Disasters, Culture, Politics

Disasters, Culture, Politics: Chinese-Bulgarian Anthropological Contribution to the Study of Critical Situations

Edited by

Elya Tzaneva (Editor-in-Chief),
with Fang Sumei and Liu Mingxin

CAMBRIDGE SCHOLARS
PUBLISHING

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This book first published 2009

Cambridge Scholars Publishing

12 Back Chapman Street, Newcastle upon Tyne, NE6 2XX, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN (10): 1-4438-1348-6, ISBN (13): 978-1-4438-1348-8

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PREFACE

This collection was inspired by the Chinese-Bulgarian conference "*Contemporary Critical Situations: Natural and Social Disasters and Traditional Culture*" held in 2007, in Sofia. The conference was organized by the Ethnographic Institute and Museum at the BULGARIAN ACADEMY OF SCIENCES in Sofia (BAS), with the participation of two Chinese academic institutions: the Institute of Ethnology and Anthropology at the CHINESE ACADEMY OF SOCIAL SCIENCES in Beijing (CASS), and the School of Ethnology and Sociology – MINZU UNIVERSITY OF CHINA (MUN), former CENTRAL UNIVERSITY FOR NATIONALITIES, Beijing. The conference was realized as a Joint Research Project of the institutions mentioned within the framework of the General Agreement for Scholarly Cooperation between CASS and BAS, and came as a result of expanded joint field work and work-in-progress seminars in Beijing and Sofia, in the period between 2005 and 2007. In the conference took part, and contributed to this volume, thirteen recognized and respected ethnologists from the two countries, whose expertise and profound understanding of the problems arouse expectations of significant scholarly achievements.

As we have recently observed, it often happens that the typical pattern of relations between the individuals or groups and their natural and social environment is disturbed by unexpected circumstances or phenomena that are impossible to predict or even envisage. The catastrophic natural events – such as earth-quakes, floods, land-slides, tsunami-waves, fires – as well as those having technological and social background – such as epidemic diseases, consequences of wars, revolutions and migrations, oil-splits, construction disasters, explosions, etc. – always break the individual's and group's cycle of everyday culture and change its normal course. Recent perspectives in ethnological research define a disaster as a "process/event involving the combination of a potentially destructive agent(s) from the natural and/or technological environment and a population in a socially and technologically produced condition of vulnerability"[1]. The authors presented in the volume depart from the view that the cultural features of the population which is suffering a disasters or a crisis forms a specific

[1] A.O.Smith. Anthropological Research on Hazards and Disasters. *Annual Review of Anthropology*, 1996, No25, p.303-328.

pre-disaster vulnerability of the society. The interrelationships between cultural, demographic, political, economic, and environmental spheres – that is, the social context of the crisis – define the preparedness, mobilization, and prevention of disasters for each discrete group of people or society. The understanding of local communities' social experience is, therefore, a significant part of the overall strategy for going through, surviving and recovering from the crisis.

Based on this general understanding, the present volume investigates a variety of situations of disaster dealt with in two contemporary societies in the increasingly globalizing world – that of China in the East Asia, and of Bulgaria in the Southeast European Balkans. Over the years, the modern Chinese have experienced many a natural anomaly or social cataclysm; especially dramatic was their facing and fighting SARS in 2003, and the Sichuan Earthquake in 2007. In the long run, of great importance for China is the overcoming of disasters with longer life-cycles, crises "in progress", such as climatic and bio-disasters, complex problems associated with the arid areas, spread of epidemic diseases etc. Over the last decades Bulgarian society has been hit by different type crises caused by the new political development in the country – the post-socialist period and the transition to European democratic institutions; but there have also occurred draughts, extreme snow-falls; in 2006 there was an avian influenza threat which caused great anxiety and asked for maximal mobilization of physical and cultural resources of society. The authors lay special stress on the role of the traditional cultural systems (the beliefs, behaviors, and institutions characteristic of a particular society or group) in a situation of disaster; a number of articles focus on how people draw upon and alter their belief systems over longer periods of time in their efforts to come to terms with catastrophic changes, violence, loss, resettlement, and even humanitarian relief. Studied is the role of such events in the changes occurring in social institutions such as religious beliefs or customs, social organizations, attitudes and values.

The scholars from the two ethnological traditions presented in the volume have contributed to the understanding of these phenomena. In the materials of both Bulgarian and Chinese ethnologists, some of the adaptive coping strategies are shown traditionally used even by relatively distant world populations to respond and cope with crises. The ethnologists have worked on the assumption that through studying the collective responses to disasters in the two respective cultures they could also contribute to the understanding of their causes. Concluding that disasters and disaster relief can dramatically impact the material conditions of life of the affected population, some authors have studied the changes that disasters can bring

to economic systems and related mechanisms. Also studied are the ways in which the critical situations can alter political organizations and power relations between individuals, the state, and the international institutions. The articles reveal that, having gone through and survived a disaster, people more clearly comprehend their own political place and situation and their own position of power (or lack of such) relative to that of the state and all official representatives and authorities involved.

The volume applies a broad ethnological approach in the study of disasters, the matter being interpreted comparatively, contextually, and in cross-cultural perspectives, which is all the more justified in view of the fact that it represents an extensive work in two non-western, therefore, lesser known in the discussed perspective cultures of the modern world.

The most significant contribution, however, is believed to be the compilation and analysis of unique empirical data and their evaluation according to the theoretical assumptions of the members of the joint research team. The expected results and benefits from the study are in the fields of both scientific prognostics and social practice. It could give an answer to some important questions, such as: In what way and to what extent do the extreme natural and social situations affect the lifestyle, spirituality and ideology of the population concerned? How do the stereotypical thoughts and acts of the population change, when the familiar environment is destroyed or damaged by a disaster? What is the place of traditional values in critical circumstances? How do societies create their own vulnerabilities? Is it possible to develop a model for successful behavior for coping with disasters based upon cultural traditions? What is needed for most successful relief management?, etc. On a broader methodological level, the analysis aims at finding a balance between economic, political and cultural factors for prevention and overcoming of disasters.

We believe that the focus on such important social matters will even lead the two academic teams to achieving results and reaching conclusions that will cross the two-culture scheme of investigation and will contribute to expanding the geographical and thematic scope of the study. The two partner Academies – CASS in Beijing and BAS in Sofia – have reached an agreement for further investigations within the subject of disasters and crises, and the joint Chinese-Bulgarian scholarly team is now organizing the second stage of the research, challenged by the recent catastrophic events intensified in number and going deeper in significance. This first issue is not meant to give a definitive statement on the topic. The authors hope that in fact, if it is successful, the volume will identify more scientific problems than it has solved.

As an initiator and organizer of the first Chinese-Bulgarian anthropo-

logical joint research team and an editor-in-chief of the volume I would like to express a special gratitude to two Bulgarian scholars, professors in History, who have stimulated the efforts of the researchers with their constant help and encouragement, namely, Prof. Konstantin Kossev, Vice-President of the Bulgarian Academy of Sciences, who has signed the General Agreement between the two Academies in 2001 within which the project was carried out, and Prof. Dimitar Tzanev, Ambassador of Bulgaria in China (1999-2003), whose motivation and personal involvement in the idea of Chinese-Bulgarian academic contacts gave the original and main impetus to the realization of this project. We are also thankful to the International Departments of the institutions involved – Bulgarian Academy of Sciences, Chinese Academy of Social Science, and Central University for Nationalities (now Minzu University of China) for their professional assistance.

—Elya Tzaneva

QINGHAI PROVINCE IN THE PERSPECTIVE OF ECOLOGICAL ANTHROPOLOGY: ECOLOGICAL CRISIS, ECONOMIC DEVELOPMENT AND THE PRESERVATION OF CULTURAL DIVERSITY

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Since the 1990s, a series of global issues have caused widespread concerns around the world. Among these, of special interest is the issue of ecological environment, which typically involves the conservation of biological diversity. In the UN Summit Conference on Environment and Development held in Rio de Janeiro in 1992, 156 countries and the European Community signed the *Convention on Biological Diversity*, so as to protect the habitats, species and Community genetic resources, to achieve the sustainable use of resources, and to ensure a fair and equitable sharing of benefits arising from biodiversity via policy, economic and managerial channels. In that November, China became one of the first six countries in the world that ratified the Convention.

The term “biological diversity” or “biodiversity” was initiated in the early 1980s. According to the “Convention on Biological Diversity", biodiversity refers to: “the variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes they compose; this includes diversity within species, between species and of ecosystems.”[1] With its diverse ecosystems, China ranks 3rd in the world with its exceedingly rich floral resources, over half of which grow nowhere else. China also boasts of one eighth of the world’s mammals, birds and fish, and is regarded as one of the centers for

[1] State Environmental Protection Administration, China's Biodiversity: Country Study, Beijing, 1997, p.11.

genetic variants of domesticated crops in the world[2]. The diverse biological resources not only endow China with the advantage of achieving a coordinated development between man and nature, but will produce great impacts on global environment and human society at large.

Early back in the 1950s, some Chinese scholars proposed the initiative of establishing nature reserves. The first nature reserve (Dinghushan) was established in Guangdong Province in 1956.[3] In the following half century, China's nature reserves witnessed steady development. Since the reform and opening up particularly, people's awareness of the environment and ecological conservation has been enhanced; in October 1994, the *Regulation on Nature Reserves of China* was adopted by China, which was followed by the *Development Plan of Nature Reserves in Qinghai Province (1996-2010)* in 1996. The Plan provides that "from 2001 to 2010, the total number of nature reserves should reach 1200 (including 160-170 national nature reserves), and the total area of nature reserves should account for 10% of the overall territory of China".[4] As of August 2005, China had established over 2000 nature reserves (of which 243 were national), making up 15% of the total territory. Obviously, China has made important progress in nature reserve development and biodiversity conservation.

However, as found elsewhere in the world, the enhancement of biodiversity conservation consensus is always accompanied by the accelerating extinction of species and the ensuing ecological imbalance. In China, due partly to its large population and partly to the growing demand of economic and social development for natural resources, there exists a serious threat to the sustainable utilization of biodiversity resources. Still, the climate impacts of global warming further aggravate the ecological environment issue. China is gradually losing its advantage of rich biodiversity. Such examples include: the sharp reduction and fragmentation of forest areas, overgrazing and severe degradation of grassland, predatory animal hunting and herb gathering, over-fishing of hydrobios, mining activities, environmental pollution and the invasion of alien species, which have all posed a threat to China's biodiversity resources, such that the list of extinct or endangered species in China grows longer and longer.

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[2] Council for International Cooperation on Environment, International Environmental Cooperation and Sustainable Development: Conserving China's Biodiversity, Beijing, 1997, p.3.

[3] General Report Compile Group of China Biodiversity Conservation Action Plan, China Biodiversity Conservation Action Plan, Beijing, 1994, p.16.

[4] Outline of Plan for Nature Reserves Development in China (1996-2010), approved by the State Council, State Environmental Protection Administration, State Planning Committee, issued on November 24, 1997.

This is particularly so with Qinghai Province in the Tibetan plateau. As revealed in the *Environmental Condition of Qinghai Province in 2004*, in most areas of the province, tendencies of vegetation degradation, land desertification, soil erosion and the destruction of wetlands and rare wildlife habitats have not been brought under control. In June 2005, the Qinghai Environmental Protection Bureau also noted that vegetation degradation, wetland shrinkage and expansion of desertified land have led to a deterioration of the living environment of wildlife and a reduction of their distribution area, and that the excessive animal hunting and herb gathering (such as Chinese caterpillar fungus) have caused the plants and animals in the Tibetan plateau to decline sharply, and have brought some species to the brink of extinction. The endangered biological species account for 15%-20% of the total in the province, obviously higher than the world average level of 10%-15%.[5] For this reason, Qinghai Province has become one of the hot-spots for ecological conservation research both at home and abroad.

I. Nature Reserves in Qinghai: An Introduction

With its vast territory, various landforms and complex ecological environment, the Tibetan plateau has a uniquely rich collection of species. Statistics indicate that there are over 13 000 known species of higher plants (including mosses) in the Tibetan plateau, and nearly 1100 kinds of terrestrial vertebrates, each accounting for about 45% of the total number in the whole country. In addition, there are 115 kinds of fish, 5000 kinds of fungi, and a huge number of insects, invertebrates, algae, lichens, bacteria, viruses, and so on. In accordance with the nine major classifications of nature reserves of China, the area is designated as "The Cold Desert Area in the Tibetan plateau," characterized by sparse population and slow development. That is, it is suitable for the establishment of nature reserves.

As part of the Tibetan plateau, Qinghai Province covers a total area of 722 300 square kilometers. Qinghai Province has complex and varied landforms, with an average altitude of 3000 meters above sea level, ranging from the highest 6860 meters to the lowest 1600 meters. Qinghai Province also has diverse geographical landscapes, such as glaciers, mountains, gobies, deserts, rivers, lakes, basins, grasslands, forests, salt lakes, hungriness, and so on (Illustration 1). The average annual rainfall is below 400 mm; the weather here is typically cold and dry, and the annual

[5] See: "Endangered Species in Qinghai Province is Higher than the World Level", Qinghai News Net, June 27, 2005, http://www.sina.com.cn.

average temperature is -5.7°C–8.5°C. The lands in Qinghai Province are under-developed, with only 6814.34 square kilometers (0.94%) of arable land and 24 240 square kilometers (3.4%) of forest land, as compared with the 406 643 square kilometers (56.35%) of grassland area. The water area of the province is 31 615 square kilometers (4.38%), and the barren land area is 250 021 square kilometers (34.65%).

Qinghai Province has a wide assemblage of biological resources, with about 3000 kinds of plants, 103 kinds of beasts, 294 kinds of birds, 56 kinds of fish, and so on. Of these, 110 species of plants and animals are on the list of national protection. For all that, the ecological environment in Qinghai is vulnerable. The forest coverage rate of the province is far below the national average level of 13%. Besides, these forests are unevenly distributed across the limited forest growth zone, and are thus irreversible once damaged. While at the same time, due to the limited arable land in this area, agricultural production is hard here. Although the grassland coverage rate is relatively high, it is basically dry and cold. Still, the long withering period in winters and springs imposes a constraint on the development of animal husbandry. In addition, the frequent natural disasters in this area such as droughts, snowstorms, hails, frosts and earthquakes can bring great harm to the natural environment. This situation was further exacerbated by the ever expansion of human activities.[6] Therefore, economic and social development in such an area is completely different from that in the central and eastern regions, as safeguarding the security of ecological environment is the basic premise for the sustained economic and social development of the Tibetan plateau.

The development of nature reserves is of great significance to the maintenance of the ecosystem and biodiversity in the region. By the end of 2006, 8 nature reserves (of which 5 are national-level) had been established in Qinghai Province, with a total coverage of 206 100 square kilometers, accounting for 28.53% of the Qinghai territory, which is higher than the national average level.

[6] T. J. Wang. Population and Environment Carrying Capacity on Qinghai-Tibet Plateau, Beijing, 1998, p.25.

Table 1: National Nature Reserves in Qinghai Province[7]

Names of Reserves	Administrative Regions	Areas (10 000 hectares)	Main Protection Targets	Time of Approval
Qinghai Lake National Nature Reserve	Hainan Prefecture and Haibei Prefecture	49.52	Bar-headed Goose,brown-headed gulls and other water birds and ecosystems	Dec., 1997
Kokoxili National Nature Reserve	Yushu Prefecture	450.0	Tibetan antelope, wild yak, wild ass, and snow leopard and other wild animals	Dec., 1997
Yushulong National Nature Reserve	Yushu Prefecture	1.0	Black-necked crane, swan and other waterfowl and plateau wetland ecosystem	Aug.,1986
Mengda National Nature Reserve	Haidong regions	1.729	Forest ecosystems and rare species	Apr., 2000
Sanjiangyuan National Nature Reserve	Yushu Prefecture, Guoluo Prefecture, Hainan Prefecture, Haixi Prefecture, and Huangnan Prefecture	1523.0	Forests, wetland ecosystems and wild animals	Jan., 2003

[7] See: http://www.qhepb.gov.cn/qhepb/index.asp.

The nature reserves in Qinghai Province have 40 years of history. In addition to the five state-level nature reserves, there are 46 nature reserves of provincial, municipal or national levels, 12 national and provincial forest parks and 19 game sanctuaries. According to the *Development Plan of Nature Reserves in Qinghai Province (1999-2010)*, 10 more national nature reserves and 8 provincial nature reserves will be built by 2010, with a newly-added area of 8.229 hectares. Except a few upgraded ones, all of the nature reserves are newly established or reestablished. However, due to the global warming and intensification of human economic activities, the ecological environment problem with these nature reserves stands out as peculiarly glaring.

II. Ecological Environment Problems with Qinghai Nature Reserves: Case Study

In 2005, I conducted an investigation on the ecological environment crisis in Qinghai, focusing on the Hol Xil National Nature Reserve and the Qinghai Lake National Nature Reserve.[8] I found a number of serious problems with the ecological environment in these areas as a result of climate change and human activities:

(I) Hol Xil National Nature Reserve covers an area of 45 000 square kilometers, about half of which is located in the core area. The largest and highest of its kind in China, the reserve enjoys a most diverse collection of wildlife resources. For this reason, it is widely known as “the third pole of the world” and the gene pool of rare wild animals on the Tibetan plateau. Among others, Tibetan antelope is one of the most precious wild animals (Illustration 2). From the 1990s onward, continued illegal poaching of Tibetan antelopes has been going on in Hol Xil, so as to obtain antelope skins and cashmere and smuggle them abroad for huge profits. Accordingly, there has emerged an international crime network with Kashmir as its center. From Kashmir, antelope products are sold out to various fashion centers all over the world. In response to the rare animal crisis, the Chinese Government has taken strong measures against it, either by establishing law enforcement agencies or improving management methods, which have effectively restrained the illegal poaching. And during the construction of Qinghai-Tibet railway through the Hol Xil region, a lot of elevated railway bridges are built so as to ensure the traditional migration routes of

[8] S. Y. Hao. Qinghai-Tibet Plateau Biodiversity Conservation and Environment – Taking the Qinghai Nature Reserve as an Example, Investigation Report, 2005.

Tibetan antelopes and other wildlife. These measures have provided an important guarantee for the safety of the Hol Xil Nature Reserve, and the number of Tibetan antelopes and other wild animals is seeing rapid recovery.

However, due to the macro effects of global warming, the rodent problem is more keenly felt than ever in the cold and high meadow areas of Hol Xil Nature Reserve. Rat holes keep growing, and large expanses of turf maintaining the vulnerable eco-system of the reserve are liable to rodent damage (by plateau voles, mice, rabbit and other rodents) and wither away, which has led to the degradation, even desertification, in some regions of the grassland. Since plateau voles have high reproductively in high and cold regions, with an annual assumption of about 50 kg forage for each vole, hence the food-vying problem with the growing number of Tibetan antelopes, Tibetan gazelle, wild yak, Tibetan wild ass and other wild animals. Meanwhile, as some of the nearby herdsmen enter the reserve to graze their cattle in better pastures, tens of thousands of livestock occupy some of the habitats and water supplies of Tibetan antelopes, affecting the original ecological environment of Tibetan antelopes and other wild animals. Meanwhile, the co-existence of domestic and wild animals also opens up the possibility for their mutual mating, which may, to some extent, cause the variation of highland wildlife species and endanger the originality of the species, genes and genetic aspects of biological diversity.[9]

Therefore, although steady progress has been made in infrastructure, protection awareness, protection measures and protection effectiveness, the Hol Xil Nature Reserve is under the dual challenge of “natural disasters” and “man-made disasters”. Since October 1, 2000, fierce measures have been taken against grazing, hunting, herb gathering, mining, gold mining and other activities in the Hol Xil Nature Reserve, nevertheless, there is still a long way to go before these measures can really take effect.

(II) As China’s largest salt lake, the Qinghai Lake National Nature Reserve covers a water area of 4635 square kilometers and has a water volume of 105 billion cubic meters. It is specially oriented for waterfowl and wetland ecosystems. There are 14 orders, 33 kinds and 189 species of birds in the nature reserve. It is the first nature reserve established to protect the waterfowl and wetland ecosystems in Qinghai Province, and is listed as one of the Important Wetlands in the World.

[9] See: “Hol Xil Depopulated Area is facing the Dangerous Ecological Threat”, June 28, 2005, Xinhuanet.com.

The major source for Qinghai Lake comes from dozens of its inflow rivers, along with the infiltration of groundwater from surrounding mountains. Qinghai Lake is both an important water body to maintain the ecological security of the northeastern Tibetan plateau and a natural barrier to block off the eastward desertification. It is also one of the natural bases for the habitat and reproduction of 8 major birds in China. Since the establishment of the Qinghai Lake Nature Reserve, the ecological environment of the lake region and bird biodiversity have been put under protection. Over the years, however, due to the impacts of global warming and excessive human activities, the continued deteriorating tendency has not eased. In terms of the effects of climate change, the total water supply to the Qinghai Lake each year is 3.493 billion cubic meters, including 1.335 billion cubic meters of runoff supply, 1.557 billion cubic meters of precipitation supply and 401 million cubic meters of groundwater supply. And yet, given that the annual evaporation of the lake is 3.930 billion cubic meters, the Qinghai Lake actually suffers an annual water loss of 437 million cubic meters. The main reason for the water-level drop of Qinghai Lake is drought and severe evaporation, as a result of the changes in ecological environment. Monitoring data indicate that the water level of Qinghai Lake dropped by 11.7 meters in 1908-2000[10]. In the past half century, the water area of Qinghai Lake has dwindled by 362.3 square kilometers[11]. The changes in climate and environment include the drying-up of the inflow water sources in the lake region, and the continued dropping of water level has caused the salt and alkali ingredients to increase sharply[12].

Another sign for the changes in the water body and environment of Qinghai Lake is the continued expansion of desertified region around the lake, largely as a result of the illegal reclamation of grassland and rape-growing in the 1990s. At the same time, over-grazing around the lake also accelerates the degradation of grassland around the lake. As the lake-based agricultural development draws heavily on the water from the inflow rivers for irrigation, Qinghai Lake suffers further losses. In short, the changes caused by natural factors and human activities have seriously affected the biodiversity of the lake. Statistics indicate that the species

[10] See: “Qinghai Lake: Water Level Dropped Mainly Due to Natural Disasters”, http://www.cws.net.cn /cwsnews/newshtm/qhh/.

[11] See: “Ecological Environment Protection and Comprehensive Management Project of the Qinghai Lake Watershed Has been Started”, http://news.sohu.com/20080526/n257087046.shtml.

[12] See: “An Important Sign for the Deterioration of the Ecological Environment: the Qinghai Lake becomes Salter", http://www.cws.net.cn/cwsnews/newshtm/qhh/.

under threat in this region account for about 15-20% of the total. Gymnocypris Orzewalskii is a typical example here.

Qinghai Lake is the main producing area of Gymnocypris Orzewalskii. Buha River is the largest inflow river of Qinghai Lake, accounting for 70% of the annual inflow water of Qinghai Lake. Moreover, it is also the most important spawning base for Gymnocypris Orzewalskii. However, the water volume of Buha River is reducing year by year due to a reduction of rainfall. Each year, a large number of countercurrent spawning Gymnocypris Orzewalskiis die of grounding and are incapable of returning to lake. At the same time, due to the low water temperature, high salinity, high alkalinity and lack of natural baits, Gymnocypris Orzewalskii are seriously affected in terms of feeding, growing and reproducing. In addition to the abominable natural disasters, excessive human activities such as over-fishing can also bring about disastrous consequences to Gymnocypris Orzewalskii. Continued (over-) fishing in spawning areas has resulted in the fact that the number of Gymnocypris Orzewalskii in Qinghai Lake is only one tenth of that during the early period in the 1960s.[13] In 1986-2001, the Qinghai provincial government promulgated four fishing bans, which, in a sense, reflect the severity of the over-fishing problem and the difficulty of lake enclosing and fish cultivation. The lake enclosing and fish cultivation period adopted in 2001 is 10 years.[14] Zoologists believe that Gymnocypris Orzewalskii is a very important link in the ecological chain of Qinghai Lake. The exhaustion of Gymnocypris Orzewalskii resources will not only damage the ecological balance of "coexistence of fish and birds" in Qinghai Lake, but will threaten the survival of birds (It is estimated that about 1000 tons of Gymnocypris Orzewalskii are eaten by birds every year), which will in turn affect the overall ecology of the entire Qinghai Lake. In fact, negative consequences are looming; the perching and multiplying of birds in recent years has been directly influenced by the environmental degradation, and the unknown diseases are also quite serious.

[13] See: "Qinghai Lake: the Anxious Gymnocypris Orzewalskii and Three Major Dangers", http://www.cws.net.cn/cwsnews/newshtm/qhh/.

[14] See: "Save the Qinghai Lake", http://www.cws.net.cn/cwsnews/newshtm/qhh/25.html.

III. Economic Development and Ecological Environment Conservation

China is a developing country with the fastest economic growth in the world. The rapid economic and social development bears directly on its ecological environment and natural resources. Since Qinghai Province is lagging behind in economic and social development, its ecological environment is vulnerable too. According to the statistics from the Chinese Academy of Sciences, the 2007 ranking of Qinghai Province in the sustainable development index system in China is as follows:

No27 in terms of the level of regional social development, No28 in terms of the level of regional social security, No28 in terms of the driving force for regional social progress, No23 in terms of regional education capacity, No29 in terms of regional science and technology capacity, and No29 in terms of regional management capacity. As shown in the ranking, Qinghai Province is a typical example of economic and social underdevelopment. In terms of ecological and environmental conditions, Qinghai Province ranks No28 in regional ecological level, which consists of 3 components: ecological vulnerability, climate variability, and soil erosion. Its general ecological situation is very poor. The only index that Qinghai Province takes the lead (No3) is the regional environmental level that consists of industrial discharge and air pollution.[15] However, the index all the more indicates the industrial underdevelopment of Qinghai Province. Industrialization is the only way to modernization, but in the contemporary world, particularly in those developing countries where modernization is picking up speed, industrial discharge and the subsequent air pollution have become the major problem have aroused global concerns. China is no exception.

In the 21st century, with the acceleration of western economic and social development in China, the industrialization of Qinghai has witnessed significant expansion. However, in order to achieve industrial development in ecologically vulnerable areas such as Qinghai, ecological conservation and environment administration must be strengthened. Table 2 shows the ups and downs of the generation and discharge of industrial solid wastes in Qinghai Province in recent years.

[15] Sustainable Development Research Group of China, CAS, China Sustainable Development Strategy Research Report 2007, Beijing, 2007, p.410-425.

Table 2: Industrial Solid Wastes Generated & Discharged[16]

Year	Industrial Solid Wastes Generated (10 000 tons)	Industrial Solid Wastes Discharged (ton)
2003	379	75619
2004	508	60516
2005	649	27625
2006	882	3154

As shown above, the amount of industrial solid wastes in Qinghai Province in 2003-2006 increased year by year, indicating the scale and speed of economic development. At the same time, the year-on-year (and even drastic) decrease in the discharge of industrial solid wastes reflects a strengthened administration of the environment. In addition, Qinghai also set about restoring the ecological environment in nature reserves under the state support. For example, China launched the Sanjiangyuan ecological conservation project in 2005, with an initial investment of 7.5 billion Yuan (about 100 million USD) for ecological conservation and restoration in Qinghai.[17] And the administration work in the Hol Xil Nature Reserve also began to have effects on the problem of poaching, such that the scale of Tibetan antelopes is in gradual recovery, and the number of Tibetan antelopes has grown from 70 000 to 150 000 in the nature reserves of Qinghai, Tibet and Xinjiang. Meanwhile, remarkable progress has also been made in the administration of the Qinghai Lake Nature Reserve.

On August 1, 2003, the *Conservation Regulation of Ecologic Environment in the Qinghai Lake Watershed* (Draft) was adopted by Qinghai Province as the first regulation for nature reserves in China. This indicates that the ecological environment of Qinghai Lake and its watershed has come under legal protection. The regulation identifies that the goal of the ecological environment conservation of Qinghai Lake watershed is to maintain the biodiversity and preserve the natural eco-system of Qinghai Province. It focuses on the preservation of water bodies, wetlands, vegeta-

[16] Source: www.chinagate.com.cn.

[17] "Sanjiangyuan" means - 49.2% of the total flow of Yellow River, 25% of the total flow of Yangtze River and 15% of the total flow of Lancang River are from this region, which is known as "Water Tower of China". As part of the Qinghai-Tibet Plateau, the unique geographical environment and climatic conditions of "Sanjiangyuan" has extremely important impacts on the atmospheric circulation not only in China but also in East Asia and even the northern hemisphere.

tion and wild animals by addressing the relationship between the ecological environmental conservation on one part and economic development and the interests of farmers and herdsmen on the other part. In May 2008, the Ecological Environment Conservation and Comprehensive Administration Project of the Qinghai Lake watershed was initiated, with a total investment of 1.567 billion Yuan and a trial implementation period of 10 years. The project is mainly concerned with such issues as wetland conservation, administration of degraded grassland, prevention against rodent and insect pests, desertified land control, and returning farmland to forage land, ecological migration, etc. (Illustration 3). It also includes the reconstruction of six inflow rivers (200 km) such as Buha River and the removal of a power plant dam.[18]

One of the most important measures for the administration and conservation of the ecological environment of nature reserves is to minimize man's economic activities. Therefore, during the implementation process of the ecological restoration and environmental administration of Sanjiangyuan, Hol Xil and Qinghai Lake nature reserves, the relocation, or ecological migration of farmers and herdsmen in the nature reserves has emerged as a new way of migration.

IV. Ecological Migration and the Protection of "Two Kinds of Resources"

The term "ecological migration" has dual senses. The first sense refers to the migration activities caused by the deterioration of natural environment that has become unfit for human existence. The second sense has to do with the migrant measures taken to protect the ecological environment and reduce human activities. While the former often occurs naturally in the history of mankind, the latter is mainly carried out under state guidance. In contemporary China, ecological migration has become an important policy of achieving sustainable development. In the western areas inhabited by minority nationalities in particular, ecological migration has become an important means of preserving the ecological environment, improving people's livelihood, and promoting urbanization. The ecological migration in Qinghai Province is a typical one. The purpose of ecological migration is to ensure that no human activities occur within the bounds of nature

[18] See: "Ecological Environment Protection and Comprehensive Management Project of the Qinghai Lake Watershed Has been Started", http://news.sohu.com/20080526/m257087046.shtml.

reserves, so that the damaged ecological environment can be restored to its original functions.

Ecological migration constitutes an important part of the ecological construction plann of the three national nature reserves in Qinghai Province. In the core zone of Hol Xil Nature Reserve, the basic objective of ecological environment and biodiversity conservation is to achieve a "man-free zone". In the Sanjiangyuan Nature Reserve, ecological migration started in 2003. And by the end of 2007, a total of 13 305 households and over 60 000 people had been relocated or resettled.[19] In the Qinghai Lake Nature Reserve, the 2008 ecological environment conservation and administration project also includes a migration plan of 881 households and 4157 people, which can reduce nearly 1 million sheep units of pasturage.[20] Such ecological migrations do not merely mean a change in traditional residence, but also a change in production and lifestyle; urbanization has become the basic model of relocating ecological migrants.

At present, in terms of the ecological migration in Qinghai Province, great improvement has been made in the living conditions of residents, children's education, health care, transportation and communications. Moreover, the resettlement of ecological migrants can entail a shift from rural and pastoral areas to cities and towns, i.e. their production and lifestyle have changed dramatically during the migrations. Their economic pattern also undergoes a change from traditional animal husbandry into a variety of business services, such as small-scale processing. The migrants are mainly engaged in textile and blanket weaving, herb gathering, transportation, trade, labor export, and so on. These changes bear directly on their production and lifestyle. Moreover, there is the issue of transition and adaptation of traditional cultures. This is exactly the common concern of Chinese ethnographers and anthropologists.

With its cultural diversity, Qinghai is an important province with multi-ethnic population in western China. In 2005, the total population of Qinghai Province was 5.42 million, of which there were 1.191 million Tibetans, 863 000 Huis, 225 000 Tus, 119 000 Salars and 95 000 Mongolians, accounting for 46.32% of the total. Most of these ethnic minorities are engaged in animal husbandry, agriculture and commerce; they believe in Tibetan Buddhism and Islam. What is unique with these ethnic cultures is that they all rely on the ecological environment. As the Chinese folk

[19] See: "Qinghai: China's Largest Ecological Migration Project Progressing Smoothly", http://www.ce.cn/xwzx/gnsz/gdxw/200710/05/ .

[20] See: "Ecological Environment Protection and Comprehensive Management Project of the Qinghai Lake Watershed Has been Started", http://news.sohu.com/20080526/n257087046.shtml.

saying goes, “Those living on a mountain live off the mountain, those living near the water live off the water.” After all, human existence and development would not have been possible without natural environment. It is the biological instinct of man to exploit various natural resources for his livelihood and reproduction. And it is the biological intelligence of man to transform nature for inventions and creations. However, his transformations and inventions are not isolated from the geographical environment and ecological resources, in the same way as boats are always invented near rivers and lakes, and skiing cannot be invented in Africa. This is one of the major problems that have drawn the attention of ecological anthropology, since “the theme of environmental determinism has basically been replaced by the people-environment model.”[21]

Nowadays, modernization has become the common goal pursued by all mankind and by all nations, and human society faces the cultural and ecological problems, calling out for a new concept of development characterized by the interaction between man and nature. This concept of development is a preservation of both biodiversity resources and cultural diversity resources. That is to say, man faces the dual mission of preserving “two kinds of resources” in terms of development. An important lesson from western modernization is that “the development concept looks at things from the aspects of economics and quantity, and always ignores the cultural heritage of the ancient or traditional society.”[22] As a result, many traditional wisdoms are lost before they are fully understood, scrutinized and assimilated. Cultural diversity is a valuable resource for human society, “from the historic point of view, human cultures tend to well adapt to and effectively promote the stability and vitality of its surrounding environment.”[23] As far as China’s minority regions are concerned, a lot of production experiences adapted to local conditions and knowledge maintaining the ecological balance manifest themselves in mountain agriculture, irrigated agriculture, grassland animal husbandry and hunting industry in the forests. These traditional wisdoms and values are one of the important intellectual sources for the enrichment and implementation of the new concept of development, and the discovering, integrating and developing of this knowledge is not only the basic prerequisite for the conservation and utilization of the “two kinds of resources”, but also a necessary condi-

[21] D. L. Hardesty. Ecological Anthropology, translated by F. Guo, H. Zou, etc., 2002, p.3.
[22] E. Morin & A. B. Kern. Terre-Patrie, translated by S. L. Ma, 1997, p.80.
[23] D. A. Coleman. Eco-Politics, Building a Green Society, translated by J. J. Mei, 2002, p.117.

tion for respecting knowledge, motivating social vitality and achieving creativity.

Based on such an understanding, people began to realize that "the development should be designed in the way of anthropology, and the real development is the development of human."[24] As a subject that studies the human living and development, anthropology "has begun to affect the area of practical affairs. Governments and international institutions begin to find that to accept anthropologists' public policy, which is familiar with the social life, is beneficial."[25] But, of course, the anthropology here does not refer to the anthropology in the traditional sense, but the anthropology with the aim of human equality, coexistence and development, and of the conservation, heritage and development of cultural diversity. The civilized view of development based on the relationship between man and nature should "include the existing experiences of many civilizations, the complex network of natural world, the thorough understanding of the human history, and scientific research achievements." It also includes the absorption of the scientific theories and methods of ecological environment. Such a view should receive more attention in western regions such as Qinghai Province, namely, the traditional wisdom of the benign interaction between man and nature in traditional minority cultures.

The purpose of ecological migration is to recover and restore ecological environment. Meanwhile, ecological migrations, particularly those involving fundamental changes in production and lifestyle, may result in the loss of many ancient wisdoms and unique cultures. The changes from nomad to settlement, and from husbandry to trade and commerce, have actually invalidated some of the traditional knowledge of migrant groups that has been going down for generations. As a result, they are easily ignored and forgotten. However, such knowledge is a valuable cultural heritage for a nation, a society as well as the whole human civilization, in that the knowledge contains in itself man's experiences about his harmonious coexistence with nature. For example, the nomadic mode of production is rich in the traditional knowledge about preserving grassland and maintaining species balance. Therefore, how to draw on the ancient wisdom in traditional cultures is the important part of implementing the new view of development.

While at the same time, for the migrant groups who have entered trade and commerce, processing industry and handicraft industry in urban areas, a series of characteristics embodying cultural diversity such as language,

[24] E. Morin & A. B. Kern. Op.cit., p.109.

[25] M. Carrithers. Why Humans Have Cultures - Explaining Anthropology and Social Diversity, translated by F. Chen, 1998 version, p.206.

customs, clothing, diets, living artifacts, religious beliefs and rituals also need to be protected and developed. This is especially so when these migrant groups are integrated into an urban social environment of cultural diversity, and their cultural adaptation will give rise to a series of problems of social relations, or even the contradiction and conflicts between ethnic groups. Therefore, recognizing cultural differences and keeping them in harmonious coexistence for common development is an important problem confronting human society[26].

In the course of economic and social development and building a moderately prosperous society in China, the scientific outlook on development put forward by the Chinese government is to seek a sustained mode of development characterized by the benign interaction between man and nature. In order to implement the scientific outlook on development, we need to reconsider and recreate a series of issues, such as the development concept, development mode, development experience, etc. Meanwhile, the Chinese Government set the goal of building a harmonious society and proposed the important concept of "respecting differences and recognizing varieties". "Differences" and "varieties" are the basis of contradictions, but they do not necessarily lead to contradictions. The key issue is how to deal with the "differences" and "varieties". "Respecting differences" is the prerequisite for achieving a harmonious coexistence, and "recognizing varieties" is the guarantee of realizing complementary innovation. Countries with different civilizations and cultures should "make up for each other's deficiencies in their competitions and comparisons, and achieve common development by seeking common ground while reserving differences", which is the central tenet of "respecting differences and recognizing varieties". "Respecting differences and recognizing varieties" is the principle to be followed to achieve democracy, equality, fairness, justice and sincerity, and the basic guarantee of maximizing social vigor and mobilizing all factors conducive to social harmony.

In order to integrate cultural differences into an interdependent and harmonious cultural ecology, we need to identify and practice the concept of "respecting diversity and tolerating variety". "In this world, it is both right and necessary to recognize the same legitimacy of the basic premises that generate different cultural perspectives and value concept. It makes the mutual understanding and respect between different cultures possible:

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[26] WRI, Guidiance on National Biodiversity Science Plan - Previous Experiences all over the World, assisted by the UNEP and the IUCN, translated D. Y. Xue, Etc., Chinese Environmental Sciences Press, Beijing, 1998.

This is the basic prerequisite to maintain peace and survive in a world with cultural diversity."[27] Cultures can only be promoted through exchanges in the social atmosphere of equality and mutual benefit, which is epitomized by harmony. As a multi-ethnic, multi-religious, multi-cultural nation, China still has a long way to go to achieve scientific development and build a harmonious society, but such endeavors and achievements are of great significance to the whole human society. In 2001, the 31st session of the General Conference of UNESCO adopted the "UNESCO Universal Declaration on Cultural Diversity", highlighting that "As a source of exchange, innovation and creativity, cultural diversity is as necessary for humankind as biodiversity is for nature."[28] As we all know, biodiversity is the basis of maintaining ecological balance. Why, then, cannot cultural diversity sustain our hope of world peace? In the process of building a harmonious society and promoting a harmonious world in China, we need to prove that cultural diversity is the basis of maintaining human peace. Modernization is a homogeneous quality of life instead of a homogeneous means of living. This is a challenging task facing all mankind[29].

Qinghai Province in China is a region with both biological and cultural diversities. At present, in the process of administrating and preserving the ecological environment of nature reserves, China has invested substantial money and technologies, and has identified definite goals. At the same time, Qinghai Province also took a series of effective measures, and the ecological environment problems of Sanjiangyuan, Hol Xil, and Qinghai Lake have been preliminarily relieved. As to the economic and social development of Qinghai Province, in the process of rapid expansion and acceleration of industrialization, great progress has also been made in energy saving and discharge reduction. However, there is still an increasingly arduous task related to human development and cultural diversity conservation, such as ecological migration. To solve this problem, we need to recognize cultural diversity as a valuable resource for the development of human society. Cultural and biological diversities are of equal significance to human society. The conservation of these "two kinds of resources" is the key to practicing the sustainable development of human-orientation

[27] E. Laszlo. The Destiny Choice: Survival Options for the 21st Century, translated by Y. B. Li, 1997, p.125.

[28] UNESCO Compilation of Documents on the Protection of Language and Cultural Diversity, compiled by J. J. Fan, 2006, p.100

[29] Zeng Z. Y. Fundamentality of Human Existence: Biological Diversity, Shanghai Science & Technology Press, Shanghai, 2002.

and the harmony between man and nature. This is precisely the point of view of eco-anthropology.

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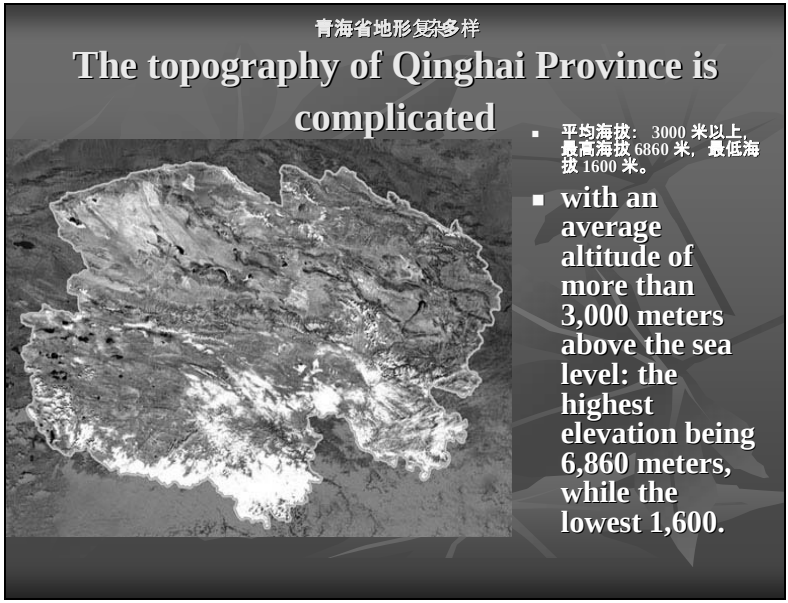
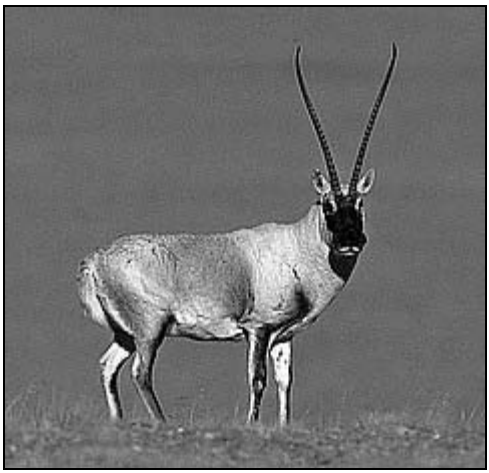
Illustrations



1. The topography of Qinghai Province



2. The Tibetan antelope (Pantholops hodgsoni), or chiru, is one of the most precious among the precious wild animals