Agroforestry *Newsletter* ***ISO 9001:2008***

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Vol. 27, No. (2) **April-June, 2015**

SAARC Regional Expert Consultation Workshop

Technological Advancement in Agroforestry Systems: Strategy for Climate Smart Agriculture Technologies in SAARC Countries

A three day SAARC Regional Expert Consultation Workshop on Technological Advancement in Agroforestry Systems: Strategy for Climate Smart Agriculture Technologies in SAARC Countries was organized at Central Agroforestry Research Institute, Jhansi during 16th -18th June, 2015. The workshop was organized by SAARC Agriculture Centre, Dhaka, SAARC, Forestry Centre, Thimpu and ICAR- CAFRI, Jhansi. The objective of the workshop was to document the innovative agroforestry practices under the influence of changes (climate, socio-economic, governance) in SAARC countries; to assess the productive and environmental functions of trees in agriculture landscape and its contribution to food security and poverty alleviation and to identify emerging issues and propose strategies to develop agroforestry. Dr. A. K. Sikka, Deputy Director General (NRM), ICAR was the Chief Guest during inaugural function and other dignitaries gracing the function were Dr. Arvind Kumar, VC, RLBCAU, Jhansi; Dr. Shaikh Mohammad Bokhtiar, Director, SAC, SAARC, Dhaka, Bangladesh; Mr. Sangay, Director, SFC, SAARC, Thimpu, Bhutan; Dr. Javed Rizvi, Regional Director, South Asia Programme, WAC, New Delhi; Dr. P. K. Ghosh, Director, IGFRI, Jhansi; Dr. S. K. Dhyani, NRM Division, ICAR. Dr Anil Kumar, Director (Acting), CAFRI, Jhansi welcomed the delegates. The workshop was attended by participants from all the eight SAARC countries *viz*., Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. The country papers on Technological advancement in agroforestry systems: strategy for climate smart agriculture technologies in respective countries were presented for each country in the technical sessions. In addition to country papers, Dr Javed Rizvi presented a paper on agroforestry for socio economic, ecological and environmental sustainability, Dr. Ram Newaj on climate change and agroforestry management for mitigating adverse impacts of climate change and Dr. Ramesh Singh on

Forthcoming Events

Celebration of Hindi Saptah; Institute Joint Staff Council/Women Cell / RFD Cell meetings; Annual Workshop of All India Coordinated Research Project on Agroforestry on 26th to 27th July,2015

agroforestry initiatives in Watershed Management. During field visit, the delegates visited Parasai Sindh watershed and experimental farm of ICAR-CAFRI, Jhansi. Dr. Tayan Raj Gurung, Senior Program Specialist (NRM), SAC, Dhaka; Mr. Karma Jigme Themphel, Participatory Forest Management Specialist, SFC, Thimpu and Dr. A. K. Handa, Principal Scientist (Agroforestry), ICAR-CAFRI, Jhansi were the coordinators for the workshop.

Bamboo "Green gold" based agroforestry system has transformed the life of a farmer in Bundelkhand: A success story

Bundelkhand a hot spot of water scarcity earned dubious distinction of miserable rural life due to frequent crop failures on account of frequent droughts and changing climate of late. The region is known for its mineral wealth and large population earns its livelihood from extraction of stones, sand and other minerals. However, industrial development of the region could not take place at desired rate due to water and electricity scarcity. The rural economy of the region is primarily based upon agriculture with animal husbandry as main subsidiary occupation. Uncertainty in agriculture production due to water scarcity and shallow soil depth accompanied with harsh weather during summer on one hand and scarcity of fodder for livestock on the other had resulted in poor rural economy in the region. This has forced rural population to opt daily wages as one of the means of livelihood and migrate in search of casual jobs.

From every hook and corner, due emphasis was being placed by planners, administrators and researchers to find a solution for sustaining rural livelihood in the region. Agroforestry and forage resource development were on top priority. In spite of several innovative technologies developed in agroforestry and forage resource development, things were not moving at desired pace due to socio-economic condition of the rural population.

Under such circumstances, bamboo the green gold has shown ray of hope. *Lathi Baans* (*Dendrocalamus strictus*) commonly occurs in this region. This is a solid bamboo and often grows clumsy due to water scarcity. As such exploitation of its culm is difficult. Hollow bamboo (*Pola Baans*), which can be used for ladder and artifacts is in great demand by the farmers. ICAR-CAFRI under one of its network project on bamboo (National Bamboo Mission) introduced *Bambusa vulgaris, B. tulda* and *D. strictus* and evaluated for its growth and productivity under agroforestry system.

Late Sh. Ram Singh s/o Shri Sarman village Hastinapur, Ambawai of Jhansi District (U. P.) was a humble farmer. He had 7.0 acres land and supported 10 members family. His holding on outskirts of village habitat was quite approachable for him. With a view of better care of his cropland, he had constructed one small animal shed near his holding and kept 5 buffaloes to support his economy. For irrigation to crop and drinking water for animals he had one bore well with 1.0 HP in one corner of his holding. Traditionally, he grew blackgram / groundnut in *kharif* and wheat, chickpea and in *rabi* season. For the past few years he had started growing vegetables particularly ladyfinger / chilly/ tomatoes etc. during summer for extra income in a part of his holdings. Fortunately his well supported 2 – 4 hours a day during summer. Along irrigation channel he retained ber plants for getting raw material for bush wood fencing, fuel wood and green leaf fodder. He also grew some papaya near well. The irrigation channel of the farmer goes around his holding to feed water to crop. With the persuasion of the ICAR-CAFRI scientists the farmer agreed to plant *B. vulgaris* on the bunds as a component of National Bamboo Mission Project in 2008. Considering farmers choice, 85

plants were planted on field boundary spaced 4.0 m apart. The farmer took keen interest in protecting and took due care of plants and established a land mark demonstration site for neighbours besides sustained additional earning defying ill effects of climate change. Several farmers approaching this institute to seek advice on agroforestry were facilitated visits to this site at Hastinapur. ICAR-CAFRI took further initiatives to popularize *B. vulgaris* and distributed plantlets to the farmers in village Binwara, Dabar, Shyamshi, Kundar, Shivrampur, Rautiana in Niwari tehsil of district Tikamgarh and Parasai, Chhatpur villages of Babina block in Jhansi (U. P).

	
Boundary Plantation of *Bambusa vulgaris* at Hastinapur	**Bamboo based agroforestry system**
	
Selective thinning of Bamboo	**CAFRI, Scientists at Hastinapur**
	
Happy farmer showing the culm thickness	**Farmer looking at Bamboo culms**

Sudden demise of the farmer Sh. Ram Singh in 2011, led his son Sh. Harpal Singh to take over the family's livelihood options. He also continued to maintain the bamboo plantation. Besides routine cropping (sesame / blackgram / chickpea, wheat and lentil) he earned about ₹15,000.00 during 2012; ₹ 20,000.00 during 2013 and ₹ 35,000.00 during 2014 by selling the bamboo culms obtained through selective thinning. Forest Deptt., Datia (M.P.) showed keen interest in multiplication and large scale plantation of *B. vulgaris* in the district, as such the department purchased all available culms of *B. vulgaris* from Hastinapur for ₹ 1,15,000/- in March, 2015. Department is planning to multiply them through culm cuttings. These bamboo culms had average height-12 m; average dbh- 4.1 cm ; average intermodal length-26 cm ; average number of inter nodes culm^{-1}- 20. Therefore over a period of seven years journey Sh. Harpal Singh earned about 400 more than ₹ 26,000.00 per annum from bamboo as his net profit from bamboo. New culms arising from left over rhizomes will continue to produce new culms. During this seven years journey there had been two years (2009 and 2014) of drought and extreme weather aberration incidents that affected crop production in this region. Year 2013 being of excessive rainfall year, also adversely affected *kharif* and *rabi* crops production in the region. Further rains during March, 2015 spoiled the *rabi* crops (2014 – 2015) in the region. Economic losses due to crop failures as a result of bad weather were well compensated by the boundary bamboo plantation. Thus the green gold has transformed life of Late Sh. Ram Singh's family and likely to bring cheer to the farmers of the region. Bamboo is known to be the fastest growing plant and thus contribute to carbon sequestration, micro climate mediation and restoration of eco-balance in the era of changing climate.

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Agroforestry and Watershed Management

Agroforestry land use envisage deliberate inclusion of trees on crop lands to meet fuel, fodder, fruit and small timber requirement of the farmers. This land use was in the beginning advocated for self-sufficiency of farmers particularly on marginal lands. The land use was a considered key to sustainability of mixed farming system encompassing agriculture, dairy and fishery etc. Later with further degradation of ecosystem, agroforestry was emphasized as natural resource management tool to restore land, water and crop productivity. *Prosopis cineraria* and *Acacia nilotica* based traditional agroforestry may be regarded as precursor of this ideology. Further, with the introduction of Eucalyptus, Poplar and *Casuarina*, commercial agroforestry came into practice. These species are fast growing and have immense commercial value. These are least affected by gradual climate change and offer assured income. Later, with further degradation of ecosystem, agroforestry was

emphasized as natural resource management tool to restore land, water and crop productivity. As such, agroforestry became integral part of watershed management.

Watershed management primarily envisages water management through rain water harvesting and efficient utilization for higher crop productivity per drop of water and minimizing soil erosion. Thus, watershed management aimed at checking degradation of land, water and vegetation, improving soil fertility, ground water recharge and promotion of permanent vegetal cover. Later, human and animal component was added to address the problem of degradation of all natural resources (land, water, vegetation, human and animal) in totality. In due course of time, inhabited destruction of forest and clearing of permanent vegetation from croplands in order to maximize crop productivity started showing its impact in the form of climate change and global warming. This forced the planners to increase permanent vegetal cover to offset ill effects of climate change hence, agroforestry came into lime light and made integral part of watershed development programs. As such, in watershed development projects throughout the country, agroforestry has become mandatory. As a result, area under trees outside forest have shown increasing trend.

Since, trees exert adverse effect on companion crop and visibly suppress the crop productivity within tree canopy due to fierce competition for moisture, nutrients and sunlight, the farmers showed reluctance to adoption of agroforestry land use. At the same time, high prices of wood and fruits, ability of woody perennials to withstand weather vagaries prompted many farmers towards adoption of agroforestry. Of late, in light of increasing cost of quality timber and individuals zeal to create asset for future generation, farmers are showing inclination towards plantation of timber trees particularly teak on field bunds or farm boundary.

Those concerned with rural development, emphasize on further intensification of agroforestry and advocate purposeful selection of trees under agroforestry. They could be fuelwood, fodder, fertilizer, fruit, timber and cash crops (Table).

Table : Species suitable for various agroforestry purposes.

Purpose	**Tropical**	**Sub-tropical**	**Temperate**
Fuelwood	*P, juliflora, Acacia*	*B. monosperma, P. juliflora, Acacia*	*Alnus* spp.,*Quercus* spp.
Fodder	*Sesbania grandiflora, Albizia amara, Leucaena, Acacia*	*Leucaena, Acacia*	*Grewia optiva,Morus alba,Salix* spp.
Fertilizer	*Subabul, Glivicidia*	*Subabul, Gliricidia*	*Alnus glotiuosa, Robinia pscudoacciua, Pawlownia tomentosa, Ulex europacus*
Fruit	Mango, Coconut, Cheeku, Guava, Papaya	Mango, Litchi, Aonla, Ber, Bael	Apple, Pear, Peach, Plum
Industrial	Rubber, *Casuarina, Eucalyptus,* Grevillia	Poplar, *Eucalyptus, Subabul, Ailanthus cadamba*	Pines
Timber	Teak	Teak	Sal, Pines

Our experience while working in Bundelkhand region shows that absentee land lords prefer field plantation of trees, while small and marginal farmers (86% farmers) prefer field bund/boundary plantation. Hardly 1% farmers prefer fruit plantation inside field, rest show eagerness to plant fruit trees in homestead for better protection and care and mostly to meet demand of self-consumption. Fuelwood species are preferred on wasteland under private

possession. Fodder and fertilizer trees still need rigorous efforts for popularization. Timber trees on farm boundary are treated as saving/wealth for future generation, while industrial wood plantation is linked with industry and common in some pockets only. Another important component of watershed is fodder cultivation to meet green fodder needs of animals. Fodder grass plantation finds a place on earthen bunds/structures in the watershed. However, some farmers with dairy as major income generating activity, show inclination towards planting of guinea grass naper bajra hybrid along irrigated field bunds for multi cuts.

Agroforestry in near future is bound to grow in light of climate change, loss of interest of youth in agriculture and high returns with minimal input. Agroforestry development needs financial support from Government and Industries. A glaring example in this direction has been put forth by Bihar Government. Farmers get ` 35/- per plant over a period of 3 years besides free of cost quality planting material depending upon survival of plants on croplands for protection and upkeep. It is presumed that a plant that survives for initial 3 years, will sustain throughout its life. The selection of species in such cases is very important. The species have either short gestation (fruit plants) or fast growing with short harvesting cycle. As such, farmers in large number are coming forward planting trees in croplands. This model needs to be tried in other states as well. Recently, Government of Uttar Pradesh has launched one scheme for top working of desi ber plants, where in farmers are paid ` 110/- per plant for head back and care and ` 20/- per plant is given to budder. Similar schemes are required to promote agroforestry in order to avert climate change, cover up farmer's risk of crop failure and ensure sustainable income to the farmers. Bamboo appears to be most befitting species under agroforestry on account of fast growth, non-perish ability of produce, multiple uses (industrial as well as self-consumption) and short harvesting cycle. This needs encouragement.

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New Scientist

Dr. Dheeraj Kumar joined the Institute as Scientist (Soil Science).

National Agroforestry Day

National Agroforestry Day was celebrated on 8th May, 2014 at ICAR-CAFRI, Jhansi. On this occasion, Van Mahotsava was organized by the staff member in the Institute campus by the planting of various tree species.

Workshop/Training Attended

- Dr. S. K. Dhyani and Dr Inder Dev attended the Launch Workshop of Task Force-6 on Himalayan Agriculture under the National Mission on Sustaining Himalayan Ecosystems held on 13th May, 2015 at NASC Complex, New Delhi.
- Dr. Ramesh Singh participated and delivered lecture on "Integrated Watershed Interventions and Agroforestry for drought proofing of Bundelkhand Region" in a launch Workshop of "Jal Krainti Abhiyan on 5th June, 2015 at Bundelkhand University, Jhansi. The workshop was organized by Ministry of Water Resources, River Development & Ganga Rejuvenation (MOWER, R D & G R), Govt. of India, New Delhi.

- Dr. Ramesh Singh participated and delivered talk on "Cost –effective Checkdam and maintenance of Rainwater harvesting Structure" in the training organized by District administration, Jhansi during 10th &11th June, 2015 at Vikas Bhavan, Jhansui for Jr. Engineers and Technical Assistants of different departments of Jhansi.

Visits

Sh. B. N. Nawalawala, Chief Adviser (MOWER, R D & G R) and Shri A.B. Pandya, Chairman, Central Water Commission, Ministry of Water Resources, River Development & Ganga Rejuvenation (MOWER, R D & G R), Govt. of India, New Delhi visited Parasai-Sindh Watershed, Jhansi on 5th June, 2015 along with district authorities and Scientists of CAFRI, Jhansi. They appreciated the rejuvenation of Haveli Cultivation at Vill. Parasai of Jhansi.

Institute Research Council

Institute Research Council (IRC) meeting was held on 26th -27th & 30th June, 2015. All the Scientists of the Institute participated in the meeting and presented the progress and significant findings of their projects. Five new projects were approved in the IRC-2015.

Best Paper award at RVS Krishi Vishwa Vidyalaya, Gwalior

Dr. R. P. Dwivedi, Principal Scientist (Agricultural Extension) of ICAR-CAFRI, Jhansi was awarded Best Paper presentation award during National Seminar of Indian Society of Extension Education (ISEE) IARI, New Delhi during 26th -28th February, 2015 held at RVS Krishi Vishwa Vidyalaya, Gwalior (M.P.).

Improved Livelihood Options through Watershed Interventions: A success story of Marginal Farmer in Bundelkhand

This is the success story of an illiterate marginal farmer, Vijay Singh Kushwaha (37 years) s/o Sh. Dhan Singh residing at village Parasai (Babina block) in Jhansi district of U. P. the Bundelkhand region of central India. Vijay used to cultivate only rainy season crops till he became the target of an extension programme initiated by ICAR-Central Agroforestry Research Institute (CAFRI), Jhansi in 2011.

In this part of the country, if marginal farmers are approached for production of forage grasses in their agricultural lands, the response of the farmers would be straight forward 'NO'. The reason is that food grains (cereals & pulses), vegetables, oilseeds, fruits, etc. are grown on agricultural land and get the first preference for family members, while the forage grasses are least preferred. The farmers spend more time on mulching, trellising, threshing, weeding, removing the pebbles, stones, soil conservation and building the irrigation systems, which are a part of good agriculture practices. Thus, the small farms have been the most efficient for sustainable and bio-diversified way of agriculture.

The last four decades has witnessed a sharp decline in the average size of operational land holdings in the country. Marginal and small holdings together, constitute about 85% in terms of number of operational holdings and about 44% of the operated area in the country. Thus, over the period, the marginal category has emerged as a distinct and dominant class by itself with its average size dwindling to a mere 0.38 ha (NABARD, 2014). The majority of farm families (61%) in this watershed are marginal & small farmers.

The watershed is being developed by ICAR-CAFRI, Jhansi and International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Hyderabad. This watershed comprises three villages namely Parasai, Chhatpur and Bachhauni and are located between 25^0 23'56" to 25^0 27' 9.34" N and 78^0 19' 45.71" to 78^0 22' 42.57"E. The total area of watershed is 1246 ha. Through watershed interventions till now, about 1,10,000 m^3 surface water storage has been created through 12 rainwater harvesting structures in series and 2 ponds.

Farmers' choice for grasses is an important component in the process of fodder production. The research team has followed the various extension tools *i.e.* personal contact, farmer's fair, focused group discussion, *Kisan Gosthi*, exhibitions, exposure visits, evening chaupal and RAGHU (Revitalizing Agroforestry for Global Human Upliftment) approach for agroforestry dissemination to create awareness and motivate the farmers.

Vijay got motivated and decided to plant high yielding Napier Bajra Hybrid (NBH) on field bund & one-side border in an area of 0.4 acre (1.0 bigha) land. Planting of rooted slips was demonstrated to him by the scientists, who also closely supervised planting activity. He was guided about dose and timely fertilizer application and inter-cultivation aspects. Technical know-how on cutting management to ensure green fodder availability throughout the year was imparted. First cut was taken after 60 days of planting and subsequent cuttings were taken by him at 40 days interval.

Improved Livelihood Options

After adoption of NBH grass on field bund & one-side border of the land including agri-horticulture system of agroforestry in the agricultural land, Vijay started getting food, round the year green fodder and vegetables from the same piece of land. He harvested 9 cuttings and got 10 t green fodder in a year.

Before adoption of this technology, he has one buffalo, one cow and one cow calf. After adoption of technology & assured round the year availability of green fodder from NBH and crop residues from field crops, he increased his herd size from the additional income after watershed interventions. He purchased three buffaloes (` 1,35,000), two cows (` 40,000) and two bullocks (` 30,000). Before watershed programme his well was supplying water for about one hr only during summer. Now due to rainwater harvesting structures in the watershed his well is providing water for about three hrs in continuation during summer. Now he is milking 40 lit. of milk daily and sells 35 lit. @ ` 40 per lit. In addition to selling of milk he used to give daily 5 lit milk free of cost to his two brothers and family consuption. Due to assured water availability from his well, he started growing vegetables (Brinjal, tomato, chilly, okra, coriander and spinach) in his 0.4 acre land. He planted Guava along with crops. He is earning about ` 43,200 per annum from vegetables alone. His daily income from sale of milk is about ` 1400. Now he has started construction of *pucca* house.

Vijay proudly says that he is now getting 40 liters of milk a day, and his expenditure on feed concentrate has gone down considerably after he started feeding green fodder. He claims that 20-30% of extra milk yield is solely due to the use of green fodder. Now, Vijay and his family have assured full time employment and they are busy from morning till late in the night.

Name & Fame

Vijay got name and fame in the surrounding villages as number of visitors including Scientific Advisor of Union Agriculture Minister, GOI, Chief Advisor of Union Water Resources Minister, GOI, Chairman-Central Water Commission, GOI, Regional Director South Asia Programme, ICRAF, New Delhi, DM & CDO, Jhansi visited his field during June, 2015. The efforts of marginal farmer and ICAR-CAFRI together in revitalizing the agriculture and agroforestry and transforming the traditional system into integrated farming system (IFS) helped a lot in the enhanced livelihood options. After seeing the success of Sh. Vijay two farmers from his village namely Sh. Mahendra Singh and Sh. Gulab have adopted the technology and many more are interested.

Vijay & his wife with visitors at his field

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Training Programme on Ber Pruning and Soil sample collection

ICAR-CAFRI organized a three days training programme on Ber pruning and soil sample collection at Village Veerpura, Block Bamour, Tahsil Garautha in Jhansi district (U.P.) during 27th -29th May, 2015. The farmers of the village were very much interested about various systems of Agroforestry. Farmers have shown their keen interest in Agri-horticulture system and tree plantation on bund and boundary. On 27th May, 2015 rapport building and awareness was done. On 28th May, 2015 the team comprising of Dr. R. P. Dwivedi, Pr. Scientist (Coordinator), Dr. Sudhir Kumar, Pr. Scientist (Co-coordinator), Dr. A. K. Handa, Pr. Scientist and Team Leader of Mera Gaon Mera Gaurav-Veerpura (Co-coordinator), Sh. Sunil Kumar (ACTO-soils), Sh. Rajesh Srivastava (ACTO) and Sh. Munna Lal (SSS) visited the village Veerpura. All the subject matter specialists delivered subject matter talk to the farmers on Ber pruning and soil sample collection. Practical exercise of Ber pruning and soil sample collection were performed. Farmers' participatory approach was followed. Extension approach *i.e.* "learning-by-doing" was adopted during the training programme. During training programme about 35 farmers and farm youth participated. The programme was anchored by Dr. R. P. Dwivedi. On 29th May, 2015 feedback and queries of farmers were recorded and follow up action were made. Farmers of the village were keen on training on vermi-composting and fruit based agri-hori system may be arranged.

		
Ber tree before pruning	Ber tree after pruning	Farmers being trained on soil sample collection

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Exhibitions

1. **Divisional *Kharif* Productivity Gosthi, Jhansi**

ICAR-Central Agroforestry Research Institute, Jhansi organized an exhibition stall on 21st May, 2015 on the occasion of Divisional *Kharif* Productivity *Gosthi* at Deen Dayal auditorium complex, Jhansi. The Divisional *Kharif* Productivity *Gosthi* was organized by Agricultural department Jhansi, U.P. Commissioner of Jhansi division was the chief guest of the gosthi. A number of visitors including Commissioner, DM, CDO, Line department officials, farmers and NGO representative visited the exhibition stall of the Institute. The exhibition team comprised of Dr. R. P. Dwivedi (Co-ordinator), Dr. K. B. Sridhar (Co-coordinator) and Shri Rajesh Srivastava, ICAR-CAFRI, Jhansi. Dr. R. P. Dwivedi also delivered subject matter talk during the *Gosthi*. The visiting farmers to the CAFRI stall desired the plantation of fruit trees based agri-horticulture and training on Ber pruning as well as budding at their fields.

2. **Jal Kranti Abhiyan, Jhansi**

ICAR-Central Agroforestry Research Institute, Jhansi has organized an exhibition stall on 5th June, 2015 on the occasion of Jal Kranti Abhiyan (Water Revolution Campaign) at Bundel Khand University auditorium, Jhansi. The Jal Kranti Abhiyan was organized by Central Water Commission (CWC), Ministry of water resources, River development and Ganga conservation, Govt. of India. The exhibition was inaugurated by Sh. B. N. Navlawala, Chief Advisor, Water Resources, River Development and Ganga Conservation Ministry, Govt. of India and presided over by Sh. A.B. Pandya, Chairman, Central Water Commission, New Delhi. A number of visitors including Sh. Navlawala, Sh. Pandya, Sh. Chandra Pal yadav, Hon'ble M. P. (RS), Sh. Ravi Sharma, Hon'ble MLA, Jhansi, Sh. Deep Narayan Yadav, Hon'ble MLA, Garautha (Jhansi), Vice Chancellor BundelKhand University, Jhansi, Mayor and Commissioner, Jhansi, DM, CDO, Line department officials, farmers and NGO representative visited the exhibition stall. The exhibition team was comprised of Dr. R. P. Dwivedi (Coordinator), Dr. K.B. Sridhar (Co-coordinator), Sh. S.B. Chavan (Co-coordinator), and Shri Rajesh Srivastava, ACTO, ICAR-CAFRI, Jhansi. The visiting farmers to the CAFRI stall desired the water conservation techniques based on watershed based agroforestry interventions at their fields.

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