

The State of Ecology of the Tibetan Plateau

**FOUNDATION FOR NON-VIOLENT ALTERNATIVES (FNVA)
Presents its Regional Roundtable on: THE STATE OF ECOLOGY OF THE TIBETAN
PLATEAU**

Friday 28th –Sunday 30th March, 2014, New Delhi

“State of Ecology on the Tibetan Plateau”, falls under FNVA’s PROGRAMME SERIES – ‘REGIONAL DIALOGUES’. The objective of this series is to offer a common platform to scholars and scientists from the region to discuss and understand issues of mutual interest and concern, appreciate perspectives from a regional dimension and jointly work out a possible way forward.

OBJECTIVE

To assess the state of ecology on the Tibetan Plateau and the Himalaya, as well as the growing ecological and trans-boundary water crisis that is affecting climate change and the livelihood of millions of people in the region, and to make concrete and viable proposals for strategies and policies by convening a round table of international scientists and researchers from Bhutan, China, India, Nepal, and other countries; To institute and support confidence building exchanges across national boundaries, between upper and lower riparians and across all relevant sectors of society in pursuit of mutually beneficial development and resource stewardship and to include official, scientific and technological exchanges on the issue of water and ecology on the Tibetan Plateau.

opportunity for sharing new information and ideas for cooperation and action

“The waters of the Third Pole, its glaciers and snow, its rivers and lakes, have importance and impacts, including far downstream, and thus constitute a common heritage of importance to all humanity. Their stewardship is a shared responsibility and the benefits they bring are a right held in common by all the inhabitants of the region, from the Qinghai-Tibet plateau to the estuaries, for present and future generations of the peoples of its watersheds. Today the waters and cryosphere of the Himalayan and Trans-Himalayan Region (The Third Pole) are threatened by over-extraction, overambitious engineering, pollution and climate change. This in turn poses a threat to the stability of the region’s weather systems and the health and livelihoods of the more than one billion people who depend on its rivers, and to the survival of the many other forms of life they support. Historic tensions and regional rivalries have impeded the full cooperation and creative thinking that is required to prevent further deterioration in the Third Pole”.

Extract from the Conference Statement: “River Water: Perspectives and Challenges for Asia”, organised by FNVA, New Delhi, November 2011

Some Topics to be addressed

There is thus a constant need for such a dialogue and to achieve this objective, the Foundation for Non-violent Alternatives (FNVA) convenes a round table to offer a common platform for countries in the region – Bhutan, China, India and Nepal to discuss issues and draw a sustained plan of action to withstand the potentially disastrous effects of the impending water and ecological crises. The programme over three days of discussions has been structured to present national point of view, legal dimensions as well as a holistic perspective.

Below are some topics the round table shall address:

- The Himalaya and the Tibetan Plateau are one of the most ecologically diverse and vulnerable regions on earth.
- It includes the most intact example of mountain rangelands in Asia and is one of the largest remaining terrestrial wilderness regions left in the world. In recent decades, the region has witnessed great changes and such changes are bound to have ecological consequences, which will in turn further shape the course of socio-economic development.

The waters of the Third Pole, its glaciers and snow, its rivers and lakes are in danger, but it also represents opportunity for common cooperation and action. International discussion about Asia's water challenges has focused more on an impending water crisis from the angle of physical scarcity between Asian states. The demand for water is growing exponentially and is rapidly outpacing the supply available. Despite the fact that most of the 57 internationally shared river basins lack legally binding arrangements for water sharing, this has not prevented Bhutan, China, India and Nepal to make progress towards the Millennium Development Goals (MDG) drinking water target.

Tibetan Plateau: One of the most vulnerable regions on earth.

Almost half of the two billion people who gained access to drinking water since 1990 live in China or India. When looking at data for sanitation and water quality in general the story is different. It seems that if there is a water crisis in Asia, it will not be due to lack of water supplies but because of its quality which is deteriorating continuously in all four countries. At a time when Tibet is undergoing mining and industrialisation, the issue over proper management of water quality will likely intensify over the coming years.

Climate change has wrought changes in the region and accelerated the melting of Tibet's glaciers. This will have effects that resonate far beyond India, the Tibetan Plateau and China, and impact on water sources of billions of people in South and Southeast Asia. It is necessary to understand and appreciate the rich bio-diversity and wildlife of the Tibetan Plateau, its conservation and alternatives to conservation and the impact of climate change on them;

The preservation and management of the glaciers and the rivers they sustain is one of the greatest challenges facing humanity in the 21st century, particularly as the population growth and industrial development in the regions of Asia dependent on these glaciers and rivers is projected to double within 50 years. The Southeast Asian monsoon that recharges most of the rivers downstream has become more variable, and presence of soot on the ice and snow cover of the Tibetan Plateau and the Himalayas is theorised to be one of the reasons. The monsoon contributes over 70 per cent of the annual rainfall in mainland South Asia, so its importance cannot be overstated. The effect

of pollutants in the atmosphere above the Himalayas and the Tibetan Plateau is uncertain, and requires urgent research focus.

Indiscriminate logging of ancient forests, damming of rivers and population pressure on the Plateau has impacted the flow of water and also on weather patterns, not only on the Tibetan Plateau, but also beyond.

Another issue is biodiversity conservation. For example how the resident nomadic pastoralists can better their livelihoods without compromising the habitat and food requirements of the native wildlife species. Traditional herding patterns of nomads have been changing as a consequence of existing government policies as well as the changing aspirations of nomads.

Historic tensions and regional rivalries have impeded full cooperation and creative thinking that is required to prevent further deterioration of the Third Pole ecosystem. It therefore becomes imperative to comprehend the current status of

ecology (earth, water, air) of the Himalayas and the Tibetan Plateau and their impact on climate change and livelihood; This makes it necessary to study changes and make a move at every level towards a more sustainable development paradigm. Some case studies:

- Current conditions and projections regarding the melting of glaciers on the Tibetan Plateau;
- Human intervention for ecological conservation;
- The Human factor: Tourism and its effect on climate and the melting of glaciers;
- Ecological conservation of the Kailash Sacred Landscape ;
- Ecological conservation in the Himalayan region.

Water, the 21st century's challenge: Water-Food-Energy nexus What could the solutions be for China and South Asia?

As human population grows, economies develop and globalisation accelerates, the interdependence of countries and regions increase substantially leading to either more resource competition and potential conflict, or increased collaboration and co-management. It is necessary to understand how food, water, and energy are entwined and how these relationships influence long-term agricultural sustainability and food security in South Asia and China; A better understanding of the interdependence of water, energy and climate policy provides an informed and transparent framework for determining trade-offs and synergies that meet demand without compromising sustainability.

There are challenges that stem from the inextricable linking of our two most precious resources - energy and water. According to data from the World Energy Council, the total electrical power generation will grow worldwide from 18,000 TWh in 2005 to 53,000 TWh in 2050, an increase of almost 3 times, the amount of water consumed to generate electricity will stay at the same level on a per capita basis in Africa, Europe and North America due to technology improvements, whereas in Asia and Latin America water consumption to generate electricity will almost double on a per-capita basis. **Thus, there is a risk in Asia, of a confrontation between the water required to produce the necessary amounts of energy and the water needed for food and sanitation. As Bhutan, China, India and Nepal strive to meet their evolving water and energy needs by building dams, the aim is to discuss/identify what role hydropower plays in managing water-energy nexus and explore collaborative options for regional power market development.**

Trans-boundary river water sharing and assessment of rivers and hydrological projects on the Tibetan Plateau; Assessment of rivers that originate on the Tibetan Plateau and the impact of climate change on them.

To study downstream ecosystems and socio-economic impacts of **diversion of Eastern and the Central Diversion of rivers by China and the construction of dams on the Yarlung Tsangpo (Brahmaputra)**.

In the recently concluded MOU (October 2013) between the People's Republic of China (PRC) and the Republic of India, both the countries have recognised that trans-border rivers and related natural resources and the environment are assets of immense value to the socio-economic development of all riparian countries. **Both sides agreed that cooperation on trans-border rivers will further enhance mutual strategic trust** and communication as well as strengthen the strategic and cooperative partnership. What could the mechanisms be, to strengthen, at the level of civil society, the recent MOU drawn between the PRC and the Republic of India on Trans- boundary sharing of river waters; What is missing under the current arrangements and how can they be improved?

What is the status of China's dam building? What is the status of India's dam-building? What is the status of their cooperation-arrangements? Should India and China go ahead and jointly plan environmentally sustainable dams?

To set norms for adoption of holistic and integrated planning at the regional, national, provincial and local levels so as to place the accent on water efficiency, conservation, environmental protection, rain-water capture and water recycling. Case studies illustrating the need for such adoption from: Uttarakhand, Ladakh, Lahaul, Spiti, Sikkim and Arunachal Pradesh.

These are some important issues the roundtable proposes to address. Notwithstanding complexities of these issues nor genuine needs of the countries in the region, scholars and members of leading civil society organisations will form stronger inter regional linkages for sharing of information, to explore new innovative ways to enhance sustainable protection of this fragile region and to ensure confidence building measures.

The Tibetan Plateau is one of the most vulnerable places on earth. It is rich and varied with abundant plant and wildlife diversity, water resources, glaciers and grasslands all of which play a vital role in maintaining the world's environment balance. The Tibetan Plateau is called 'The Water Tower of Asia, or the 'Third Pole' or the Earth's third largest storehouse of ice outside the two poles, is home to more than 46,000 glaciers covering an area of 105,000 sq.km. The Plateau holds the Hindu Kush Himalayan Ice Sheet, considered to be the largest ice mass outside the two poles. Four of the world's ten major rivers have their headwaters on the Plateau, including the Brahmaputra, the Indus, the Sutlej, the Arun and the Karnali whose waters give life to more than one billion people living downstream. The Tibetan Plateau is therefore of strategic global significance in regulating and maintaining climate. Global warming however poses a grave threat to the Plateau's ecological system. Climate change has wrought changes in the region and accelerated the melting of Tibet's glaciers. This will have effects that resonate far beyond Tibet and China and impact on the water sources of billions of people in South and Southeast Asia. The glacier-fed rivers originating from the Tibetan Plateau make up the largest river run-off from any single location in the world and are the life-source for millions of people. As a result, approximately 1.3 billion people living in more

than 5.6 million sq.km. of drainage basin are dependent on the health of the major rivers that originate in Tibet. The dominant status that China enjoys by being an upper riparian state controlling the “Water Tower of Asia,” accords special significance to the use of this asset by the Chinese.

Abstracts of papers presented shall be placed on the website for download. An edited volume shall be published subsequently thereafter.