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Source: Mountain Research and Development, 24(3) : 206-209

Published By: International Mountain Society

URL: https://doi.org/10.1659/0276-4741(2004)024[0206:UADIMR]2.0.CO;2

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Mountain Research and Development Vol 24 No 3 Aug 2004: 206–209

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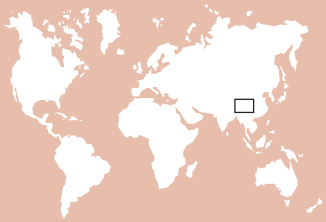
Urbanization and De-urbanization in Mountain Regions of China



Rapid economic development has induced urbanization in China. Urbanization and de-urbanization strategies co-exist in most of China's mountain regions. Urbanization typically occurs in famous scenic spots and in the vicinity of macro engineering works, while de-urbanization is implemented in large areas by the government to protect the natural environment. Over-urbanization has considerable impacts on the esthetic qualities of many mountain tourist resorts and sometimes even destroys the natural state of landscapes and ecosystems. Administrative gaps and omissions of the central government in managing the development of mountain parks and world heritage sites are responsible for over-urbanization in mountains. The search by local governments for short-term economic benefits is also a driving force of over-urbanization. The present article recommends that regulations and laws be developed to effectively assess and monitor the state of parks and world heritage sites in mountains. Institutions with sufficient authority must be set up to legally supervise and protect the natural state of parks and heritage sites in mountains, for the benefit of the Chinese people and the entire world.

Urbanization in China

Thanks to reforms and open policies since the early 1980s, China has experienced about 8–9% economic growth per year. As a result, urbanization—ie spatial concentration of population, increase in infrastructure, industrialization, and rapid economic development—has greatly increased across the country. The level of urbanization (urban population as a percentage of the national total) increased from 18.96% in 1990 to about 37% in 2001. According to National Statistic Administration estimates, at the current growth rate the level of urbanization will reach 45% by 2010 and 65% in 2050.

FIGURE 1 Cement plant built in the early 1970s in the mountains south of Urumqi, Xinjiang. The plant provided more than 300 local jobs but is the source of uncontrolled pollution. Distance from the city means there is lack of awareness of this negative impact. (Photo by Zhang Baiping)

The urbanization process has brought many problems. One is the emergence of landless peasants—a rapidly expanding and weak social group. Indeed, large-scale urbanization has led to confiscation of large areas of farmland. Although local governments have occasionally provided some compensation, the amount is usually very limited. In some cases, land was the farmers' only source of livelihood; they have become homeless, jobless, and in some cases have lost hope. Another problem is the helplessness of many peasants who leave their home towns in search of casual labor in the cities, but with almost no assurance of income and decent health. These people are the victims of urbanization.

Impact in mountains

With 70% of its territory covered by mountains or plateaus, China is the most extensively mountainous country in the world. Mountain regions, although relatively remote from cities, are also exposed to the process of rapid urbanization, especially as a result of China's "Develop the West" campaign launched in 1999. Several major infrastructure projects have been launched, including the Qinghai–Tibet Railway across the Tibetan plateau and the 4000-km-long west–east natural gas pipeline.

From 2000 to 2002, the central government invested some US$31.3 billion in developing the west. Of this total, about 24 billion was allocated for infrastructure,

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6 billion for environmental protection, and over 1.2 billion for social undertakings. In addition, US$19 billion, or over one-third of the long-term state treasury bonds, was used for western development. The central government also transferred US$36 billion to the western areas. Moreover, outstanding loans from financial institutions in the western region increased by more than US$72 billion in 3 years. The central government has vowed to attract heavy investment for economic development and environmental protection in the west, in order to transform China into a "well-off" society within 2 decades (Figure 1).

Almost without exception, mountain areas in China are very poor regions. Moreover, mountain ecosystems are usually fragile, and the conflict between regional development and environmental protection is acute. Indeed, urbanization in China's mountain areas occurs mostly where there are beautiful landscapes, especially in connection with mountain tourism, which has developed on a considerable scale. Moreover, the social problems due to land confiscation are more acute in mountain areas, as land is needed not only for urbanization but also for de-urbanization, ie conservation.

Overcrowded mountain resorts

In recent years, average per capita income in China has increased rapidly, from about US$450–500 in 1990 to US$1000 in 2001, with peaks in cities and towns where many families now earn US$10,000 and more. People can therefore afford to travel within China and even abroad, especially during the 3 long holiday periods, also called the 3 golden weeks. Since 2000, holiday tourism has increased at a tremendous pace, leading to overcrowding (Figure 2). For example, Tibet recorded 686,000 tourists in 2001, 28.6 times more than in 1990. The Wulingyuan (Zhangjiajie) World Natural Heritage Site in northwestern Hunan Province—a typical tourist attraction—recorded 1.3 million tourists in 2002, compared with only 0.23 million in 1998 (Figure 3). Generally, the number of domestic tourists in mountain resorts has more than quadrupled in the last 5 years in China.

FIGURE 2 Sprawl of tourism facilities on the Yuhuang peak of Mt Taishan. (Photo by Xie Ninggao)

Unsustainable management of protected areas

The ever-increasing number of tourists has triggered a need for new hotels and other facilities. This has been a powerful impetus for urbanization in and around scenic spots. Over-urbanization occurs as a result, made apparent by international criticism in the case of the Wulingyuan Scenic and Historic Interest Area, with its 326-m-high Bailong elevator (see Bureau of the World Heritage Committee decision in 1998).

Administration of world heritage sites and national parks by the central government is inappropriate. The relevant government departments in charge of the parks, eg the Forestry Administration, the Ministry of Construction, etc, are loosely

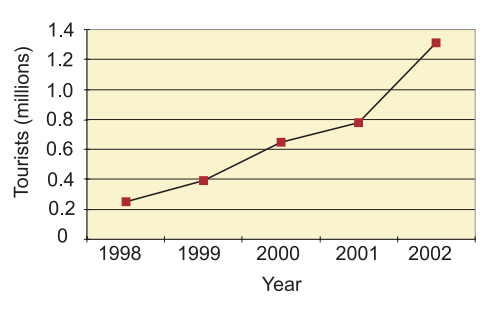

FIGURE 3 Annual increase in the number of tourists in the Wulingyuan World Natural Heritage Site, 1998–2002. (Source: Tourism Bureau, Zhangjiajie City, Hunan Province)

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FIGURE 4 Scar (15,000 m^2) left by construction of a cable car on the Yueguan peak of Mt Taishan. (Photo by Xie Ninggao)

connected with the management of parks and heritage sites, with no clear aims and measures. Management of world heritage sites and parks is actually left to local governments, which, in turn, usually rent them to tourist corporations.

Thus, development is largely uncontrolled and profit-oriented, as in the core area of Mt Huangshan scenic and cultural site, where 500 beds were planned but the current number is 1250. This has been criticized as unsustainable. Another case in point is Mt Taishan in Shandong Province, worshiped for many centuries by ancient Chinese emperors. Since the 1990s, 3 cable cars have been running and new ones are under construction, regardless of general opposition and the overall plan for this site. Some specialists have complained that commerce has defaced Mt Taishan beyond recognition (Figure 4).

Among the many causes of uncontrolled urbanization in mountains, 5 deserve special mention:

- Unsuitable local management systems for scenic spots, and profit-oriented development;
- Lack of environmental awareness among tourists, authorities and scholars; lack of understanding of the purpose of protected areas;
- The tendency of local governments to seek short-term economic benefits and official achievements;
- Lack of scientific criteria and regulations to assess and monitor the state of world heritage sites and parks.
- Administrative deficiencies in the central government's management of world heritage sites and national parks.

De-urbanization in China's mountain regions

Since 1998, China has launched 6 major national ecological projects to reverse environmental deterioration: natural forest protection (with a strict logging ban), development of protective forest systems, restoration of farmland to forest and grassland, desertification control, wild animal and plant protection and nature reserves, and planting of rapid-growth forests.

Most of these projects concern the country's mountainous areas, especially in the western regions. Indeed, from the very beginning of the "Develop the West" campaign, the central government emphasized the importance of protecting and improving the environment and ecology in the vast western hinterland.

Current protective measures and recommendations

Officials at different levels have come to understand that sustainable development requires ecological protection, not just boosting the economy. By 2010, US$60.5 billion will have been invested in planting trees and restoring grasslands in the 12 western provinces, autonomous regions, and municipalities. Moreover, the Xinjiang Uygur Autonomous Region has invested US$1.29 billion in pollution control and comprehensive treatment of the Tarim River; it has imposed a total ban on logging of virgin forests in mountains and any destruction of vegetation in the deserts. In Shaanxi Province, farmers are encouraged to barn-feed sheep. Some are using liquefied gas and marsh gas instead of fuelwood. The government has also allocated US$220 million in compensation for the loss of food grains. Farmers' incomes have thus risen despite the decrease in farmland. Many counties have been lifted out of extreme poverty.

Open policies have enabled an increasing number of people to under-

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FIGURE 5 More sustainable tourist accommodations built by local people near Sayram Lake, in the Tien Shan; there are no permanent structures around the lake. Damage to the ground from tourist use can be repaired. (Photo by Zhang Baiping)

stand the significance of protecting world heritage sites and parks in mountains. Specialists, eg Xie Ninggao (Peking University) and Li Jisheng (Shandong Province), have revealed the problems of over-urbanization and landscape damage in mountains, and appealed for measures and actions to halt careless behavior. International pressure has forced some local governments to invest large sums to remove hotels and even local residents from scenic spots. In some areas, more sustainable tourism has been initiated (Figure 5).

These measures are first steps in the right direction. But much more is necessary to strike a balance between the positive and negative impacts of urbanization and de-urbanization in China's mountains. With regard to the specific issue of world heritage sites, the government should make regulations and laws to effectively monitor and assess the state of protected areas. Institutions with sufficient authority must be set up to legally supervise and protect the natural state of parks and heritage sites in mountains, for the benefit of Chinese people and the whole world.

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