



Wudalianchi Biosphere Reserve Case Study
——Eco-migration Project





I. Brief Introduction

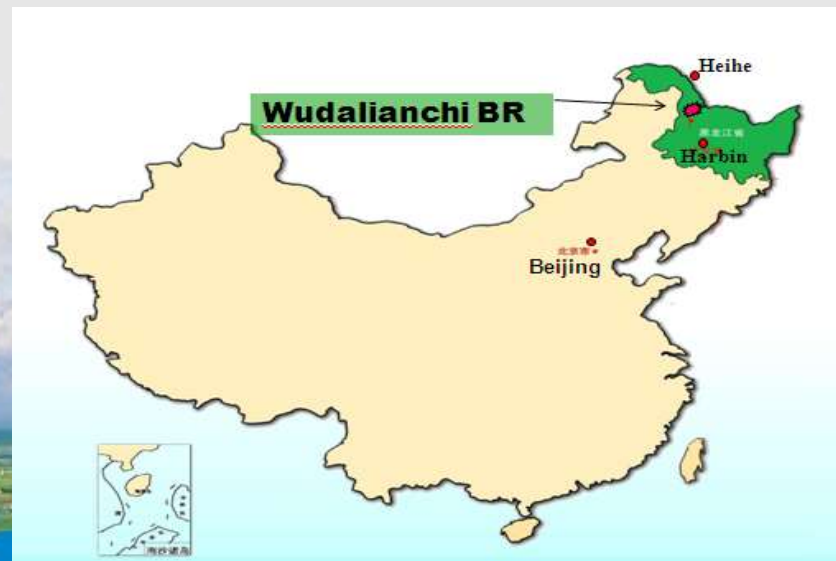
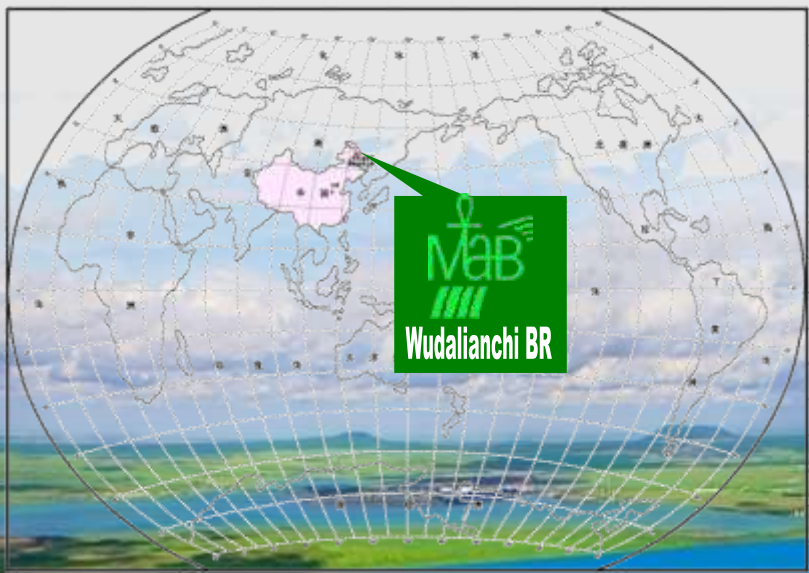
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Brief Introduction

Wudalianchi Biosphere Reserve (WBR) is located in the northeast of China, covering an area of 1,060 km². It was recognized as a Biosphere Reserve in 2003. It is famous for volcanic geological features and mineral springs created by volcanic eruptions from 2.1 million years to 290 years ago with distinctive volcanic ecosystems and high biodiversity. Five linked lava dammed lakes, covering a total area of 41.5 km², play a crucial role for famous underground mineral water.





There are 89 families 396 species of animals, including amphibians, reptiles, fish, birds, mammals and butterflies, such as *Grus japonensis*, etc. 1044 families 428 genus 143 species of plants, including national rare plants, such as *Orostachys malacophyllus* Fisch, *Dryopteris fragrans*, etc.



Northern Goshawk



White-naped Crane



Northern Pika





Case Study of Wudalianchi BR



Aim of Wudalianchi eco-migration project: protecting the environment and improving people's livelihoods.

Eco-migration solution is based on the particular conditions in China and specific conditions in Wudalianchi.

Human activities pose a certain threat to the natural environment may also exist to some degree in many BRs around the world. Internationally there are many who are opposed to any form of relocation of people as a matter of principle. But China is a country where millions of people are on the move from rural to urban areas in search of a better life.

So, some points of this case study may have the potential to apply as a reference. This case study has been submitted to MAB Secretary and won the Michel Batisse Award in 2016.



Since we join the network of MAB, we found so many bad effects on the lakes and surrounding environment from settlements in the core area and buffer zone.

The residents cut trees for fuel wood, resulting in damage to the lava plateau. Surface runoff carrying household garbage, sewage, fertilizer and pesticides polluted the lakes.



Wudalianchi Biosphere Reserve Administrative Committee (WBRAC) under the leadership of Mr. Qu Shuguang during 2010–2014 undertook extensive work to improve the Biosphere Reserve's ecological environment, economic and social sustainable development, scientific research and popularization, education and training.

All residents - 5,470 individuals in the core area and buffer zone were relocated. An additional 2,328 residents living in the transition area also voluntarily moved to the new town. The residents lived in small and shabby houses on narrow and muddy roads, far from hospitals and schools. Their income was very low as they relied entirely on natural resources for living.



Video





We invested more than 2 billion Yuan built a new eco-migration town located in the southwest of WBR, covering a planning area of 4 km², including 350,000 m² of relocation buildings, 150,000 m² of schools, hospitals, parks and stores; well-equipped supporting infrastructures such as water purification plant, power supply system, central heating system, wastewater and refuse processing plant.

These residents now live in their own spacious and beautiful buildings, earning a higher income. The eco-migration initiative eliminated the threat of human activities to the fragile ecological environment and improved people's living conditions. A win-win solution balancing local ecological environment protection and living standard improvement was successfully realized.



After eco-migration project, all residents living near lava plateau and lava dammed lakes were relocated resulting in the removal of domestic pollution sources. Farmland was returned to forest, grassland or wetland, increasing these areas by 3,516 hectares in total.

Water and air quality were greatly improved. 36 species of plants were newly discovered, First-Grade State Protection animals are now observed in the Biosphere Reserve again. Flocks of birds have also been seen here.





WBR is also famous for its cold mineral springs, such as North Spring and South Spring, they are cold bicarbonate mineral springs with iron, strontium and silicon contents. Water temperature is 3-5°C. The mineral water has obvious therapeutic effects on urinary system and digestive system, blood system and nerve system diseases. The mineral water is regarded as “Holy Water” and “Medical Spring” by local people because it can be used to treat many diseases such as rheumatism, arthritis, skin diseases, etc. A natural magnetic field nearby is ideal for magnetic therapy and heliotherapy after spa treatment.





Wudalianchi BR also devote great efforts to the leading industries, such as ecotourism, mineral water processing, mineral spring recreation and treatment, green agriculture.





The Mineral water of Wudalianchi is of high quality with a large reserves. A series of sightseeing areas and fundamental infrastructures are under construction. Mineral fish of the volcanic barrier lakes, mineral-spring-irrigated duck and pig farms, beekeeping farms, mineral-spring-nourished bean products (Tofu) enterprises and mineral spring brewed liquor enterprises are well-developed.









Eco-migration helped renew natural ecology at the original residence areas step by step. The more beautiful environment attracted more tourists to come, promoting rapid development of tourism services.



NUMBER OF
TOURISTS **1.19 MILLION**
AVERAGE
ANNUALGROWTH **3.7%**

TOTAL VALUE OUTPUT OF
MINERAL INDUSTRY **0.3 BILLION**
AVERAGE ANNUALGROWTH **21%**

TOTAL TOURISM INCOME
0.45 BILLION
AVERAGE ANNUALGROWTH
23%

NUMBER OF HEALTH TREATMENT TOURISTS
190 THOUSAND 100 thousand from Russia
AVERAGE ANNUALGROWTH **8%**

MINERAL WATER PRODUCTION
120 THOUSAND TONS
AVERAGE ANNUALGROWTH
27.9%

TICKET INCOME **39 MILLION**
AVERAGE ANNUALGROWTH **8.7%**

PRIME TARGET

TO 2020

TOTAL OUTPUT VALUE OF WUDALIANCHI 0.9 BILLION

AVERAGE ANNUAL GROWTH 7.7%

NUMBER OF TOURISTS 2 MILLION

AVERAGE ANNUAL GROWTH 10.9%

NUMBER OF HEALTH TREATMENT TOURISTS 500 THOUSAND

AVERAGE ANNUAL GROWTH 21.4%

TICKET INCOME 80 MILLION YUAN

AVERAGE ANNUAL GROWTH 15.2%

MINERAL WATER PRODUCTION 500 THOUSAND TONS

4.2 TIMES OF THE YEAR 2015





Conclusions

For Wudalianchi BR, Michel Batisse Award has undoubted important significance. After several years of hard efforts, Wudalianchi BR are now standing at a new starting line. We will spare no effort to spread advanced concept of MAB, strengthen international exchanges and cooperation. We wish our big family of World Biosphere Reserve Network will thrive and prosper day by day. And we wish human and nature coexist harmoniously in future!





Thanks!

