

Traditional knowledge systems, intellectual property rights and their relevance for sustainable development*

A national conference was organized at the National Institute of Science Communication and Information Resources (NISCAIR), during which six sessions, viz. traditional knowledge (TK) and sustainable development; TK related biodiversity and genetic resources: issues and piracy protection; bioprospecting based on TK; interaction with grassroots knowledge holders; TK documentation, access and benefit sharing, and legal and policy framework on TK protection, were held with the objective to explore the possibility of integration of TK and intellectual property rights (IPR) regime in policy formulation and the execution of a development programme to catalyse a positive change in the minds of policy-makers, administrators and stakeholders in sustainable development.

M. S. Swaminathan (Chennai), Chief Guest, covered various issues of indigenous knowledge, Indian agriculture and global developmental perspective. He inspired the participants by showing the glimpses of current researches on the conservation of indigenous agrobiodiversity and location specific sustainable development. He informed the participants that domestication and conservation of Indian rice varieties started 10,000 years ago and he correlated these facts with an example of *Adi* and *Galong* communities of Arunachal. He pointed out that tribal communities of India have the first right to get benefits, if any, accrued from such resources. He told that the variety *kerlinga jeera* of rice of India was developed in participatory manner using indigenous germplasm from tribal communities. He emphasized that participatory conservation of water resources, making gene and grain banks in the country can change the scenario of Indian agriculture and economy. He also men-

tioned that new Indian grassroots conservators of indigenous biodiversity are being recognized at the national and global levels.

He talked about bio-happiness and nutritive and medicinal values of Indian agrobiodiversity, especially the small millets. He suggested that now India needs to establish biovalley and should link it with the conservation of our precious indigenous resources.

He expressed his concern with 'poverty of the primary conservers in contrast to the prosperity of nature'. There is a need to nurture and improve the economic well-being of these knowledge holders, and also honour them. He also talked of a food-based approach instead of a drug-based approach to conquer malnutrition. There is a need to harness crops that are nutritionally rich. He strongly recommended that 'if we want to have the sustainable conservation and development in Indian agriculture and related fields then, Government and formal institutions should create three major awards, i.e. (i) Genome Saviour Award for primary conservators, (ii) Breed Saviour Award for conservators of animal breed, and (iii) National Sovereignty Award for farm women and men'.

Moe Chiba (UNESCO) said that the Indian TK is of oral culture, where transmission is by word and learning by doing, rather than in written form. 'A comprehensive approach to indigenous knowledge, with language as one important vehicle of transmission, is therefore required.'

S. K. Rastogi (NISCAIR, CSIR) said the loss of traditional knowledge is not just a loss for the traditional communities themselves but also a loss to the intellectual property of the country as a whole. And the greatest challenge confronting indigenous people is how to promote, protect and nurture indigenous cultures in an ever-changing modern society.

A book titled, *Ecoliterary Tools: Methodology and Approaches on Biocultural Knowledge Learning and Conservation* by Ranjay K. Singh (College of Horticulture and Forestry) and T. K. Mukherjee (CSIR) was released by Swaminathan.

Samir K. Brahmachari (CSIR) highlighted the contribution of CSIR in TK and IPR, and emphasized the issues of proper awareness about IPR and protection of indigenous knowledge systems (IKS). People of Africa region who are resistant to AIDS, animals kingdom (as example of indigenous yak conservators of Arunachal Pradesh) and plant resources of the world (indigenous biodiversity of Indian hotspots, Africa and Amazon basin). He suggested to develop a participatory research proposal on conservation and promotion of indigenous yak breeds conserved by *Brokpa* community of Arunachal Pradesh.

During a special session on the experience sharing with Indian grassroots conservators, nine knowledge holders presented their knowledge and contribution in their native and Hindi languages. Darge Tsering, the youngest *Gaon Burha* (29 years old) of Arunachal Pradesh showed the contribution made by him with regard to the mobilization of his *Brokpa* community for conservation and development of indigenous yak breeds based on the commodity approach. Sunda Ram Verma of Sikar District, Rajasthan, presented his paper on indigenous agrobiodiversity conservation and sustainability in rainfed agroecosystem. He highlighted his indigenous improved varieties of gram, chilli (hottest variety in regions), black cumin seed and bajra. He also showed the indigenous method he developed of planting agroforestry trees using only three litres of water in the entire lifecycle of tree. His outstanding work on development of indigenous varieties and technologies for rainfed agroecosystems of Rajasthan was highlighted.

The following recommendations were made:

- Efforts should be made to document the vast traditional knowledge of all the ethnic groups/rural communities through involvement of various formal and non-formal institutions working on the areas.

- Digital database of inventory/registry/repository system should be developed, wherein all such information can be archived digitally. A suitable policy

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framework may be brought in for access/commercial utilization of such information by the user communities, with appropriate mechanism of benefit sharing with the original knowledge holders.

- Efforts of the TK holders who are often poor and marginal tribals, and village communities, should be recognized and care should be taken by the researchers not to disclose vital and crucial information in academic publications.

- The authenticity of the plants and animals recorded and used by the community should be established through Botanical Survey of India (BSI), Zoological Survey of India (ZSI) and other herbaria.

- In the emerging regime of international and national laws and policy regulations, it is necessary that the community level knowledge holders are appropriately educated so that they are made aware of their rights and responsibilities with regard to safeguarding their TK.

- TKS based on bioresources, which are endangered and threatened, are required to be conserved on war footing.

- It should be made mandatory to deposit the genetic materials at the National Bureau of Plant Genetic Resources (NBPGR), New Delhi along with passport information and registration of vari-

ety with Plant Variety Authority (PVA). The local practices of rearing of indigenous livestock or local breeds should be encouraged to continue.

- Indigenous bio and other resources associated with traditional healthcare, food, veterinary products, crafts, etc. should be properly conserved and promoted for sustainable development.

- The gap in information on national marine traditional knowledge and bio-prospecting of wealth of all bio-geographic zones should be documented and bridged.

- National policy and legal framework is to be urgently formulated appropriately to prevent its misappropriation.

- Provision of funding for the proper use of the indigenous knowledge and related bioresources/products is required. Documentation and location specific TKS based products development can be accelerated by establishing the concept of village knowledge bank.

- National level networking of grassroot conservators, foresters, scientists and ethnic/tribal communities is required for establishing reciprocal learning, knowledge sharing and products development programme.

- A massive campaign on PIC and IPR is required for scientists, extension and

developmental workers and grassroot conservators as well.

- Basic knowledge on IPR may be included in undergraduation and post-graduation academic curricula.

- It should be made mandatory to the scientists that before final submission of any project reports to government or private agencies, they must circulate major findings of it in regional language of TKH to socially validate TKS. If necessary, the corrections and refinement may be made, which will help in rational characterization and representation of TKS.

- Efforts should be made at appropriate policy and decision making level to encourage and reward the researchers who publish their research findings on TKS in national journals of repute with due acknowledgment to knowledge holders.

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