

# **RECOMMENDATIONS**

## **NATIONAL WORKSHOP**

**on**

# **Forestry for Food Security in Dry Zone**

**5-6 October, 2006**

**Organized by**

**ARID FOREST RESEARCH INSTITUTE,  
JODHPUR-342005**

**(Indian Council of Forestry Research & Education, Dehradun)**

**Sponsored by**

**Ministry of Environment and Forests**

**Government of India, New Delhi-110 003**

## **Preamble**

Arid Forest Research Institute, Jodhpur organized a two days National Workshop on 'Forestry for Food Security in Dry zone' from 5<sup>th</sup> to 6<sup>th</sup> October 2006. The workshop was sponsored by Ministry of Environment & Forests, Government of India, New Delhi under United Nations Conventions to Combat Desertification.

The objectives of the workshop was to bring together scientists, foresters, NGOs, progressive farmers and other stakeholders to discuss/ deliberate on income generation role of forests/ trees towards sustenance of livelihood and scope of employment generation and food security through afforestation programmes. Attempts were made to chalk out suitable strategies and search viable solutions through innovative action plans to increase productivity leading to food security in dry zone.

The workshop was attended by over 100 delegates from different fields, such as policy makers, foresters/ natural resource managers, eminent scientists, progressive farmers and researchers from institutions of national and international reputes, and non-government organizations. There were five technical sessions covering broad themes of the workshop. Out of forty four papers received including the papers of 10 resource persons, 27 papers were orally presented by the resource persons and the respective authors in the five technical sessions.

All the presentations were discussed in details. After deliberations, several recommendations were made and noted down. The workshop has been successful in achieving it's expected out come of enhancing knowledge on the food security and income generation role of forest/ afforestation in dry areas, experience sharing and drawing up recommendation for future planning considering environmental issues and defining the role of forestry for food security in dry areas.

## **Inaugural Session**

The inaugural session was started with worship of Goddess of Knowledge, 'Sarswati' by performing Sarswati Vandana. The proceedings of the inaugural session of the National workshop were initiated by Sh A. K. Wahal, Deputy Director General, Indian Council of Forestry Research and Education, with a warm welcome to the guests, resource persons and the delegates. In his address, Sh. A. K. Wahal stressed upon the role of forestry in food security, which is receiving attention because of increasing realization of the dependence of the rural people on farm trees and forests to meet their daily requirements of food and income. He acknowledged the multiple benefits provided by the tree and stated that a tree may not give a very superior timber or may not be fit for pulping but it is capable of giving tremendous benefits to the society in the form of fuel, fodder, fruit, medicines, fiber etc, which get accumulated in addition to control over serious soil degradation, desertification and loss of biodiversity, leading to food insecurity and extreme poverty in the most vulnerable areas.

In his presidential address, Sh. G. K. Prasad, Addl. Director General of Forest, Ministry of Environment & Forests, Government of India, New Delhi, has stated that food security continues to be the core concern of livelihood security in which forests plays a vital role. He necessitated to frame a clear strategy for the conservation, extension and sustainable management of forest/tree cover in dry region particularly in arid zone. Efforts to improve productivity of existing forages and introduce new forage species to make an important contribution to the problems of livestock production in dry areas were also pointed out. He talked about the importance of this workshop, which has been organized in the "International Year for Deserts and Desertification" declared by United Nations Organization.

In his inaugural address, the Chief Guest, His Highness Shri Gaj Singh Ji stated that food security is essentially enshrined in the form of right to life and right to liberty. He showed his unhappiness about overexploitation of ground water and quality and scenario of drinking water supply in Rajasthan. He stressed upon rejuvenating the degrading resource and environment through resource management, afforestation/ reforestation and increased biodiversity to enhance productivity and food security. Contribution of NGO's in formulation of effective strategies for promoting food security of vulnerable groups by enhancing employments in various afforestation/ vegetation improvement and resource management activities to control land degradation and enhance productivity of the dry lands was also suggested so that the traditional systems of sacred groves in Marwar region can be rejuvenated. More emphasis was on application of indigenous species to afforest and maintain sacred groves for providing traditional non-timber forest products and subsistence goods to the people in addition to maintaining nesting, roosting and foraging sites for wild animals and sustaining the essential ecological processes and life support systems in the dry lands.

## **Technical Session-I**

**Theme:** Trees for sustained agricultural production and improved silvipastoral practices for better livestock production in dry areas particularly in arid zone

**Chairman:** Shri G.K. Prasad, IFS, Addl. DG Forest, MoEF, New Delhi

**Moderator:** Dr. Shashi Kumar, IFS, Director (Research), ICFRE, Dehradun

There were twelve research papers in this technical session, out of which six were presented and discussed in the session. Following recommendations have emerged out of the deliberations:

### **RECOMMENDATIONS**

- Participatory Rural Appraisal techniques may be adopted for problem identification and its solution for betterment of local people.
- Stakeholders should be involved for capacity building and value addition of the tree produce and its marketing.
- New and site-specific agroforestry and silvipastoral models with suitable species like *Ailanthus excelsa* and *Casuarina* alongwith the indigenous species may be evolved and applied to improve productivity of dry lands.
- Emphasis should be more on indigenous high yielding livestock breed to enhance local income.
- Mechanism should be evolved for funding or carbon trading between industrialists and tree growers in afforestation/ reforestation programmes under 'Clean Development Mechanism' of Kyoto Protocol.

## **Technical session II**

**Theme:** Forestry for water conservation and use in arid region

**Chainman:** Dr. M. P. Chacharkar, Director, DRDO, Jodhpur - 342003

**Moderator:** Dr. A. K. Mandal, Director, TFRI, Jabalpur

Four papers were presented and discussed in this technical session. The discussion reached at following recommendations:

## **RECOMMENDATIONS:**

- Emphasis should be given on tree integration to conserve and manage watershed for clean and efficient water supply.
- Appropriate mechanism should be adopted applying tree species in tackling out salinity and water logging problems.
- Water balance studies should be carried out on watershed basis for conclusion about role of forest in conservation and management of water.

## **Technical Session III**

**Theme:**           **Afforestation to combat desertification and employment generation for insuring food security for landless people in fragile dry regions**

**Chairman:**           **Dr. Pratap Narain, Director, CAZRI, Jodhpur**

**Moderator:**       **Sh S. P. Tripathi, Coordinator, Chhindwara, M.P.**

There were five papers in this session. Out of these four papers were presented and discussed. The recommendations emerged out of the discussion in the technical session are:

## **RECOMMENDATIONS:**

- Adoption of integrated ecosystem approach to combat desertification with emphasis on non-timber forest produce of indigenous species for the benefits of local people.
- Formulation of suitable strategies for extension of tested forestry technologies to the end user by involving government and non-government functionaries.
- Adoption of large scale afforestation programmes for combating desertification involving local poor and landless people for their food security in the fragile dry lands.
- Exploring possibility of some more suitable species in combating desertification without harmful effects on local fauna and flora.
- Ensuring people's participation by enhancing forest produce and their market linkages for income generation of the local people.

## **Technical Session IV**

**Theme:**           **Selection and Improvement of Suitable Tree Species for Food Security in Dry Zone**

**Chairman:**           **Prof. D. K. Bandyopadhyaya, Director, IIFM Bhopal**

**Moderator**           **Sh. A. K. Goyal, DIG, Forest, MoEF, GoI, New Delhi**

There were five papers in this session and all were presented and deliberated upon. Following recommendations have emerged of from the discussion in this technical session:

#### **RECOMMENDATIONS:**

- Reproductive biology of the important forest tree species best suited for arid zones must be studied thoroughly.
- Location/region specific seed orchards of desert species should be established to enhance productivity of the tree species.
- For addressing malnutrition problem suitable multipurpose tree species like *Prosopis cineraria*, *Ailanthus excelsa*, *Balanites aegyptiaca*, *Zizyphus numularia*, etc. must be considered under afforestation programmes.
- A consortium may be formed including AFRI, CAZRI, State Forest Department and Universities to take up the multi institutional/ multi disciplinary research related to breeding and improvement of dry zone tree species.
- Identification and classification of tree/shrub/climbers of arid or dry regions to contribute to food security through tree improvement research.
- Seed certification is an important aspect, hence, effort should be made in this direction to ensure availability and distribution of quality seed to the end users.

## **Technical Session V**

**Theme:**            **Biodiversity conservation and alternate foods from forests in dry areas**

**Chairman:**                            Dr. P. S. Pathak, Ex Director, IGFRI, Jhansi

**Moderator**                            Prof. O. P. Toky, CCSHAU, Hisar

There were sixteen papers in this technical session. Eight papers were presented orally and discussed. The recommendations are:

#### **RECOMMENDATIONS:**

- Integrated approach should be adopted to conserve the wild plants and their utilization considering social, economic, biophysical and policy dimensions.
- Technological interventions to enhance storability of supplemental food from forest produces should be encouraged.
- Serious efforts are needed to revisit the early conservation scheme for evolving suitable recommendations and utilization of available resources to ensure food security.
- Wild species, which are a source of food, need prioritization and management for promoting biodiversity and food security.

- Biodiversity of various life forms including below ground species needs understanding to scale the level of sustainability in dry areas.
- Area specific supplemental or buffer foods should be identified for the forest dwellers of dry zone.

## **Valedictory Session**

Sh. A. K. Wahal, Deputy Director General, Indian Council of Forestry Research & Education addressed the session. He avowed about types of land degradation like soil erosion by wind and water, salt accumulation in surface horizon of soils, decline in soil structural stability, increase in surface crusting and surface runoff, reduction in soil infiltration capacity and soil moisture storage, replacement of forest or woodland by savanna grassland or scrub, and reduction in species diversity and plant biomass in the ecosystems, which are the main effects deteriorating environment quality and productivity and inducing poverty in dry areas. He called attention to multiple roles of forests and trees in minimizing these environmental risks to ensure food security in dry region particularly during droughts and famines.

He stated that forests is safety net in minimizing risk and provide subsistence by supplying energy to the poor households, maintaining productivity and sustainability of land use systems, providing a testing ground for decentralized approaches to access and benefit sharing, and by supporting income generation activities. The role of forestry programmes in ensuring food security through employment generation, raising plants of medicinal and food values adopting participatory approaches, and developing better market linkages for forest produced were also stressed.

Recommendations of different technical sessions were further deliberated upon and finalized as provided below. The workshop was ultimately ended with vote of thank by Dr. R. L. Srivastava, Director, Arid Forest Research Institute.

- New and site-specific agroforestry and silvipastoral models with indigenous may be evolved and applied to improve productivity of dry lands.
- Mechanism should be evolved for funding or carbon trading between industrialists and tree growers in afforestation/ reforestation programmes under 'Clean Development Mechanism' of Kyoto Protocol.
- Water balance studies should be carried out on tree integration to conserve and manage watershed for clean and efficient water supply including tackling out salinity and water logging problems.
- Reproductive biology of the important forest tree species best suited for arid zones must be studied thoroughly and region specific seed orchards may be established to enhance productivity of the tree species.

- For addressing malnutrition problem suitable multipurpose tree species like *Prosopis cineraria*, *Ailanthus excelsa*, *Balanites aegyptiaca*, *Zizyphus numularia*, etc. must be considered under afforestation programmes.
- A consortium may be formed including AFRI, CAZRI, State Forest Department and Universities to take up the multi institutional/ multi disciplinary research related to breeding and improvement of dry zone tree species.
- Tree/shrub/climbers of arid/dry regions contributing to food security should be identified/classified and stakeholders should be involved for capacity building and value addition.
- Integrated approach should be adopted to conserve the wild plants and their utilization considering social, economic, biophysical and policy dimensions.
- Serious efforts are needed to revisit the early conservation scheme for evolving suitable recommendations and utilization of available resources to ensure food security.
- Wild species, which are a source of food, need prioritization and management for promoting biodiversity and food security.
- Biodiversity of various life forms including below ground species needs understanding to scale the level of sustainability in dry areas.
- Area specific supplemental or buffer foods should be identified for the forest dwellers of dry zone.

## **PATRONS**

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Secretary, MoEF, Govt. of India, New Delhi

**Sh. J. C. Kala**

DGF and Special Secretary, MoEF, Govt. of India, New Delhi

**Sh. G. K. Prasad**

Addl. DG, MoEF and Director General, ICFRE, Dehradun

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