

Agroforestry

Newsletter

National Research Centre For Agroforestry, Jhansi-284 003

Vol.19, No. (1)

January- March, 2007

FROM DIRECTOR'S DESK

The weather conditions prevailing in different parts of the country in current quarter will have significant bearing on the food production scenario of *rabi* crops as well as fruit production in later part of the year. The aberrant weather conditions were repeated this year as well. January has very low temperature in many parts of the country followed by abrupt rise. Then there were hail storms particularly in central as well as northern parts of the country. The hails and rains may have a positive effect on *rabi* crops particularly wheat. However, the mid season rise in temperature may adversely affect the fruit yield particularly mango in tropical and apple in temperate region. Agroforestry with its influence on microclimate is expected to act as buffer to mitigate the influence of aberrant weather to some extent. However, scientific data with hard facts are needed to draw any conclusion. Some of the AICRPAF centres have initiated efforts in this direction and other will follow soon. These issues will be deliberated in the workshop of AICRPAF scheduled for 19th to 21st May, 2007 to be held at Dr. Y. S. Parmar University of Horticulture & Forestry, Solan, H.P.

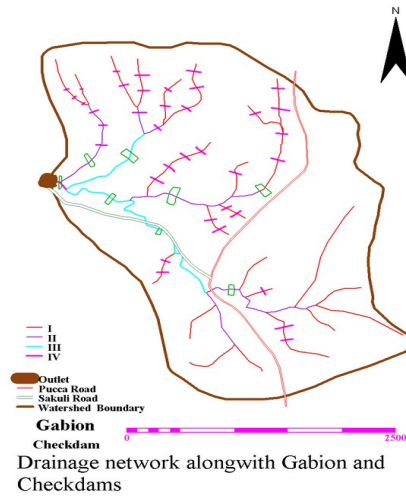
VISIT OF QUINQUENNIAL REVIEW TEAM AT NRCAF

Under the chairmanship of Dr. R. P. Awasthi, Former Vice Chancellor, Dr. Y.S.P.U.H. & F, Solan (H. P.) third QRT meeting, for the period of 2002-2006, was held from 17th to 19th January, 2007 at NRCAF, Jhansi. The QRT visited the Research Farm, Laboratories and also the watershed activities at village Garkundar- Dabar of Distt. Tikamgarh.

GARHKUNDAR-DABAR WATERSHED- AT A GLANCE

| | | |
|---|---|-------------------------------|
| Name of the Watershed | : | Garhkundar-Dabar Watershed |
| Location | : | 78° 53' 11" E ; 25° 27' 35" N |
| Area | : | 850 ha |
| SOIL CONSERVATION MEASURES ADOPTED | | |
| Checkdam | : | 7 |
| Low cost Checkdam | : | 2 |
| Gauging Stations | : | 6 |
| Drainage structure for Agricultural lands | : | 15 |
| Well recharging unit | : | 2 |
| Water spreader | : | 3 |
| Contour/Field Bunding | : | 40 ha (mainly along nallah) |
| PLANTATION ACTIVITIES | | |
| Pitting for plantation of trees | : | 6000 (mainly along nallah) |
| Ber rejuvenation | : | 200 plants |
| Area under Agri-horticultural System | : | 1.9 ha |

| | | |
|---|---|---|
| Development of live fence | : | 1.7 ha |
| CROP IMPROVEMENT | | |
| Crop Demonstration | : | 14 (Kahrif-06) & 02 (Rabi- 06) |
| HUMAN RESOURCE DEVELOPMENT | | |
| Skill Development | : | Budding/Pruning |
| Formation of watershed committee | : | 1 |
| Self Help Groups | : | 4 (Male 2) & (Female 2) |
| Employment Generation | : | 1000 man days (skilled) |
| | : | 6000 man days (unskilled) |



NRCAF acknowledge the technical guidance of Dr. V. S. Katiyar, OIC, CSWCR&TI, Research centre, Datia (M.P.) during the planning and construction of first checkdam at the watershed.

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Table 1: Technical specifications and cost of the structures constructed in the watershed

| Sl. No | Location | Catchment (ha) | Crest length (m) | Weir height (m) | Ht of water drop (m) | Total length including head wall extension (m) | Construction cost (Lakh) |
|--------|------------|----------------|------------------|-----------------|----------------------|--|--------------------------|
| 1. | Chintu | 250 | 5.3 | 1.0 | 1.8 | 12.6 | 1.2 |
| 2. | Dharamdas | 350 | 6 | 1.45 | 2 | 14.55 | 2.36 |
| 3. | Kundar | 150 | 4.3 | 1.75 | 2 | 16.6 | 2.22 |
| 4. | Bhulote | 225 | 12 | 1.0 | 2 | 24.35 | 2.10 |
| 5. | Shivrampur | 850 | 14.3 | 1.7 | 2 | 30.2 | 4.61 |
| 6. | Tula Ram | 150 | 5.7 | 1.4 | 2.75 | 14.0 | 2.67 |
| 7. | Hanumant | 450 | 3.8 | 2 | 2 | 15.7 | 1.35 |
| 8. | Tizzu Pal | 550 | 7.67 | 1.5 | 2.55 | 20.0 | 2.41 |
| 9. | Babulal | 100 | 4.95 | 1.75 | 2 | 16.63 | 0.82 |

Table 2: Cost of conservation measures

| Sl. No. | Type of structure | Number | Unit cost (Lakh) | Approximate Water harvested (000, m ³) |
|---------|-------------------|--------|------------------|--|
| 1. | Checkdam | 7 | 2.35 | 56 |
| 2. | Low cost checkdam | 2 | 1.6 | 18 |
| 3. | Spreaders | 3 | 0.08 | - |
| 4. | Gabion (3 cum.) | 150 | 0.01 | - |
| 5. | Spillways | 15 | 0.01 | - |
| 6. | Bunding | 3 km | RS. 27/- per | - |

| | | | | |
|--|--|--|---------------|--|
| | | | running meter | |
|--|--|--|---------------|--|

SCIENCE DAY

Science day was celebrated on 28th February, 2007 at the Centre under the chairmanship of Dr. S. K. Dhyani, Director, NRCAF, Jhansi. Participation was overwhelming from all categories of staff *viz* scientific, technical, administrative and supportive. The first talk was delivered by Dr. R. H. Rizvi (Scientist, Sr. scale) on global warming and its effects on rice production, in which he concentrated on the issues of rise in temperature, rise in sea water level and melting of Himalayan glaciers and Antarctica ice. The second talk by Dr. Badre Alam (Sr. Scientist) focused on double helix structure of DNA-its discovery and impact on science. Sh R. B. Sharma (AF & AO) concentrated on science and technology development relevant to common man in the society. Dr. S. K. Dhyani, Director in his presidential remarks concentrated on the state of art scientific issues like Nanotechnology and its implications on future agricultural growth in the country. He also touched upon the theme of science day for the current year *i.e.* “more crop per drop” which is better fitted in our own area of research *i.e.* agroforestry. The importance of conserving every single drop of water has to be understood not only by the scientific community but also by the countrymen and in the current scenario; it is of prime concern to all the scientists to extend this message into the common mass of the country. The programme ended with the vote of thanks.

VISIT OF QUINQUENNIAL REVIEW TEAM & PROJECT COORDINATOR AT AICRPAF CENTERS

Third Quinquennial Review Team (QRT) team under the chairmanship of Dr. R. P. Awasthi, Former Vice Chancellor, Dr. Y. S. P. U. H. & F, Solan (H. P.) along with Project Coordinator, AICRPAF visited the following AICRPAF centers to review the work under the project:

- TNAU, Coimbatore, KAU, Thrissur and UAS, Bangalore from 7th to 15th February, 2006.
- TNVASU, Kattupakkam; OUA&T, Bhubneswar; BCKVV, Jhargram and AAU Research Station, Kahikuchi (Assam) from 13th to 20th March, 2007.

PROMOTION

Sh. R. H. Rizvi, Scientist, Computer Application promoted to the post of Scientist, Sr. Scale *w. e. f.* 20th October, 2005.

DOCTORATE DEGREE

Sh. C. K. Bajpai, Sr. Technical Officer (T-7/8) awarded Ph. D. degree on the topic entitled “Standardization of nursery techniques for Chironjee (*Buchanania lanjan* Spring)” from CSJM University, Kanpur (U.P.).

ICAR ZONAL SPORTS

A contingent of 25 participants participated in ICAR Zonal Spots Meet at CAZRI, Jodhpur from 20th -24th February, 2007. Sh. Attar Singh got Bronze medal in cycle race.

HUMAN RESOURCE DEVELOPMENT

- Dr. R. S. Yadav, Scientist (Sr. Scale), participated in Short Course on “Water

Harvesting Strategies for Ground Water Recharge and Supplemental irrigation in Arid and Semiarid Regions” from 2nd to 11th January, 2007 at Regional Station of CSWCR&TI, Datia (M.P.).

- Dr. A. K. Handa, Sr. Scientist, participated and presented a paper in the 4th International Biofuels Conference from 1st to 2nd February, 2007 organized by Winrock International at New Delhi.
- Dr. Ramesh Singh, Scientist, participated and presented a paper in the Third International Groundwater Conference (IGC-2007) on ”Water, Environment and Agriculture-Present Problems and Future Challenges” from 7th to 10th February, 2007 at TNAU, Coimbatore (TN).
- Dr. R. S. Yadav, Scientist (Sr. Scale), participated in the 21 days Winter School on “ Soil Organic Carbon Stocks and Soil Organic Matter Management in Relation to Soil Quality and Climate Change” from 23rd January to 12th February, 2007 at IISS, Bhopal (M.P.).
- Dr. V. K. Gupta, Pr. Scientist, Dr. S. P. Ahlawat, Sr. Scientist and Dr. A. Venkatesh, Sr. Scientist participated in the “National Level Consultative Meeting on OUS Testing of Trees” at TNAU, Coimbatore from 27th February, 2007.
- Dr. V. K. Gupta, Pr. Scientist participated in the Workshop on “Management of Intellectual Property Rights in Biotechnology” at Lucknow from 14th to 17th March, 2007.

VISITORS

- Dr. R. P. Awasthi, Chairman QRT & Former Vice Chancellor, Dr.Y.S.P.U.H. & F, Solan (H. P.).
- Dr. J. P. Tewari, Dean, COA, GBPUA&T, Pantnagar-263 145 Distt. U.S. Nagar, (Uttaranchal).
- Dr. V. K. Mishra, Ex-Dean & Head, Department of Forestry, Solan (H.P.)
- Dr. U. C. Sharma, Ex-National Coordinator, NATP, Jammu (J&K)
- Dr. A. K. Mandal, Director, Tropical Forest Research Institute, Jabalpur (M.P.)
- Dr. P. S. Pathak, Ex-ADG(AF), Aashiyana Colony, Lucknow (U.P.).
- Dr. O. P. Dubey, Ex. ADG(OP), Sector-9, Rohini, New Delhi.
- Dr. S. S. Jakhmola, Dean, College of Agriculture, Gwalior (M.P.).
- Dr. V. S. Katiyar, Head, CSWCR&TI, Research Centre, Datia (M.P.).

INFRASTRUCTURE

To strengthening the laboratories Centre purchased a number of laboratory equipment (UV Spectrophotometer, Kjeltex N Analyzer, B.O.D. Incubators, Shakers) and farm implements like Tractor with back hoe and loader during 2006-07. For water harvesting a farm pond of 25x 18 x 2.5 m capacity was also constructed at the Farm.

SEMINARS DELIVERED

At the Centre Ph.D. student delivered Seminars on their research topics as given below:

| S. No. | Seminar Topics | Name of the Speaker | Date |
|---------------|--|----------------------------|----------------------------------|
| 1 | Studies on Reproductive Biology, Cytology and Biochemical Analysis in <i>Jatropha curcas</i> | Miss Parul Shukla | 24 th January,2007 |
| 2 | Screening and Selection of Efficient VAM Species for Selected Agroforestry Tree Species | Miss Anuradha Jha | 24 th January,2007 |

WEBSITE VISIT

NRCAF website is visited 6950 times since its hosting by the users.

PLANTATION BY QUINQUENNIAL REVIEW TEAM

All the team members of QRT planted the Saplings on his arrival at the Centre.

SERVICES AVAILABLE AT THE CENTRE

NRCAF offers consultancy to Farmers, Government Departments, Cooperatives, Private Sectors and other interested organizations on

- **Selection of tree species, tree crop combinations of Agroforestry**
- **Selection of trees for rehabilitation of degraded lands**
- **Establishment of nursery, propagation techniques of tree species**
- **Preparation of development project reports, on line search and access of information on tree species suitable for agroforestry**
- **Insect-pest management in agroforestry**
- **Biotechnologies (Tissue culture)**
- **Soil fertility evaluation**
- **Agroforestry based land use plan**

Centre also conducts training programme for officers of various Government departments and other organizations on different aspects of agroforestry.

Centre caters the need for improved seedlings of Aonla, Jatropha, Karanj, Neem, etc. to a limited scale.