing Gansu province of China this paper describes the problems of how to decrease the regional gap, to strengthen the village planning and control, to improve rural living conditions, to change the outlook of villages, to promote progressively rural living environment management and suggests possible ways forward by decreasing urban sprawl, improving drinking water and decrease environmental pollution.

## Shelter Situation Analysis

### Basic General Data

#### Geography and Administration

Gansu province, with an area of 544400 square kilometres, lies in north-western China. It is one of the most important mineral regions and tourism regions in China. For example, a 1,000 kilometre-long HeXi-corridor is an important section of the ancient Silk Road along which there are numerous cultural and historic sights .The

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JiaYu Guan Pass is the terminal point of the Great Wall, The MoGao Grotto in DunHuang city is a world famous tourist spot about the Buddhism clay carve and the mural art in the world, JinChang is the mineral region of the biggest rare metal-Ni in the whole country. Gansu province is divided into five sections: mountain, plateau, grassland, plains, and desert, with fourteen cities at different levels, of which Lanzhou is its capital city, and TianShui is the second largest city.

## Population

GanSu province has a population of about 2600 million, LanZhou city 2.8 million, and TianShui city 600,000. The other cities have a population below 200,000.

## Population and economic environment

China has a population of 1.3 billion, including 900 million people who live in rural areas, where living conditions lag far behind urban areas. In 2004, according to statistics, China's GDP in the eastern coastal areas was 19,775 Yuan on average and 7,720 Yuan in the western area. Foreign investment was 52.1 billion U.S. dollars and 1.7 billion U.S. dollars and per capita income was 4,417 Yuan and 2,300 Yuan respectively. The urbanization level was 51.76% and 32.36%, respectively, the per capita GDP reached 950 U.S. dollars in 2005, 0.20 million U.S. dollars were from foreign direct investment, per capita net income was 1,980 Yuan, and the level of urbanization 30.02%. By the end of 2004, 650,000 administrative villages and 2.57 million villages with 250 million households and a rural population of more than 900 million have been established all through the country. As for Gansu Province there all more than 870,000 villages, of which 16,000 administrative villages, 364 million households, with 17.82 million people inhabitant.

It is obvious that we are still trying hard to improve the present living environment in the eastern and western rural areas related to different situations and demands. For even in a province, the regional gap is also very big. The living environment in villages which are the centre of agricultural activities is a basic condition for the existence and development of mankind. To strengthen the village planning and control, to improve rural living conditions and to change the outlook of villages is an important task in order to improve human living conditions in GanSu Province and even all over the country. According to the principle of overall

planning it is necessary to promote progressively rural living environment management.

## Identification of Critical Shelter problems

At present, around 2% of the rural households in villages each year carry out spontaneously residential construction, Covering at least 400 million square meters in area, of which 60% of the building. At the end of 2004, about 205 million square meters of annual residential area has been put into use with one-third of housing area and 2,790 square meters for every one. However, the rural living environment remains generally poor; 96% of the villages have not been equipped with drainage facilities; 89% of the village suffered from problems with garbage; farm houses are not separated from livestock buildings in 72% of the villages and traditional toilets have not been improved in almost all villages.

At present the major problems with the rural living environment are the following: The first problem concerns spontaneous settlements. Only 24.9% of villages have been in the framework of national plans for the construction of villages, but only simple agree to urban planning. Some farmhouse is built at will along the highway building. Many rural areas, unlimited settlements of small-scale are distributing disorderly and casually, older ones will not be removed for new construction, newly built houses have not yet formed a new village, and even some villages without more spare room for building, and so-called "hollow village" have come into being. This is a waste of land. Some places are blindly imitated in the manner of urban local districts, without local characteristics and cultural taste. Safety is a serious problem that still exist in some areas. In the rural areas of Gansu Province there are a considerable proportion of sun-dried brick houses.

The second problem is that there are still a lot of difficulties in getting drinking water. The serious shortages of water in many villages in the northern areas, such as the central part of Gansu Province, still worries people while in the eastern part of the rural areas water quality is a big problem. Only 14% of the villages have been equipped with running water systems or water facilities, and 360 million rural people can hardly get water up to drinking standard.

The third problem is that the environment is too poor. Inside villages earth-filled roads are major transportation network. Dust is overwhelming in the sun and mud is

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overthrowing in the rain. Township enterprises in the waste water from local factories and farmhouses is running into the rivers and reservoirs, seriously affecting the water security, and forming a serious threat to the health of the local farmers. The popular use of industrial products has degraded the function of the garbage natural cycle. Each year, about 120 million tons of garbage is left in the open air without being effectively recycled.

## Accumulated factors over a long period have led to a deteriorated living environment.

First, in the country the main cause of bad quality of the housing condition is the backward economic situation. Although farmers have spent most of their major savings on building houses, the standard and quality of housing is not satisfactory because the building capacity is determined by the economic environment. Once some certain disasters such as earthquakes happen, the buildings of low standard would not be able to stand on, and residents must rely on the government to resume reconstruction work. Second, the deterioration of the natural environment has led to the deterioration of the living environment. With the increasing population and the intensity of the production too much wastes caused by daily life and industry excess self-balance capacity of rural ecological environment. When human activities are beyond the natural carrying capacity, natural environment will begin to deteriorate and inevitably become a threat to the quality of the living environment. Third, the inadequate capital in village infrastructure and public facilities is one of the causes of bad living environment. Rural roads, bridges and other facilities generally rely on solicit contributions and collected donation. Due to lack of capital investment, social support and very limited public finance, serious deficiencies in payment and services of village public facilities have occurred. Fourth, villages are not well planned and managed. For a long time, village construction has been out of planning guidance and policy support. As a result, various problems are increasingly seen with management being deficient in many aspects. Fifth, disorder and low-quality construction lead to a waste of resources and social wealth. In recent years, farmers frequently put down old buildings to be within the service life. Actually the number of removed houses each year is 27% of that of annually built ones. This makes it

difficult for farmers to accumulate wealth and what is more, it is a waste of social resources. Sixth, a large number of rural houses take up too much room but villages are short of well-trained designers, most of whom are earning a living in urban areas, without practice or interest in designing rural architectural styles, let alone lack of technological exchange and introduction as well as a poor and reinforcement in further technological guidance and training from the government.

## Proposal for Change and Improvement

Correctly handle the relations between the urbanization and rural construction.

In light of over all planning of urban and rural areas and coordinated growth of various regions, it is essential to promote agricultural development through industry, and return urbanization for rural development. So that industry can feedback agriculture and cities can support the countryside. The western areas should take advance over the state support and regional cooperation and develop nuclear city with the help of the key cities and transportation network so as to gradually improve the living environment.

Correctly handle the relationship between government aid and voluntary participation of the peasants.

A system of voluntary participation of farmers under the government guidance, should be established to highlight the dominant position of farmers, and actively encourage farmers to invest capital and offer labour force for public services and facilities from which they can benefit directly. Farmers should be encouraged to construct their homes through hard labour and self-reliance. The government should adjust the direction of investment and focus attention on construction of public services and facilities which individual farmers and even villages can hardly manage without government support. Policy guidance and technological services should help to lead village programmers to a right direction.

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Correctly handle the relationships between improvement in living environment and long-time improvement in rules and regulation.

Village planning is one of the governmental functions on the basis of which villages are well managed. Environment improvement in villages can not only change the situation of rural backwardness but also improve the system of village planning, construction and management diversified investment in public facilities and operation and maintenance of public facilities in order to make sure of continuous improvement in the rural living conditions. Housing conditions in villages should not be a short-term project but a long-term, we must focus on activity which. The relations between intensively saving land and overall exploitation of urban and rural land should be well dealt with.

Intensive land conservation is a common requirement for the development of urban and rural areas. It is important to make overall plans for urban and rural space layout, effectively protect farmland and take efforts to make the total amount of land used for urban construction stable .New rural construction depends on the full use of previous base and management of hollow villages, the supply of housing land by law, limited occupation of farmland and a waste of social resources.

Give priority to what villagers are most concerted with.

In the light of conservation principles, much has been done to make full use of available infrastructure, efficiently treat rural sewage and garbage and improve toilets, cowsheds and sheepfolds while too much attention is paid to housing problems with dwelling condition domestic and livestock pen are mixed with farmhouse. Meanwhile, the project of fire in which flood and debris flow prevention has been put into operation, and turn limited financial and material resources to roads building, water supply, drainage, communications and other infrastructure for a solution to the practical problems urgent for masses.

The preservation and transmission of traditional local culture.

On the basis of the village management, the projects of ancient villages protection and transformation, tourism service facilities, transportation, green landscape and infrastructure construction should be well done. According to the bearing capacity of farmers and the actual need for rectification, the original styles of old-fashioned houses and the original Green belt are to be untouched. Hills, trees, pools, houses and

roads should not be destroyed. Emphasis should be put on improvement of functions basic living and working in rural areas. Especially such aspects as disorder, pollution, road and water.

Housing construction should be in a reasonable orbit of guidance and management.

As for housing construction, much more attention should be paid on function improvement, living environment, security and local taste than size, design and style imitation. Newly built houses must be up to the standard of anti-seismic structure, ventilation, light, insulation, fire protection, security and other requirements, and also meet the demands of the modern tendency of rural development, and give full consideration to the needs of farmers. Governments at all levels ought to provide designing programs which are economic, safe, applicant, distinctive in both ethnic and local characteristics and energy-saving, materials saving and land-saving farmers for free. Housing construction planning and management should be consolidated and the planning and designing for architecture should reflect the rural and regional characteristics distinctive from urban ones.

## Action Plan

The most important is developing the economic.all the problems are depending on developing the economic.

- In our work,we should strength handle the relations between the urbanization and rural construction correctly , by cooperation to improve the living environment gradually.
- We should strength handle the relationship between government aid and voluntary participation of the peasants.To provide the policy guidance and technological services can perfect the public services and facilities.
- We should strength handle the relationships between improvement in living environment and long-time improvement in rules and regulation. The government should make village planning,by sustainable environmental management to provide safety and security environment.
- In planning and construction,Give priority to what villagers are most concerted with.such as water supply, roads building, drainage, communications and other infrastructure for a solution to the practical problems urgent for masses.
- In planning and construction ,the preservation and transmission of traditional local culture must to be concerted.
- Housing construction should be in a reasonable orbit of guidance and management.
- Correctly handle the relations between the urbanization and rural construction. Correctly handle the relationships between improvement in living environment and long-time improvement in rules and regulation. Correctly handle the relationships between improvement in living environment and long-time improvement in rules and regulation.