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NOTIFICATION

Consequent upon the decision of the Competent Authority of ICAR, The **National Research Centre for Agroforestry, Jhansi** coming under NRM Division has been upgraded as **Central Agroforestry Research Institute (CAFRI), Jhansi** w.e.f. 1st December, 2014 as approved in the XIIth Plan EFC (vide ICAR Communication F. No. 1-25/2014.PIM Dt.10/09/2014).

HAPPY NEW YEAR 2015

From Director & Editorial Board

International Training programmes on Agroforestry at Central Agroforestry Research Institute, Jhansi and World Agroforestry Centre, Nairobi, Kenya

In current scenario, agroforestry is being looked upon as a solution to problems related to low agricultural productivity, nutritional, energy and environmental security. To achieve full potential of the agroforestry and to remove the hurdles in the large scale adoption of the land use by the farmers across the country, the Government of India approved National Agroforestry Policy which was launched on 10th February, 2014 by the Hon'ble President of India Sh. Pranab Mukherjee while inaugurating the 3rd World Agroforestry Congress in New Delhi. To achieve the goals of this policy and for its implementation in true sense there is a need of trained manpower in the subject. The Indian Council of Agricultural Research (ICAR), New Delhi and World Agroforestry Centre (ICRAF), Nairobi, Kenya signed a collaborative Work Plan for enhanced focus in R & D in agroforestry. Two simultaneous five days International training programmes were conducted under ICAR-ICRAF collaborative Work Plan during 1st -5th December, 2014. The training programme on Research Methods in Agroforestry was organized at Central Agroforestry Research Institute (CAFRI), Jhansi, India and the training programme on "Use of Geo-informatics for Mapping Agroforestry" was held at World Agroforestry Centre, Nairobi, Kenya. For the first time training programmes on agroforestry were formulated involving researchers from SAARC countries, ICAR Institutes and State Agricultural Universities of India. Dr. Javed Rizvi, Regional Director, South Asia Programme, ICRAF, New Delhi and Dr. S. K. Dhyani, Director, CAFRI, Jhansi were instrumental in formulation and organization of the two training programmes.



(1) Research Methods in Agroforestry at CAFRI, Jhansi

The training programme on "Research Methods in Agroforestry" commenced on 1st Dec. 2014 at Central Agroforestry Research Institute (CAFRI). Dr. Richard Coe, Principal Scientist (Research Methods) at World Agroforestry Centre (ICRAF) having more than 24



years of experience in designing agroforestry experiments and Dr Ajit, Principal Scientist at Indian Agricultural Statistics Research Institute (IASRI), New Delhi an expert in agroforestry modeling were the resource persons for the training programme. The training programme evolved around interactive sessions between the resource persons and the participants enabling them to understand the general principles of experimental design of agroforestry including participatory trials. During the training a field visit to the experimental farm of CAFRI was also conducted. This programme was attended by a total of 30 participants from Bangladesh, Nepal and Sri Lanka in addition to the scientists working under the All India Coordinated Research Project (AICRP) on Agroforestry at 15 State Agricultural Universities in India and local participants from Indian Grassland and Fodder Research Institute (IGFRI) and Central Agroforestry Research Institute(CAFRI), Jhansi.

Dr. S K Dhyani, Director, CAFRI while addressing during valedictory function informed that more such collaborative programmes will be organized in future and researchers must take full advantage of these opportunities to develop participatory trials with farmers. He called for establishing a South Asian Network on Agroforestry for strengthening partnership in the region.

Dr. A.K. Singh, Vice Chancellor, Rajmata Vijayaraje Scindia Krishi Vishwavidyalya (RVSKVV), Gwalior while distributing the certificates to the participants expressed happiness and congratulated the organizers for this initiative. He was of the opinion that such programmes help in capacity building of the researchers as well as provide opportunity for collaboration between the institutions and nations.

<p>Scientific interactions during the training</p>		<p>Participants visiting the experimental farm of the CAFRI</p>	
<p>Participants keenly observing the bio-diesel plant at the institute</p>		<p>Participants group photo.</p>	

Dr. Pushpakumara from University of Peradeniya, Sri Lanka; Dr. C. Valli of Institute of Animal Nutrition, Kattupakkam, Tamil Nadu and Dr. M. S. Malik from Birsa Agricultural University, Ranchi provided the feedback about the training on behalf of the trainees.

Dr. Javed Rizvi, Regional Director, ICRAF assured full support on behalf of the World Agroforestry Centre for agroforestry research and development in the region. Dr. P. K. Gosh, Director, IGFRI, Jhansi, the Guest of Honour emphasized to develop more tree based agroforestry systems to meet the fodder demands of livestock. Dr. V. P. Singh, Senior Advisor, ICRAF, New Delhi and Prof. Biswapati Mandal, Pro-VC, BCKV, Kalyani also spoke on the occasion. Dr. Rajendra Choudhary from ICRAF, New Delhi along with Heads

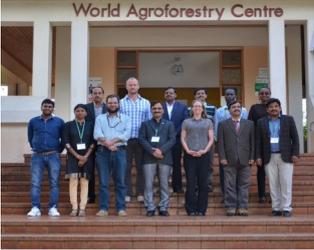
of Division from IGFRI, scientists and other staff of the institute and invitees were present during the programme.

During the programme Dr. A. K. Handa, Principal Scientist presented a brief report on the journey from the inception of NRC Agroforestry till its upgradation as CAFRI. Dr. Inder Dev, Principal Scientist conducted the function. Dr. A. R. Utthappa, Scientist proposed vote of thanks. Dr. Inder Dev was the Programme Director and Dr. A K Handa was the Programme Co- coordinator.

(2) Use of Geoinformatics in Mapping Agroforestry

The International Training Programme on Use of Geoinformatics in mapping Agroforestry was organized during 1st to 5th December, 2014 at World Agroforestry Centre, Nairobi, Kenya. Eight Indian scientists from CAFRI, Jhansi; ICAR Research Complex for NEH Region, Barapani; CSWCR & TI, Dehradun; KAU, Thrissur; OUAT Bhubaneswar; UAHS, Shimoga and BISA participated in this programme.

The participants were Dr. G.M. Devagiri, Associate Professor, UAHS Shimoga; Dr. P.J. Mishra, Senior Scientist, OUAT, Bhubhneswar; Dr. J.M.S. Tomar, Senior Scientist, CSWCR&TI, Dehradun; Dr. K.P. Mohapatra, Senior Scientist, ICAR RC-NEH, Barapani; Dr. Ramesh Singh and Dr. R.H. Rizvi, Senior Scientists, CAFRI, Jhansi; Dr. Asha K Raj, Assistant Professor, KAU, Thrissur and Sh. Pradeep Jangra, Asstt. Agricultural Engineer, BISA, Jabalpur.

<p>Group Photo of participants & Faculty</p>		<p>Dr. Tor-G Vagen Interacting with Participants</p>	
<p>Dr. M.N. Ahmad Presenting Geoportals of ICRAF</p>		<p>Visit of Participants to Geoscience Lab of ICRAF</p>	

The faculty included Dr. Tor-G Vagen, Geospatial Specialist and Course Director; Dr. Muhammad N Ahmad, Geoportals Developer both from Geoscience Lab of ICRAF and Dr. Leigh Winoweicki, Soil Scientist, International Centre for Tropical Agriculture. The training included lectures, laboratory visits, hands on exercises and interactive sessions. The participants expressed happiness on the exposure to advanced techniques and instrumentation in the field. Dr. Dhyani and Dr. Rizvi expressed satisfaction on the conclusion of the two programmes simultaneously.

Research Achievements

Simultaneous tapping of gum and lac cultivation on *Butea monosperma* trees: Effect of lac production on gum yield and vice versa

Butea monosperma (Lam.) is a tree of paramount importance because of its many facet uses like medicine, food, fibre, and raw material for household industry. It is a medium sized deciduous tree distributed widely in India, Burma, Sri Lanka, Bangladesh and northwest Himalaya. It belongs to family of Fabaceae and known by various vernacular names such as dhak, palas, flame of forest, khakara, chichara, bastard teak and Bengal kino. In Indian sub-continent it grows from 150 m to 1000 m altitude in Indo-Gangetic plain and thrives well in red soil of Indian Peninsula especially the Deccan Plateau. It is one of the most beautiful trees ascribed to have many medicinal properties and extensively used in Ayurveda, Unani and Homeopathic medicine. Every part of the plant has got some medicinal value. Roots are useful in filariasis, night blindness, helminthiasis, piles, ulcer and tumours. Flowers are useful in diarrhoea, astringent, diuretic, depurative and tonic. The stem bark is useful in indigenous medicines for treatment of dyspepsia, dysentery, ulcer, sore throat and snake bite. Gum is useful in diarrhoea, haemorrhoids, haemoptysis, haematemesis, leprosy and skin diseases. Its leaves are used for making platters, cups, bowls and beedi. The bark fibre is used for making cordage. Wood is used for well curbs and water scoop. It yields gum-butea which is one of the most economically important Non Timber Forest Produce. In addition, it is also a good host to the lac insect and produces natural leaguer. Gum butea is a dried astringent juice obtained from incisions made on the stem of the tree and known by names of *kino gum* and *kamarkas*.

The density of 10-15 tree ha⁻¹ of *Butea monosperma* occurring naturally in Bundelkhand region offers an opportunity of alternative livelihood option in the form of gum and lac production. However, simultaneous tapping of gum and taking lac cultivation on Butea trees may affect yield of lac and vice versa. Hence, to find out effect of lac cultivation on gum yield and vice versa in Butea trees, a field trial was conducted on naturally occurring 15-20 years old trees of Butea on central farm of CAFRI, Jhansi. As far as possible trees of uniform size (tree height: 7.4 -10.8m and GBH: 0.73-0.84m) were selected for the study. The moisture contents of shoots on which lac insect was inoculated ranged from 40 to 72%. Lac insect was inoculated in the month of November, 2012 and lac yield was harvested in July, 2013. For exudation of gum, trees were knothed in December and exuded gum was collected. The results revealed (Table 1) that, on an average, settlement of lac insect was slightly better on trees inoculated with lac insect than those trees where production of both lac and gum was taken. On an average, gum exudation caused reduction in lac insect settlement which was reflected in lac yield. The trees where both lac and gum production was taken yielded less lac than trees having inoculated with only lac insect. Gum yield was enhanced in trees having inoculation of lac insect as compared to those trees where only gum production was taken. It is concluded that simultaneous production of gum and lac from Butea trees yields more gum but less lac. However, interesting observation is the fact that in the beginning yield of both gum and lac increases when taken simultaneously; and decline in yield of lac is noticed only when gum yield goes beyond 400 g tree⁻¹ of Butea (Fig.1). Yields of both gum and lac were positively correlated with GBH of trees.

Table 1. Effect of lac cultivation on gum yield and *vice versa* when taken simultaneously on Butea trees

Treatments	Tree GBH (cm)	Branch dia (mm) for lac insect inoculation	Branch length for lac insect inoculation (cm)	Sex ratio of lac insect (Male : Female) (cm ²)	Lac insect settlement (cm ²)	Gum Yield (g tree ⁻¹)	Harvested Stick lac (g tree ⁻¹)
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Lac insect inoculation + Gum tapping	84.88	8.26	69.26	1:3.03	24.7	251.0	1327.2
Only Lac insect inoculation	82.33	8.46	70.67	1:3.08	26.7	75.3	--
Only Gum tapping	73	-	-	-	-	--	2083.3

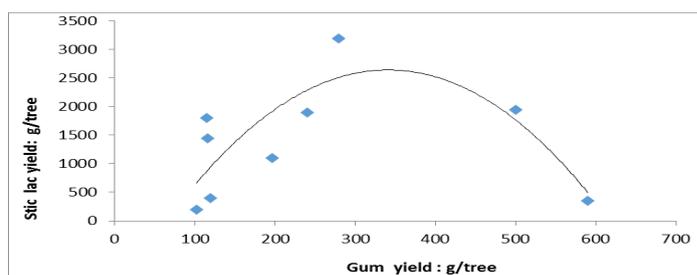


Fig. 1 Relation between Lac production and gum yield

Rajendra Prasad, V. D. Tripathi, Rajendra Singh and S. K. Dhyani
Central Agroforestry Research Institute, Jhansi-284003

Pear shaped Guava – A promising germplasm

Guava (*Psidium guajava*) is principle fruit crop of Bundelkhand region. Allahabad Safeda and L-49 are common commercial varieties grown in the region. However, seed origin plants can be seen scattered around wells and homestead in the region. Since guava is cross pollinated, these seed originated plants provide variability and ample opportunity for selection of promising types. One such variability was observed in Mauranipur, district Jhansi (U.P.). The solitary tree was located near well of a farmer and observed for three years in rainy and winter season for fruiting behavior, quality and uniformity. Meanwhile, scion material was brought at Central Agroforestry Research Institute, Jhansi and plants were multiplied through soft wood cleft grafting. These were planted in Kitchen gardens of Scientists in the campus. Observations on fruit behavior indicated regular and profuse flowering and fruiting in winter season. Fruits turn light green to yellow at maturity with smooth surface.



The quality of fruits was uniform and unique with regards to shape and quality of pulp. All the fruits were pear shaped with distinct neck and belly. Seed cavity is very small and number of seeds per fruit very less. Average fruit weight is around 200g with about 120 seeds per fruit. As such, pulp constitutes about 98% of fruit weight. Seed cavity is around ¼th of fruit length with medium soft seeds. Total sugar of winter season fruits is about 7.25% with 0.4% acidity, 10° brix TSS and 150mg 100g⁻¹ pulp ascorbic acid. There is need to evaluate this germplasm with other commercial varieties for marketability/acceptability.

R. K. Tewari and C. K. Bajpai
Central Agroforestry Research Institute, Jhansi-284003

Research Advisory Committee

17th RAC meeting of NRCAF was held on 6th & 7th November, 2014 under the chairmanship of Dr. V.P. Singh, Regional Representative for South Asia, WAC, New Delhi. Dr. B. Mohan Kumar, ADG (AF & Agron.), ICAR, New Delhi; Dr. S. D. Kashyap, Former Dean, Dr. Y.S. P. University of Horti. & Forestry, Solan; Dr. D. K. Das, Former Head, IARI, Pusa, New Delhi; Prof. S. B. Nahatkar, Division of Agricultural Economics, JNKVV, Jabalpur and Dr. V. K. Gupta, Ex-Principal Scientist (NRCAF) and Dr. S. K. Dhyani, Director, NRCAF, Jhansi participated in the RAC meeting. The RAC members interacted with the scientists, reviewed the ATR and visited the Research farm.



Institute Joint Staff Council and Women Cell Meeting

Institute Joint Staff Council (IJSC) and Women Cell meetings were held on 27th December, 2014 under the Chairmanship of Director Dr. S K Dhyani. Various issues related to welfare of the staff were discussed.

AICRP on Agroforestry, Jhargram under BCKV, Kalyani, West Bengal opts for homestead agroforestry system under TSP

Jhargram, sub-division under W. Medinipur, the most backward district of West Bengal is now coming to main stream. AICRP on Agroforestry centre under BCKV, Kalyani located at Jhargram has initiated a number of activities in participatory mode with the tribal farming communities. With the objective of developing livelihood and assuring nutritional security to the tribal people, homestead agroforestry is being developed in tribal dominated villages of Jhargram sub-division. Dr. P. K. Dhara, In-charge AICRP on Agroforestry Centre informed that on 28th September, 2014, the Centre distributed more than 10,000 saplings including mango (var. Himsagar and Amrapali), guava (var. Baruipur khaga), ber (var. BAU), mahogani, kadamb, lamboo (*Dysoxylum binectariferum*) to the 510 tribal families of the 10 villages viz. Damdanga, Birdanga, Kannadoba, Pachakhali, Dalki, Krishnagar, Sirispara, Radhnagar and Kadamkanan. The farmers were given trainings on planting the saplings and aftercare. Earlier, the Centre also demonstrated bamboo based agroforestry systems in village Banstala where farmers planted *Bambusa tulda* and *B. balcooa* with agricultural crops like paddy



(upland), pigeon pea, bottle gourd and turmeric. Bamboos were also planted on the bunds of cultivated fields. Farmers are getting regular income from the sale of bamboos.

On 11th November, 2014 while visiting the tribal villages, Dr. S K Dhyani, Director & Project Coordinator, AICRP on Agroforestry observed very good growth and high survival of the planted saplings. It was impressive to note that the tree guards were made by the farmers utilizing locally available material. Dr. Dhyani and the team of scientists interacted with the tribal farmers to share the traditional ITK for raising bamboos, other trees and intercrops with existing plantation.



Scientists at National Children Science Congress

The district level competition for the 22nd National Children Science Congress, a nationwide science communication programme under National Council of Science & Technology Communication (NCSTC) Department of Science and Technology, Govt. of India with the focal theme of 'Understanding Weather and Climate' was organized at Mount Litera Zee School, Jhansi. Scientists from CAFRI, Jhansi were invited to judge the forum of children from various schools with their exhibits and models on the focal theme on 11th November, 2014. A total of 70 exhibits were judged and 3 groups were selected for participation in State level and further in National level competition.



6th CCM of HPVA of NRG Project

The 6th Coordination Committee Meeting of the Network Project on Harvesting, Processing and Value Addition of Natural Resins and Gums was held during 17th & 18th October, 2014 at ICAR – National Research Centre for Agroforestry, Jhansi to review the annual progress of the centers and discuss their technical programme for the year 2014 – 2015. The representative scientists from all the networking centres namely IINRG, Ranchi (Jharkhand); CAFRI, Jhansi; CAZRI, Jodhpur (Rajasthan); Dr. YSPUH&F, Solan (Himachal Pradesh); IGKVV, Raipur (Chhattisgarh); JNKVV, Jabalpur (Madhya Pradesh); MAU, Parbhani (Maharashtra); TNAU, Mettupalayam (Tamil Nadu); KAU, Thrissur (Kerala) and ICAR Research Complex for NEH Region, Umiam (Meghalaya) participated in the meet.



The meeting started with the welcome address by Dr. Rajendra Prasad, Principal Scientist & Principal Investigator, CAFRI, Jhansi followed by remarks by Dr. R. Ramani, Director, ICAR – IINRG, Ranchi; Dr. P. K. Ghosh, Director, IGFRI, Jhansi; Dr. S. K. Dhyani, Director, CAFRI, Jhansi and Dr. A. K. Bisaria, IFS and the Chief Guest of the inaugural function.



During the inaugural session, Dr. Rajendra Prasad welcomed and emphasized the need for addressing the issues related to production,



processing and value addition of natural resins and gums in Bundelkhand region of to make these activities more profitable for resin and gum tappers and also to related industries. He also briefed about the objectives of the Network Project and suggested plantation of *Acacia senegal*, *Butea monosperma* at other centers of the project as well for gum tapping and lac cultivation.

Dr. R. Ramani, Director, IINRG, Ranchi also welcomed the dignitaries and briefed about three new centers included in the Network Project and emphasized that the linkages with the centers on the commodity assigned should be developed. Dr. Ramani stressed upon the adoption of integrated approach for plantation of resin, gum and gum – resin trees.

Dr. P. K. Ghosh, Director, IGFRI, Jhansi emphasized that all the components of agroforestry should be integrated with the farming system for livelihood improvement of the rural and tribal people. Dr. Ghosh stressed that gum production is declining due to unscientific tapping. Traditional tappers need be trained for scientific tapping of resin and gums.

Dr. S. K. Dhyani, Director, ICAR – CAFRI, Jhansi in his opening remarks stressed that the Bundelkhand region is suitable for NRG and the resin and gum trees can serve as carbon reservoirs. He emphasized that technological intervention can improve the production of NRGs.

Dr. A. K. Bisaria, the Chief Guest discussed about the conservation of resin and gum tree species and mentioned that we should have mental pool/network for *Boswellia serrata* which may be included in the mandate of ICAR – CAFRI, Jhansi. He further added that technology awareness programme be introduced between commerce and sustainability of NRGs production. Dr. Bisaria also mentioned that rubber plantation has changed the overall scenario in Tripura. Similarly, the information related technology should reach the actual workers/tappers involved in resin and gum tapping work for promotion of resin and gum production. *Anogeissus pendula* needs to be promoted among tappers so that gum production from *A. pendula* may be enhanced. Plants related to carbon sequestration need to be promoted and on- farm agroforestry should be done in collaboration with KVKs. Gaps between commerce and conservation should be minimized through technological interventions. He informed that about 295 – 300 g palas gum may be tapped per tree per year. He stressed upon the need for promotion of processing and value addition of gums.

During technical sessions the annual progress report for 2013-14 and technical programme for the year 2014-15 were presented by PIs of all the networking centres. All the delegates also visited Agroforestry models developed at central farm of CAFRI, Jhansi.

Award and Recognition

Sh. Piare Lal, Member IMC, CAFRI and Proprietor, Kisan Bharti Clones, Village- Gangapur Kalan, P.O. Anwaria Talvabad, District- Rampur (U. P.) was awarded with Lifetime Award for Contributions to Advancement of Forestry Science by Indian Council of Forestry Research and Education and Forest Research Institute, Dehradun. The award was given by Shri Prakash Singh Badal, Hon'ble Chief Minister of Punjab at Convocation Hall of FRI Dehradun on 27th November, 2014 during 13th Silvicultural Conference.

Dr. Asha Ram, Scientist was awarded the Second Prize of Dhiru Morarji Memorial Award for Best Article in Agricultural Sciences 2013-14 for his article on “Direct and Residual Effect of S on Productivity, Protein Content and Nutrient Uptake in Wheat under Aerobic

Rice- Wheat Cropping System” published in March, 2014 issue of Indian Journal of Fertilizers, New Delhi.

Human Resource Development

Dr. Sudhir Kumar, Principal Scientist attended and presented poster on “Improving productivity, profitability and sustainability through agroforestry intervention in fruit orchards” in National Seminar on “Strategies for Conservation, Improvement and Utilization of Underutilized Fruits” held at CHES, Chettalli, during 1st -3rd December, 2014 organized by Central Horticultural Experiment Station (CHES), ICAR-IIHR, Chettalli, Kodagu and Society for Promotion of Horticulture (SPH) ICAR-IIHR, Bengaluru.

Dr. Badre Alam, Principal Scientist participated in the Annual workshop/Coordination Committee Meeting of the “Network Project on Harvest and Post-Harvest processing and value addition of natural resins, gums and gum resins” during 17th -18th October, 2014 held at NRCAF, Jhansi. He also participated and presented a research paper in the National Conference of Plant Physiology (NCP 2014) on ‘Frontiers of Plant Physiology Research: Food Security and Environmental Challenges’ held during 23rd to 25th November, 2014 at Orissa University of agriculture and technology, Bhubaneswar.

Dr. Asha Ram attended training Programme on Conservation Agriculture Developing Resilient Systems during 27th September to 4th October, 2014 held at CSSRI, Karnal sponsored by CSSRI-CYMMIT, Karnal. He also attended Training Course on Strengthening Ecosystem Services through Integrated Natural Resources Management for Building Climate-Resilient Communities during 27th to 31st October, 2014 held at ICRISAT, Hyderabad.

Dr. R. K. Tewari, Pr. Scientist & Nodal Officer (RFD) and Dr. Rajeev Tiwari, Chief Tech. Officer participated in the RFD Meeting of NRM Division on 28th October, 2014 held at NASC, New Delhi.

Dr. Anil Kumar, Dr. Rajendra Prasad, Dr. R P Dwivedi, Dr. S. Vimala Devi and Dr. K.B. Sridhar, Sh. S. B. Chavan, Sh. A R Uthappa and Dr. Asha Ram attended International training on “Research methods in Agroforestry” during 1st to 5th December, 2014 held at ICAR-CAFRI, Jhansi.

Sh. A R Uthappa Scientist participated in a training course on "Ecosystem Services of Agroforestry Systems" during 17th to 21st November, 2014 held at ICRISAT, Patancheru, Telangana.

Donation

Communal Harmony Campaign and Fund Raising Week from 19th to 25th November, 2014 was observed at the Institute and during the week a sum of ` 12,320.00 was collected. Institute Staff members also donated an amount of ` 18,220.00 for the Staff of Sher-e Kashmir University of Agricultural Sciences and Technology of Kashmir suffered by the Flood in Kashmir. Sh. Veer Singh Pal, Sr. Clerk collected the amount from the staff members.

Farm Innovators Day & World Toilet Day



Central Agroforestry Research Institute (CAFRI) observed Farm Innovators Day and World Toilet Day on 19th November, 2014 at Parasai-Sindh watershed in Babina block of Jhansi district.

Dr. Javed Rizvi, Regional Director and Dr. Rajendra Choudhary, Senior Liaison & Monitoring Officer, South Asia Programme, ICRAF, New Delhi visited the Parasai-Sindh watershed and interacted with the farmers. They observed the interventions taken up in watershed and discussed the impact of the measures with the accompanying farmers. The ICRAF team was overwhelmed after seeing the surface water in ephemeral drains in about 2.0 km length, large scale adoption of teak based agroforestry (more than 200 acre) on field boundaries and homestead agroforestry in majority of the households. The team held interactions with community and realized that virtually there is no impact of deficit rainfall (31% less than long term average rainfall) on agricultural activities. More than 90% area of the watershed is cultivated. Villagers opined that hardly 40% area is expected to be cultivated outside watershed during rabi 2014-15 due to deficit rainfall.



As of now enough water is available in the wells and checkdams in the watershed and more than 90 % of crop sowing is completed already. Dr. S. K. Dhyani, Director, CAFRI informed the team that this scenario indicates that watershed management through alternate landuse system such as agroforestry is one of the best viable option in the region as far as water availability is concerned and it will also check the migration in search of livelihoods.

The issue of sanitation and cleanliness was also raised and the team advised the villagers about benefits of having plants of guava, aonla, drumstick, tulsi and giloy in the backyard of the household. There was an interaction with the students of middle school and farmers at Chhatpur regarding World Toilet Day and general cleanliness as well as importance of agroforestry in day to day life along with its role in mitigating climate change.

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lEcfU/kr rduhdh "kCnkas dh "kCnkoyh rS;kj dh xbZ gS tks fd
ifj'kn dh csolkbV ij miyC/k gSA mUgksaus ;g Hkh crk;k fd
fgUnh Hkk'kk esa vxzsath ls brj ,d "kCn ds vUksd lekUkkFkhZ
"kCn ekStwn gaS ftUgas "kks/k i= ys[ku ds nSkjku lly lkekU;
Hkk'kk ds :Ik esa iz;ksx fd;k tk ldrk gSA dk;Z"kkkyk la;kstd Mk-
lh- ds- cktis;h] izHkkjh vf/kdkjh jktHkk'kk us lHkh dk Lokxr
djrs gq, dk;Z"kkkyk dh mi;ksfxrk ij izdk" k MkykA dk;Z"kkkyk esa
dsUnz ds leLr oSKkfud] vf/kdkjh rFkk deZpkjh mifLFkr FksA

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