



## The World's 'Third Pole': Tibet and Climate Change

Tibet, the world's largest and highest plateau, is referred to as the 'world's third pole' because it contains the biggest ice fields outside of the Arctic and Antarctic. The Tibetan plateau is warming twice as fast as the rest of the world and the impact of the now melting glaciers will be catastrophic. There is a phrase in China, which is "Tibet's water will save China" as its water is a lifeline for millions of people downstream in China, India and other Asian countries. China's policies in Tibet are contributing to the warming of the plateau and excluding Tibetans from the stewardship of their land. The sustainable management of ecosystems and water has become a serious security issue in the region.

Just as China is essential to successful implementation of global climate change solutions, Tibet is indispensable to China's ability to implement them successfully. ICT urges international policy-makers on climate change to ensure that strategies to address climate change include stakeholders in Tibet, particularly nomads. This inclusion is essential to understanding, mitigating and adapting to changes in the Tibetan plateau's water, forest, and grassland resources and ecosystems, which are critical to millions of people and to the stability of the region.

The Tibetan plateau is:

- **The source of the earth's largest river systems.** An estimated 46,000 glaciers and hundreds of the snow-capped highest mountains on earth feed most of the biggest Asian rivers including the Mekong, Salween and Yangtze. From Pakistan in the West to Vietnam in the East, these glaciers and mountains provide water for human consumption, irrigate farmlands, generate hydropower and provide food and water for the rapidly increasing population and expanding industries across Asia, including India and China, the fastest growing economies of the 21<sup>st</sup> century.

- **A unique repository of globally significant biodiversity.** Tibet's vast plateau is divided into three ecological zones: high altitude steppe grasslands; the forests of the eastern and south-eastern plateau, and the mixed shrub and agricultural lands of south-central Tibet – all interspersed with high mountain ranges with extensive alpine zones and ice-fields. Tibet is the prime habitat of some of the world's rarest wildlife species such as the Tibetan antelope and the snow leopard, and home to more than 5,760 species of plants of which more than 1,000 varieties have commercial utility as medicinal herbs.
- **Epicenter of global warming and climate change.** The effects of global warming are more pronounced at higher altitudes and nowhere more so than the Tibetan plateau, which is warming twice as fast as the world, according to Chinese scientists.<sup>1</sup> The glaciers are melting fast and the impact on both the ecology of the region and human livelihoods would be catastrophic, not only for the Tibetan and Chinese people in Tibet, but also for hundreds of millions of people downstream. The melting of the glaciers means more flooding in the short-term and more drought and desertification in the long-term. It is widely believed that the massive landmass of the Himalayas is influencing climate and atmospheric changes not only in Asia, but also as far away as East Africa.

### **How China's policies are depriving Tibetans of the stewardship of their land**

Tibet's high altitude, rugged terrain and harsh climate have resulted in the creation of sustainable systems of traditional agricultural and livestock rearing. Until now, as a result, Tibet's landscape and ecosystem has remained relatively intact. But China's policies of fast-track development based on an urban industrial model are damaging the fragile high-altitude ecosystem, threatening to severely alter the natural hydrological regime of the plateau, and depriving Tibetans of the stewardship of their land at a time of environmental crisis.

Scientists have warned that increased urbanization and infrastructural development (such as the Qinghai-Tibet railway that runs across shifting permafrost of the plateau) may be contributing to the adverse effects of global warming.<sup>2</sup>

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<sup>1</sup> A 2007 study by the Tibet Autonomous Region (TAR) Meteorological Bureau found that the TAR is experiencing a 0.3°C increase in temperature every decade (Xinhua, November 20, 2007), over twice the global average (Asian News International report archived by New Scientist, July 25, 2007), with four of the five warmest winters in the last 35 years in the TAR occurring since 2000 (Xinhua, July 22, 2007) while the past century has been the warmest in 1000 years.

<sup>2</sup> For instance, Oliver W Frauenfeld and Tingjun Zhang, 'Is Climate Change on the Tibetan Plateau Driven by Land Use/Cover Change?', 2005

The Chinese government has also been implementing policies of settling Tibetan nomads, confiscating their land, and fencing pastoral areas. These policies result in nomads losing their livelihoods and living in isolated encampments, and are intensifying poverty and leading to social and cultural breakdown of communities. They are also detrimental to Tibet's fragile ecosystem as they are threatening the survival of the rangelands and Tibet's biodiversity. Recent research suggests that grazing can mitigate the negative warming effects on rangeland abundance and resilience.<sup>3</sup> And there is a consensus among Chinese, Tibetan and Western scholars that the traditional ecosystem knowledge of nomadic pastoralists protects the land and livelihoods and helps restore areas already degraded.

The involvement of Tibetan nomads is essential to sustaining the long-term health of the ecosystems and water resources that China depends upon.

### **Climate change and security issues**

*“Water has emerged as a key issue that would determine if Asia is headed toward mutually beneficial cooperation or deleterious interstate competition. No country would influence that direction more than China, which controls the aqua-rich Tibetan plateau – the source of almost all the major rivers of Asia.”*

- Brahma Chellaney, Professor of Strategic Studies, the Center of Policy Research, Delhi

The Tibetan plateau is of critical importance to the highly water-dependent societies inside Tibet and the millions of people downstream. The two Asian titans, China and India, are gaining economic and international heft in an era of serious water shortages and face the prospect that their modernization may stall as a result. Intra-state water disputes are already rife in several Asian countries.

China is now pursuing massive inter-basin and inter-river water transfer projects in Tibet which threaten to cause further damage to the plateau's fragile eco-system. China plans to build nearly one hundred dams across the Tibetan plateau and several water diversion projects to move water into northern and eastern China; these projects will disrupt already-overstressed water supplies of hundreds of millions of people in south and southeast Asia. China's neighbours downstream view these plans – at least one of which is backed by Chinese President Hu Jintao, a hydrologist by profession – with increasing disquiet.

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<sup>3</sup> Klein, Julia A; Harte, J; Zhao, XQ, 2007.

The impact of climate change and ecological depletion on the Tibetan plateau is not a regional but a global issue. Cooperation is essential – among scientists as well as governments and local people. The Dalai Lama has stressed the importance of raising awareness about the crisis and the important role played by both Chinese scientists and Tibetan people living on the land.

## **Recommendations**

Tibet is central to a global climate change solution. ICT recommends:

1. Independent, international scientific assessments of the changes in the Tibetan plateau's ecosystems, water resources and land use policies. The participation of scientists and relevant stakeholders from Tibet and from those nations that depend on Tibet's water is necessary for rigorous examination, analysis and interpretation of conditions on the plateau. This will facilitate an equitable and durable approach to adapting to and mitigating the affects of climate change in the region, including science-based ecosystem restoration and management of the plateau's grasslands and forests.
2. Integrated participation of Tibetans, especially Tibetan nomads, in the decision-making and management of the plateau's natural resources. Tibet's nomads have been stewards of its rangelands for thousands of years. Their experience is essential not only for understanding changes in the ecosystem, but for addressing the threats of desertification and erosion. China must halt the displacement of nomads from the grasslands of the Tibetan plateau and ensure stewardship of Tibet's grasslands to Tibet's nomads, working collaboratively where appropriate with Tibetan and Chinese scientists, researchers and developmentalists. China needs Tibetan nomads' traditional ecosystems knowledge of the grasslands. They have learned over millennia that only through good stewardship is life on the Tibetan plateau humanly possible and ecologically sustainable.
3. Encourage trans-boundary collaborative decision-making and governance of the Tibetan plateau's water resources, including all regional and local stakeholders. Such multi-national cooperation will enhance the effectiveness of mitigation policies and promote equitable adaptation strategies that can reduce the risk of conflict over competition for water resources.