Agroforestry
Newsletter
National Research Centre for Agroforestry, Jhansi-284 003

Vol.22, No. (3) JULY-SEPTEMBER, 2010

ANNUAL GROUP MEETING OF ALL INDIA COORDINATED RESEARCH PROJECT ON AGROFORESTRY

Annual Group Meeting of All India Coordinated Research Project on Agroforestry (AICRPAF) was held during 10th to 12th July, 2010 at Dr. B S K K V, Dapoli. Dr. S.K. Dhyani, Director & Coordinator of the project organized this group meeting. Dr. A. K. Singh, DDG (NRM), KAB-II, ICAR, New Delhi, was the Chief Guest and Dr. Vijay Mehta, Vice Chancellor of Dr. B S K K V, Dapoli presided during inaugural function. Scientists from SAUs and ICAR institute participated in the group meeting. Besides inaugural and plenary session seven technical sessions were held.

ANOLA AWARENESS PROGRAMME

Dr. S.K. Dhyani, Director, Dr. R. P. Dwivedi and Dr. Sudhir Kumar, Sr. Scientists of the Centre participated in the Anola Awareness Programme on 1st September 2010 at Deendayal Sabhagar, Jhansi. This programme was organized for farmers of Bundelkhand region by Uttar Pradesh Agriculture Department, Jhansi.

RESEARCH ADVISORY COMMITTEE

Combined 17th RAC meeting of NRCAF & IGFRI was held on 06th to 8th September, 2010 under the chairmanship of Prof. R. M. Singh, Professor Emeritus, BHU; Dr. S. D. Rai, Ex. ADG, ICAR, New Delhi; Dr. A. K. Mishra, Ex. Addl. Commissioner (Horti.), DA&C, New Delhi; Dr. V.K. Mishra, Dean, CAU, College of Horticulture & Forestry, PASIGHAT (Arunachal Pradesh); Sh. Sharma Puran, Sr. Journalist, Agra; Sh. Jafar Akhtar, Meerut; Dr. K. A. Singh, Director, IGFRI, Jhansi and Dr. S. K. Dhyani, Director, NRCAF, Jhansi (Members of RAC) participated.

MODEL TRAINING COURSE

NRCAF organized a Model Training Course on "Natural Resource Management on Watershed Basis for Sustainability and Livelihood Security" during 14th to 21st September, 2010 sponsored by Directorate of Extention, DAC, Ministry of Agriculture, GOI, New Delhi for the officers of State Development Departments. Twenty three participants (Includes 2 women) representing eight States were benefited. Dr. R. K. Tewari was the course Director for this training with Dr. A. Venkatesh, Dr. R. P. Dwivedi, Dr. Ramesh Singh and Dr. Palsaniya as Co- Course Directors.

HUMAN RESOURCE DEVELOPMENT

- Dr. Ajit, Sr. Scientist of the Centre participated in the Training on "Strengthening Statistical Computing at NARS-SAS Software" from 23rd June to 9th July, 2010 organized by IASRI, New Delhi conducted by SAS Institute, Mumbai.

- Dr. Ram Newaj, Dr. A. K. Handa, Pr. Scientists; Dr. S. P. Ahlawat, Dr. R. P. Dwivedi, Sr. Scientists and Sh. N. Gurunathan, Scientist participated in the Annual Group Meeting of All India Coordinated Research Project on Agroforestry (AICRPAF) during 10th to 12th July, 2010 held at Dr. B S K K V, Dapoli.

- Dr. R.S. Yadav, Sr. Scientist participated int training programme On "Data Analysis Using SAS" organized by IASRI, New Delhi from 17th to 22nd August,2010.

- Dr. A.K. Handa, Pr. Scientist participated in the training on "Communication and Presentation Skills for Scientists" sponsored by DST organized at Xevier Institute of Management, Bhubanashwar from 6th to 11th September,2010.

VANMAHOTSAV PROGRAMME AND PLANTATION ACTIVITIES

- NRCAF organized Vanmahotsav on 07th August, 2010 at the Campus.

- During this rainy season Aonla, Guava, Jackfruit and Ber plants (850 No.) have been planted at Garkundar Dabar Watershed area and seventy two farmers have been benefited. A total of more than two thousand plants of MPTs, fruit and other have been planted in farmer's field and at Research Farm this year.

VISITORS

- Prof. R. M. Singh, Professor Emeritus, Dept. of Genetics & Pl. Breeding, BHU, Varanasi (U.P.).
- Dr. S.D. Rai, Ex. ADG, ICAR, New Delhi.
- Dr. A. K. Mishra, Ex. Addl. Commissioner (Horti.), DA&C, New Delhi.
- Dr. V.K. Mishra, Dean, College of Horti. & Forestry, CAU, Pasighat (Arunachal Pradesh)
- Sh. Uma Shankar Singh, IFS, CCF, Bundelkhand Region, Jhansi.
- Sh. Sharma Puran, (Member, IMC), Atmadpur, Agra (U.P.).

NEW SCIENTIST

Dr. Sudhir Kumar, Sr. Scientist (Horti.) joined the Centre from IGFRI, Jhansi.

PROMOTION

- Sh. Dalbir Singh Rawat, Assistant of the Centre has been promoted to Assistant Administrative Officer w.e.f. 2nd September, 2010.
- Sh. Shishu Pal Singh Yadav Sr. Tech. Assistant (T-4) of the Centre has been promoted to Technical Officer (T-5) w. e. f. 21st March, 2010.

RETIREMENT

Sh. S G Dhamdhere, Technical Officer (T-5), (Library) of the Centre retired on 31st August, 2010. The staff members bid a grand farewell.

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STANDARDIZED METHODOLOGY FOR ASSESSMENT OF AGROFORESTRY AREAS USING REMOTE SENSING

Poplar and eucalyptus based agroforestry systems are predominant in Yamunanagar and Saharanpur districts of north-western India. These systems are remunerative to the farmers and hence they adopt them at large scale. For assessment of areas under agroforestry systems in these two districts using GIS and remote sensing, a DST-sponsored project was initiated in Oct. 2007 at this Centre. As no methodology is available for delineating and estimating agroforestry areas, a methodology has been proposed under this project (Fig.1). This methodology involves five main steps:

1. Registration of image 2. Transformation of image 3. Classification of image
4. Post classification correction and 5. Accuracy assessment of classification

Remote sensing image of the district was transformed to PCA before classification for land uses and land covers. The training sites were created using FCC and agroforestry plots tracked using GPS served as training sites for agroforestry class. When supervised classification methods like maximum likelihood and minimum distance to mean were applied for land uses and land covers of Yamunanagar district, it was observed that forest area got intermingled with agroforestry and plantations (Fig. 2). This led to inaccurate results for land uses and land covers in the district. In order to reduce this error, forest area was digitized with the help of FCC and masked from district area. Then the district area without forest was again classified and revised land use and land cover map was generated. Post classification correction of classified image was done on the basis of ground truth data and accuracy assessment was also done. This method gave more than 95 percent accuracy of classification. The methodology discussed above was also applied in case of Saharanpur district which gave good results for land uses and land covers in general and agroforestry in particular. In this way the proposed methodology has been standardized for two districts and hence may be used for delineating and estimating areas under agroforestry systems in other parts of the country.

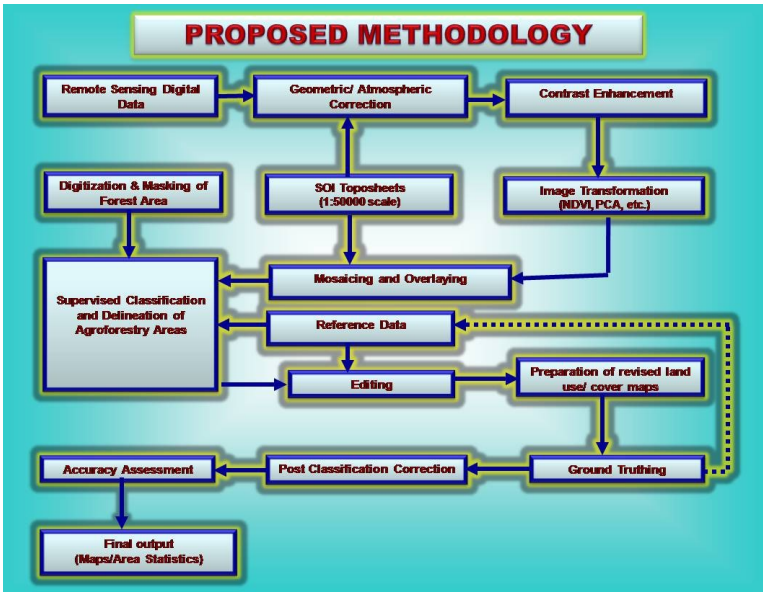

Fig. 1: Flow chart showing methodology used for assessment of agroforestry areas

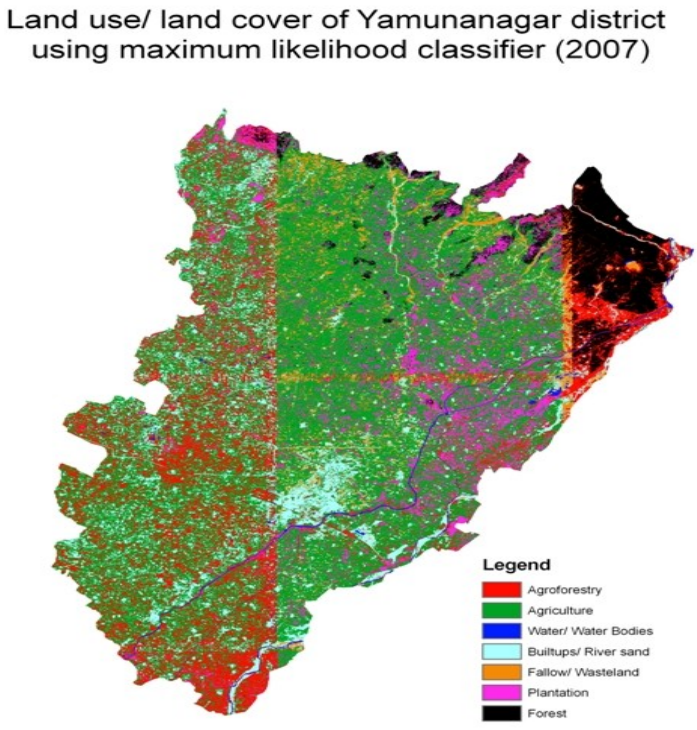

Fig. 2: Land uses and land covers of the Yamunanangar district

R.H. Rizvi, R.S. Yadav, Ramesh Singh and Deepak Maurya
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Introduction of pigeonpea hybrids in Garhkundar – Dabar watershed in Bundelkhand for crop diversification, intensification and higher profitability

Two pigeonpea hybrids namely ICPH-2433 (early duration) and ICPH-2671 (medium

duration) were introduced in watershed from ICRISAT and evaluated with local variety on farmer's field. These varieties were sown using seed rate @ 12 kg/ha on 10th July, 2009 in nearly half acre area each. The recommended package of practices was followed in their cultivation. These varieties were supplied with nitrogen and phosphorus in 18 and 46 kg/ha through DAP at the sowing time and two irrigations were provided as and when needed.

During the trial it was observed that medium duration hybrid ICPH-2671 recorded the highest yield and yield attributing characters (Table 1) as compared to early hybrid and local variety. It produced 1.64 t/ha grain yield which was 15.5 and 40.8 % higher over grain yield produced by ICPH-2433 and local pigeonpea. However, ICPH-2433 started flowering within 90 days of sowing, nearly 30 and 75 days earlier than the ICPH-2671 and local, respectively. Further, it matured within 132 days as compared to 190 and 270 days taken by ICPH-2671 and local, respectively making it more suitable for pigeonpea-wheat cropping system. The B:C ratio for ICPH-2671 was 3.9:1 with net return of Rs. 47936 as compared to 3.5:1 (Rs. 40452) and 2.8:1 (Rs. 31402) for ICPH-2671 and local, respectively. Therefore, both the above pigeonpea hybrids can be incorporated in the existing cropping systems as a mean of crop diversification and intensification for higher profitability.

Table 1: Growth, yield attributes and yield of pigeonpea varieties in demonstrations

Variety	Plant height (cm)	Days to maturity	Pods/ plant	Seeds/ pod	1,000-grain weight (g)	Grain yield (kg/ha)	Fodder yield (kg/ha)	Net return (Rs./ha)	B:C ratio
ICPH-2433	181	132	130.7	4.1	77	1420	4544	40452	3.5:1
ICPH-2671	218	190	153.5	3.8	105	1640	5412	47936	3.9:1
Local	175	270	112.9	3.1	72	1165	3903	31402	2.8:1

D. R. Palsaniya, R. V. Kumar and S. P. S. Yadav

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ICPH-2433

ICPH-2671

Local