PROCEEDINGS OF WORKSHOP ON MANAGEMENT OF SALT AFFECTED SOILS THROUGH AFFORESTATION

A **one day Regional Workshop on 'Management of Salt Affected Soils through Afforestation' was organized at Van Chetna Kendra, Hariz, Patan, Gujarat on 25th Feb. 2009** to present the outcome & findings of the project on afforestation and planting techniques for arid salt affected soils executed by the Arid Forest Research Institute, Jodhpur since 1997 in village Gangani District Jodhpur which is going to be concluded in March, 2009.

The workshop was presided by Dr R.L Srivastava, Director AFRI. Dr M.L.Sharma, PCCF Gujarat was the chief Guest and Sh R .N Tripathi was guest of honour. Sh R. L. Meena, CF, Kutch welcome the delegates and Dr. Ranjana Arya, Organizing Secretary presented the vote of thanks. The function was compeered by Dr V.P. Tewari, Scientist E and HOD, Silviculture division,

Total 58 delegates participated the workshop including Dr. Pradeep Choudhary, CF (Admin.), AFRI; Sh. U.D. Singh, CF, Mehsana, Sh D. S. Rentia, DFO, Patan, Prof M.V. Patel, Sardarkrushinagar Agricultural University, Dantiwada; Prof. Shreyas Bhatt, Hemchandracharya North Gujarat University, Patan; ACFs, RFOs, Foresters and delegates from AFRI.

Four presentations were made by resource persons-

1. Dr. D. C. Joshi, PS (Retd.), CAZRI, Jodhpur, **Distribution and Characteristics of Salt Affected soils in Arid Region.**

2. Sh. R.L. Meena, CF, Kachchh, **Ecosystems in Kachchh Forest Circle: Conservation & Afforestation.**


3. Dr. N. J. Jadav SDAU, Dantiwara, Characterization **of Underground Water in Sami-Harij and Mehsana Areas North Gujarat.**
4. Dr Ranjana Arya Scientist E & PI, AFRI, Jodhpur: **Screening of Exotic and indigenous plant species for their performance on a salt affected soil with various management practices (1997- 2009)**.


After lunch a field visit was conducted and delegates were shown various trials for screening of plant species under severe salt affected condition laid at experimental site Kordha. It is a highly saline silty clay textured black soil (medium) having soil depth 40 -70 cm. Trials were laid with control, Wheat Husk (1/2 kg) , FYM (5kg) , WH + FYM, Bajara Husk (250g) and FYM + BH treatments. They were impressed ith the survival and growth of *Acacia ampliceps, A. bivenosa* and *Salvadora persica*.


Field visits by delegates at Kordha Patan

Feedback and suggestions were taken from delegates in the concluding session at Kordha, Patan. Sh. U.D. Singh, CF, Mehsana wanted that these type of workshops should be conducted in other areas also.

Feed back from participants during concluding session

Recommendations

Vast stretches of natural salt affected soils are wide spread in the arid region of Rajasthan and Gujarat covering 0.375 and 2.2 22 million ha. These problematic soils pose serious problem in biomass production. Reclamation of such land is not possible due to paucity of good quality water and environmental factors. People residing in this situation are poor and socially backward. There is urgent need of developing technology for greening the salt affected land. The

project entitled “Screening of exotic and indigenous plant species for their performance on salt affected soil with different management practices” is a welcome effort in this direction.

Following recommendations have emerged from the workshop “Management of salt affected soils through afforestation” organised on 25 Feb. 2009.

- Before taking management of salt affected soils, their correct mapping and characterisation of should be under taken by using Satellite data, ground truth and laboratory data. This will help in assessing magnitude of the extent and severity of problem.
- Based on the information **site specific** environment friendly, economic and socially acceptable management technology can be adopted and propagated for management of salt affected soils.
- In the Sami- Harij and Mehsana taluka survey of ground water revealed that the water is moderate to severe saline with EC range from 1108 to 109.52 Micro-Siemen (µ S) cm^{-1} and SAR 11.3 to 32.8. The salinity has increased due to over exploitation of ground water and ingress of sea water. It is suggested that the intensive work on ground water recharge and efficient use of irrigation water may be undertaken.
- Exotic shrubs of genus *Atriplex* perform well on arid saline alkali lands with FYM, and nitrogen. They produce nitrogen rich fodder used for sheep and goat. High salt content necessitate mixing with cereal residue.
- *Salvadora persica*, was the best performed indigenous tree with highest survival. It is a slow growing species, application of gypsum and nitrogen gave increase in growth and biomass production.
- *Acacia ampliceps* (exotic) tree perform very well on alkali soils with good soil depth (60 to 75 cm minimum) and respond well to FYM, gypsum and phosphorus application. It is a very good fodder for all the animals.
- **Large pit size is necessary to mix amendments to create less salty environment during seedling establishment. Double ridged** and **Circular dish mounds** enhanced survival of all the plant spp. by providing protection from water-logging and less salty

environment. Crescent shaped drainage trenches served dual purpose- helped in leaching of salts and harvested water.

- Plantation activities helped in improving the site conditions, promoting growth of natural flora (glycophytes as well as halophytes) and natural germination of *S. persica* is also observed.

Participants at Van Chetna Kendra, Hariz