

## Climate change, REDD and biocultural diversity: consultations and grassroots initiative with indigenous people of Arunachal Pradesh\*

Throughout the world, concern has been expressed about the measurable changes in global climate, including extreme weather events and threats to sustainability of biodiversity, cultures and livelihoods of indigenous people<sup>1,2</sup>. Studies show that now the climate change is affecting behaviours of the local phyto-diversity<sup>3,4</sup> and microbial biodiversity of certain food resources of traditional communities in Arunachal Pradesh (AP)<sup>5</sup>. There is a threat to livelihood of the people and biocultural diversity of the state. Through organizing village workshops and consulting the indigenous people of AP, an initiative to tackle climate change has been started in 2005. The first attempt was made with the *Adi* community.

The objectives of the village workshops were to consult community leaders and traditional knowledge holders (TKHs) regarding their past experiences on climate change; to seek their help in selecting undegraded community virgin forests (CVF) and establish them as 'community reserve forests (CRF)'. Fourteen villages – 12 from East Siang district and two from Upper Siang district of AP were selected during the first phase. The reduction in carbon emission by minimizing deforestation and degradation of forest (REDD), biodiversity conservation and livelihood aspects were the focus of discussions at the meeting.

The village workshops were inaugurated by *Gaon Burha* (customary head) of the respective villages, whereas members of Panchayat and other elders were active participants. On an average, more than 65 *Adi* people participated in each workshop. The final regional workshop was held on 28–31 March 2009 in Sido region of East Siang district to draw a consensus on the issues. More than 85 participants (scientists, NGO workers, community and cultural leaders, TKHs

and forest conserving farmers) participated in this meeting.

While discussing issues of economic and ecological attributes of REDD, the community members were enthusiastic about establishing CRFs. Igul Padung, a local coordinator of the workshop, stated that consulting the *Adi* tribe is the first grassroots step to draw the governments attention to forest conservation. He emphasized the need for a government policy to ensure incentives to the forest conserving communities of AP.

More than 700 members from 14 villages were consulted. Most important issues that emerged from the workshop were the indicators that have to be taken into account for selecting a particular CVF. During our forest trekking and transect walk, scientists and villagers put forth the following criteria for selecting a virgin forest as CRF under REDD: size of forest (minimum 10–12 ha), species richness, diversity of plants and animals, degree of degradation and deforestation, environmental services, presence of endemic species, fragility of landscape, rate of loss of biodiversity, research value (environmental monitoring), community based organizations and institutions, presence of gender groups, socioeconomic issues, community attitude in preservation and ensuring the sustainability of community-reserved forest and presence of land tenure system. These criteria must be scaled up with testing their rationality and usefulness while selecting private or clan lands under CRF and REDD. After securing the willingness of individual forest owners and clans to reserve virgin forests as CRF, finally 14 CRFs were established.

The community people and scientists were of the opinion that the clan lands could be managed with the help of a village level committee (VLC) and participation of customary and democratic institutions. For private lands, a group-network of the owners may discuss the issue and pursue it under REDD. Ultimately, an association of all private and clan land-based CRF could negotiate with the government and concerned environmental agencies. Scientists were also

of the opinion that the CRF could be great depositories for networking with protected areas, national parks and could also provide an array of information on climate change and genetic resources to harbour genetically deteriorated parks and protected areas.

Community members, cultural leaders and TKHs mentioned that due to anomalies in weather, local people are facing unusual rains and abrupt changes in temperature. Due to this phenomenon, some plant species are changing their behaviours. For e.g., Tamur Jamoh, a hunter reported that now due to advancement in flowering and fruiting period of the *dekan* tree (*Gymnocladus burmanicus* C.E. Parkinson), there were lesser number of deers and boars. The older hunters of Damro and Maryang (Upper Siang district) regions explained that now they need more time to locate the rhizomes of *emo* plant (*Aconitum ferox*, used as poison in hunting), because of melting ice at Dishang and Milang mountains. The abundance of the root of this species has reduced to 8–10 kg/ha as against 12–20 kg/ha that was available about 30 years ago. The cultural leaders, viz. Kaling Borang, Tate Jamoh, G. Lego, Orik Ralen, Litin Jamoh and Omang Tamuk (Pasighat circle) expressed that CRF could have added value if protection is provided to the habitats to minimize overexploitation of certain animals and plant species such as *mithun* (*Bos frontalis*), *kebung* (*Ratufa bicolor*, and other squirrel species), *dekan* (*Gymnocladus burmanicus* C. E. Parkinson), *ekkam* (*Phyrrinum pubinerve*), *emo*, etc.

The interest, culture and other socioeconomic concerns of tribal communities are equally important to ensure the sustainability of forest resources. Based on the workshops, the following key points emerged as policy matter.

- The traditional people must be paid for conserving their native forest. First of all the Government of India must persuade the world environmental agencies such as United Nations Environment Programme (UNEP) and other funding agencies to

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- include India (Himalayan states) in the REDD list on the basis of its forest cover, indigenosity and other local issues for the indigenous people who basically favour CRF and REDD.
- There is an urgent need particularly in the northeastern region to establish CRF and promote conservation to ensure the sustainability of livelihood and subsistence economy. A network of many CRFs should be created through a mission mode movement.
  - Lessons can be learnt from REDD programme initiated in Brazil and Indonesia. Proper representation of indigenous people must be ensured while framing policies concerning REDD; and culture and livelihood aspects.
  - The traditional people hold a rich environmental knowledge, which can be used as an integral part of research on the REDD and climate change issues.
  - TKHs may actively participate in the process of monitoring the CRF network. It will help scientists in deliberating the present results with the past phenomenon of a particular ecosystem. The REDD funding should use mechanisms such as certification and validation to ensure appropriate benefit sharing by local communities.
  - Government policy under consideration must be implemented. The Union Minister for Environment and Forests has announced that Himalayan states including AP need to be given special incentives by the Government of India for maintaining their forest cover<sup>6</sup>. This kind of encouragement is necessary for the conservation of biocultural resources of AP and sustaining the livelihoods of traditional communities.
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  4. Chatterjee, S., Climate Change and Rhododendrons of the Eastern Himalaya; [www.planet-action.org/.../r4093\\_93\\_climate\\_change\\_and\\_rhododendronsconcept\\_note\\_to\\_action\\_planet-2march\\_09.pdf](http://www.planet-action.org/.../r4093_93_climate_change_and_rhododendronsconcept_note_to_action_planet-2march_09.pdf)
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  6. PTI, States to get incentives to maintain forest cover: Jairam Ramesh, 6 September 2009.

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## MEETINGS/SYMPOSIA/SEMINARS

### International Conference on Digital Library Management (ICDLM)

Date: 11–13 January 2011

Place: Kolkata

Theme: Extending benefits of modern technology to public, academic and special libraries.

Topics include: Digital library (DL) development and management; Content organization and management; DL architecture and access management; Knowledge management; Digital preservation; DL standards and policy; Thesauri and ontologies, semantics, metadata and retrieval; Open archives initiatives/PMH; Multilingual and interoperability; Copyrights issues in digital environment; DL services and applications; Collaboration and networking between public libraries; Digital initiatives of public libraries; Open educational resources.

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### National Women Science Congress – 2010 and

### National Seminar on Water and Environment

Date: 28–29 September 2010

Place: Bhopal

Women and Science: Role of women in environment conservation; Science as career for women; Scientific future for women – problems and solutions; Need for women leadership in science and technology; Research conducted by women scientist.

Water and Environment: Water resources development, management and conservation, climate changes and its impact on water resources, integrated watershed management, water quality; Water hazards: floods, droughts, pollution, erosion; Water for energy: water as alternative source of energy; Water for other uses: irrigation, rural development, ecosystem and forestry; Water for society: role of people in water conservation, governance and monitoring.

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