From the Director's Desk..

It is my pleasure to give a brief overview of the Research & Development activities that were carried out in CSWRTI during the past six months. The major initiatives were focused around scientific understanding of losses of natural resources (related to soil and water) for evolving technical solutions to reduce soil erosion and enhancing agricultural productivity considering watershed as the domain of development. The research centres located at different agro-ecological settings at Chandigarh (UT), Agra (UP), Datia (MP), Kota (Rajasthan), Vasad (Gujarat), Koraput (Odisha), Bellary (Karnataka) and Vdhatamandal (TN) are addressing the region specific issues. While problems of soil and water conservation encountered in the hill region are being tackled by Dehradun, Chandigarh and Udhatamandalam, the ravine problems are being addressed by Agra, Kota and Vasad Centres. Location specific problems of Bundelkhand region are being addressed by Datia Centre. The problems of black soil in semi-arid region are addressed by Bellary Centre, and shifting cultivation problem in lateritic soil region is handled by Koraput Centre.

The technology-specific sensitization workshops at the centres involving current stakeholders such as GOs and NGOs, extension scientists, KVK officials, Bank representatives, progressive farmers etc. helped in identifying the potential technologies for the purpose of up-scaling through the involvement of extension agencies and the farmers. Further, the formal and informal interaction with the NABARD officials in Dehradun also resulted in initiating dialogue with the proactive NGOs to popularize the resource conservation technologies. The Uttarakhand Council of Science & Technology (UCOST) recognized the institute’s input from soil erosion studies for identifying the areas requiring soil conservation measures.

With the support of ICAR and Dr. A.K. Singh, DDG (NRM), the simulation modelling activities on land and water resources got a boost with the excellent presentation on DPSIR approach and Integrated Land Management System (ILMS) under INNO-ASIA project by Prof. Dr. Wolfgang Fluegel, Chair of Geoinformatics, Geohydrology and Modelling, Friedrich-Schiller University, Jena, Germany.

During the period, positive feedback from the RAC, IMC, QRT, Knowledge Meet and the ICAR Regional Committee meeting was highly beneficial in preparing the draft XII Plan proposal of the Institute.

The NFDB sponsored short training course on Watershed-based Fisheries Development at Dehradun provided an opportunity for two different working groups of watershed managers and fisheries groups to interact having common goal of resource management and enhancement of productivity. The first of the kind training has identified the fishery sector as one of the strong “watershed-plus” sectors that needs active considerations in development plans.

Similarly, the NARRA sponsored workshops on Planning and Design of Engineering Structures in Watershed Management Programme at Dehradun, Chandigarh, Kota, Koraput, Vasad and Udhatamandalam Centres organized for middle level Officers of State Soil Conservation Departments would improve the implementation of watershed works, which are essential component of any watershed development project.

I am grateful to my superiors, staff and the extended family of stakeholders to be active partners in all these progressive endeavours.

P.K. Mishra
New Initiatives

Collaboration/Liaison

(i) Collaboration with National Fisheries Development Board (NFDB), Hyderabad for sponsoring programmes for capacity building of stakeholders and human resource development of the Institute.

(ii) Collaboration with Rural Technology Action Group (RuTAG), IIT (Roorkee) and Himalayan Trust (NGO), Bageshwar (Uttarakhand) in framing watershed development project for recharging rivers (Gomti, Garud and their tributaries) in Garud region of Bageshwar district, Uttarakhand.

(iii) Liaison with National Institute of Hydrology, Roorkee as expert member for Working Group Meeting on research project and THDC India Ltd as expert member on Apex Advisory Committee for sustainable development.

(iv) The Ministry of Environment and Forests (MoEF) has made it mandatory that “State Government shall engage a team of experts to be selected in consultation with CSWRTI, Dehradun to assess and prepare a plan containing appropriate ameliorative/mitigative measures to prevent/minimize soil erosion from the forest land proposals for mining”.

Ensuring Safe Drinking Water to Tribal Households

DST sponsored project entitled “Ensuring safe drinking water to the tribal house holds in Koraput region of Odisha” has been undertaken in collaboration with M.S. Swaminathan Research Foundation, Jeypore, Odisha.

Delineation of Ravines

With free availability of high resolution earth imagery, opportunity for updating extent of ravines with high accuracy through advance tools has been explored for Mahi river (Gujarat). Characterization of stable as well as active ravines in terms of land features, including soil physico-chemical properties, slope, climate and other associated features, was carried out. Active sites were identified using decision rules and ground verification. Ravines on north bank of Mahi are spread in 12,352 ha and on south bank in 10,072 ha, totalling 22,424 ha in Gujarat. Degraded land (not exactly ravine) on both sides of the river is 1,856 ha and plain area surrounded by ravine is 312 ha. The approach is likely to be explored for other rivers. The information generated will help developmental agencies in prioritizing area to be treated and allocation of resources.

Bamboo Plantation for Gully Bed and Gully Head Stabilization

Under National Bamboo Mission, bamboo based interventions have been evolved for reclaiming degraded gully beds, viz.; bamboo plantation with staggered contour trenches, bamboo plantation supported by bori bunds, and bamboo plantation as live check dams. Similar interventions have been evolved for preventing gully head erosion along with their stabilization and productive utilization - peripheral bund supported by bamboo plantation, and closed spaced bamboo plants around gully head. Similar techniques for gully banks, viz.; gully banks
stabilization by Anjan grass, steep gully banks stabilization by closed spaced bamboo plantation at bottom, and bank stabilization by bamboo plantation with staggered contour trenches have been evolved. Bamboo plantation based interventions absorb > 80% of rainfall and reduce nutrient losses by 50-67%. Higher stem flow amount and funnelling ratio of bamboo plants, in comparison to deciduous and coniferous plants, causes better rainfall absorption and are hydrologically best suited for degraded ravine lands. Annual return for gully bed interventions are ₹ 88,780, ₹ 70,000 and ₹ 63,910 and benefit-cost ratio is 2.09, 2.05 and 1.96 in ‘bori-bund reinforced with bamboo’, ‘trenching’ and ‘bamboo live check dam’ treatments, respectively. Bamboo based interventions for gully heads and banks can yield a net annual return of ₹ 700 per 10 m length from 7th year onwards.

Important Events

Conference for Livelihood and Environmental Security of Eastern and North-Eastern Hilly States Organized

In a series of conferences organized by CSWRCI under aegis of Indian Association of Soil and Water Conservationists, Dehradun in different regions of the country since 2005 for addressing region-specific problems and deciding R&D priorities for efficient use of natural resources, a conference on “Livelihood and Environmental Security through Resource Conservation in Eastern Region of India” was organized at OUAT, Bhubaneswar during 5th - 7th April, 2012 by CSWRCI Research Centre, Koraput. About 250 delegates from East, North-East and other regions of the country participated and deliberated on issues concerning soil and water conservation, viz; natural resources inventory; climate change effects, adaptation and mitigation strategies; conservation technologies for livelihood and environmental security; livelihood security and watershed management; regional experiences and future thrust; and socio-economic and policy issues for livelihood security.

XXII Meeting of ICAR Regional Committee No. I

Organized

The Institute being the Member Secretary Organization of ICAR Region No. I, organized the XXII Meeting ICAR Regional Committee No. I, covering states of Jammu & Kashmir, Himachal Pradesh and Uttarakhand. The meeting was held during June 8-9, 2012 at CSKHP Krishi Vishvavidyalaya, Palampur (H.P.), under the Chairmanship of Dr. S. Ayyappan, Secretary (DARE) & Director General (ICAR). Jenab Gulam Hassan Mir, Hon’ble Minister of Agriculture (J&K) was the Chief Guest. The meeting was well attended by 82 participants, which included several dignitaries, viz.; Advisor (Agriculture), Planning Commission, Government of India, Additional Secretary (APD, Govt. of J&K), Hon’ble Member, Governing Body (ICAR), Vice Chancellors of six SAUs in the region, all the DDGs (ICAR), Directors of ICAR Institutes and Heads of Regional Stations, Directors of Research and Extension of SAUs and Directors of various departments of State Governments associated with agriculture and allied disciplines. The meeting proved to be an excellent platform for discussion among the participants with an aim to enhance sustainable agricultural, horticultural, animal and fish productivity, development of tools and implements for improving efficiency and reducing drudgery in farm operations, and transfer of technologies. The Chairman called upon the Scientists and Directors of State Government Departments to respectively formulate and implement R&D activities in the region at micro-level, i.e. for high, mid and foot hills. The Advisor (Agriculture), Planning Commission informed that during the XII Plan, the government is laying emphasis on National Food Security Mission, National Mission on Rainfed Farming etc. DDG
Sensitization Workshops

State Level Sensitization Workshop cum Stakeholder Consultation was organized on 21st April 2012 by CSWRCRTI Research Centre, Agra to showcase soil and water conservation technologies generated by the Centre for different stakeholders. Firstly, a workshop was conducted in which Dr. L.S. Bhushan, Ex-Head of the Centre as the Chief Guest called upon State Line Departments and other extension agencies to transfer various resource conservation technologies generated by the Centre to farmers and other needy persons. In the opening remark, Dr. S.K. Dubey, Head of the Centre highlighted the importance of the workshop as a good platform to exhibit the technologies to different stakeholders and interact with them for knowing their expectations from the Centre. He requested the participants to provide their valuable inputs for fine tuning research programmes of the Centre for XII Plan. About 100 participants from State Line Departments, KVKs, NGOs and farming community attended the workshop. After the workshop, a Kissan Goshthi was organized at Gadi Udairai, Near Fatehabad, Agra on 21st April, 2012. About 100 farmers participated in the programme. During the meet, scientists and farmers interacted regarding resource conservation technologies and other problems of farming and allied activities.

A Sensitization Workshop cum Field Day was organized at CSWRCRTI Research Centre, Datia on the occasion of its 26th Foundation Day on 18th September 2012 to apprise and popularize adoptable soil and water conservation technologies through field visits, presentations, documentary film show etc. Dr. R.K. Tiwari, l/c Director, NRCAF, Jhansi in his inaugural speech focused on importance of agro-forestry for soil and water conservation in Bundelkhand region. He advised the farmers to augment plantation of Acacia senegal and Prosopis cineraria as boundary plantation and in fields. Sh. C.S. Ninama, IFS (Divisional Forest Officer) as a Distiguish Guest stressed upon teak and bamboo plantations for waste land rehabilitation. More than 60 participants from various State Line Departments, viz.; Agriculture, Soil Conservation, Horticulture, Forest as well as farmers of 8 villages attended the workshop. About 43 students also participated in an essay competition on theme “Conserve Soil and Water for Livelihood Security” organized on the occasion and were awarded with certificates and prizes.

Monthly Zonal Workshop Organized for Extension Staff

For showcasing soil and water conservation technologies of CSWRCRTI for the Nilgiris, a Monthly Zonal Workshop for Department of Horticulture was organised at CSWRCRTI Research Centre, Udharagamaldam on 4th September 2012. The workshop was inaugurated by Dr. O.P.S. Khola, Head, CSWRCRTI Research Centre, Udharagamaldam and was presided by Mr. Mohan, Joint Director of Horticulture, The Nilgiris. In addition to the scientists of the Research Centre, scientists from Central Potato Research Station (Mutharai) and Horticulture Research Station (Tamil Nadu Agricultural University, Udhaiyagiri), Officers of United Planters Association of South India (Krishi Vigyan Kendra, Coonoor), Bank Manager (Canara Bank, Ooty), and Deputy Directors and Assistant Directors of Horticulture, and Horticultural Officers of all four divisions (Udhagai, Coonoor, Kothagiri and Gudalur) of Nilgiris district participated in the workshop.

Two-Days Brainstorming Workshop Organized

A two-days Brainstorming Workshop on core project entitled “Post-adoption behaviour of farmers towards soil and water conservation technologies of watershed management” to be implemented at HQ and all the Research Centres was organized at CSWRCRTI, Dehradun during June 15-16, 2012. Scientists from HQs, all Research Centres and experts from two NGOs, viz.; PSI, Dehradun and SSS, Dehradun also participated in the workshop. In his inaugural address, Dr. P.K. Mishra, Director suggested several ways to improve the project, including implementation of corrective measures evolved from the project findings (technological gaps) in the on-going projects. Methodology for execution of the project was discussed in detail. Scientists from all the Centres and delegates from NGOs made detailed presentations and shared their views for improvement of the project.
QRT Visit

The Quinquennial Review Team (QRT) of CSWCRTI for the period 2006-2007 to 2010-2011 comprising of Dr. H.S. Chauhan (Chairman), Dr. S.G. Patil, Dr. S.K. Gupta, Dr. K.K. Jindal, Dr. R.S. Narang, and Dr. M.G. Chandrakanth (Members) visited Research Centre, Datia during May 16-18, 2012 and Research Centre, Agra during May 18-20, 2012. The team visited the field experiments at research farm and various activities in NWDPRA-MMA model watersheds. During the visit, the team also interacted with scientists, technical/other staff of the Centres and farmers of the watershed. The team completed the review work of the Institute by visiting Dehradun during July 16-17, 2012.

Training Programmes Organised

A short course on “Watershed-based Fisheries Development” sponsored by National Fisheries Development Board (NFDB), Hyderabad was organized during August 20-24, 2012 at CSWCRTI, Dehradun to provide working knowledge on fish farming and watershed management to multi-disciplinary professionals breaking the impasse between disciplines through introduction of newer and established interdisciplinary concepts and technologies of watershed based fisheries, covering varied aspects like water yield assessment techniques, modern tools for watershed planning, design features of WHS, bio-engineering measures for resource aggregations, water budgeting, social issues, economic assessment tools, recent advancement of cold water fisheries etc. The five days course was well organized and ample study material was provided to 25 officer trainee participants from Watershed Management Directorates, Departments of Soil and Water Conservation, and Fisheries Departments of six State Governments. Besides, four guest participants, including an IAS Officer, a Manager from NABARD and two entrepreneurial farmers participated in selected sessions. The course was inaugurated by the Chief Guest, Dr. P.K. Mishra, Director, CSWCRTI involving over 15 resource persons and guest lecturers, and concluded by the Chief Guest, Mrs. Rekha Pai, IFS, Director, Watershed Management Directorate, Uttarakhand State Government, Dehradun.

Six Training-cum-Workshops on “Planning and Design of Engineering Structures in Watershed Management Programme” sponsored by National Rainfed Area Authority, New Delhi were organized at Dehradun, Chandigarh, Kota, Koraput, Vasad and Udthagamandalam during May-June, 2012. In addition to these, training programmes of various durations ranging from one day to one month were organized for officers of Agriculture, Soil Conservation Department and Watershed Missions, Under/Post Graduate Agricultural Engineering Students, as well as farmers / Presidents / Secretaries and members of WC / UG / WDT sponsored by various agencies such as District Watershed Development Agencies covering various aspects of soil and water conservation and integrated watershed management, including planning, design and estimation of soil water conservation structures and measures.

NRM Officers of Afghanistan Experience Institute Technologies

Senior Level Officers of different NRM Departments of Afghanistan experienced various technologies developed by CSWCRTI under a training-cum-exposure visit programme organized by Department of Water Resources Development and Management, IIT Roorkee (Uttarakhand) in collaboration with Co-Water International Inc., Ottawa, Canada on July 19, 2012.
Under the programme entitled “Economic Development for Rural and Smaller Communities”, the Officers visited the Institute’s outreach programme at Langha and Research Farm, Selakui and interacted with farmers benefitting from various SWC technologies/activities. They especially appreciated the efforts made towards Participatory Water Resource Development for providing livelihood support to resource poor farmers under TDET project in Langha cluster. They shared their views about usefulness of these technologies in foothills of their country.

**Training-cum-Workshop Organized for Administrative Personnel**

A training-cum-workshop was organized for Administrative Personnel of the Institute Headquarters and Research Centres during February 27-29, 2012. Thirty administrative personnel of different levels ranging from JAO to LDC participated in the training. Seven resource persons delivered lectures on various topics covering all Establishment & Financial Rules, and ICAR Rules & Bylaws. The training-cum-workshop was an overall exposure to rules and regulations framed by Govt. of India/ICAR on service matters, purchase procedures, outsourcing of contractual services, job/work contracts, tender procedures, General Financial Rules-2005, Recruitment Rules, New Pension Scheme, preparation of budget, accrual accounting, financial rules like pay fixation, TA, LTC, Medical etc. Lectures on constitution and function of various committees like Institute Management Committee etc. were also delivered in the workshop. A useful computer awareness programme along with practical was also conducted for the participant. Personal discussion of the participants with the Resource Persons during interaction sessions cleared their various doubts. A study visit of the participants to LBSNAA, Mussoorie was also conducted where they experienced the working culture of the reputed academy.

**Kissan Goshti & Exposure Visits**

A Kissan Gosht was organized at village Dobri, Sahaspur Block, Dehradun on June 10, 2012. About 55 farmers participated in the goshti. Experts from different subject areas, viz., soil science, agricultural engineering and extension explained the technologies to be demonstrated in the village and the method of participation of farmers desired in the whole process. Additionally, 25 farmers were identified for undertaking demonstrations on maize-cowpea inter cropping. An exposure visit of the selected 25 farmers was organized on June 18, 2012 under the Transfer of Technology (TOT) programme to the CSWCRTI Research Farm, Selakui for briefing them about the different cultural operations to be performed during the demonstrations. They also visited the institute museum and witnessed the documentary film on different activities of the institute. Also, three exposure visits were conducted by Kota Centre within Rajasthan of 120 trainees (members of WC, WDT and PRIs, and beneficiaries) from Sawai Madhopur and Kota districts.

**Institute Foundation Day**

Central Soil and Water Conservation Research and Training Institute celebrated its 39th Foundation Day at Dehradun with happiness, enthusiasm and gaiety. The day falling on Sunday was heartily celebrated by all. The day started with a function in the Institute’s auditorium in which Dr A.N. Purohit, Ex-VC, H.N.B. Garhwal University was the Chief Guest. The Chief Guest was welcomed by Dr. P.K. Mishra, Director, CSWCRTI and other dignitaries on the dias. Dr. K.S. Dadhwal, Head, Division of Soil Science and Agronomy informed the gathering consisting of retired Heads of Divisions about the achievements of the Institute during the past year. The Chief Guest informed the gathering about the importance of natural
resource management since vedic times. The first addition of this newsletter was released by the Chief Guest. The function was followed by various sports events for the staff and their families during the day time. The day ended with a colourful cultural programme presented by the staff and their families.

Miscellaneous Events

- RAC-2012 Meeting was held at Dehradun during May 8-9, 2012.
- IRC-2012 Meeting was held at Dehradun during June 18-23, 2012.
- Vetting Meeting was organised for scientists of GBPUAT, Pantnagar to finalize District Level Agriculture Contingency Plan for Uttarakhand during August 16-18, 2012 at Dehradun.
- Parthenium Awareness Week was celebrated during August 22-28, 2012 at Dehradun.
- Hindi Diwas/Hindi Pakhwara was organized during September 14-20, 2012 at Dehradun and Kota Centre.

Transfer of Technology

Renovation of old pond (capacity 1495 cum) and stop dam was completed in village Veerapuram (Dist. Bellary) by the Bellary Centre.

Awards and Recognitions

- Antisar watershed developed by Research Centre, Vasad awarded with “Best Practice Award” for “Ground Water Recharge Filters” at “National Convention The Next Frontier of Agri-Business and Technology” at Gandhinagar on September 3, 2012.
- Dr. P.K. Mishra: Vasantrao Naik Award (team member) for outstanding Research & Applications in Dryland Farming System 2011 on the 84th ICAR Foundation Day and Award Ceremony at New Delhi on July 16, 2012.
- Dr. K.S. Dadhwal: Uttarakhand Rattan at All India conference of Intellectuals on May 13, 2012 at Dehradun.
- Dr. A.K. Tiwari: K.G. Tejwani Award for biennium 2008-09 by Indian Association of Soil and Water Conservationist, Dehradun at OUAT, Bhubaneswar on April 5, 2012.
- Dr. N.K. Sharma: IASWC Fellowship 2010 by Indian Association of Soil and Water Conservationist, Dehradun for significant contribution in the field of soil and water conservation and watershed management on April 5, 2012.
- Dr. M. Madhu: IASWC Gold Medal for the year 2010 by Indian Association of Soil and Water Conservationist Dehradun at OUAT, Bhubaneswar on April 5, 2012.
- Dr. M. Muruganandam: Ph.D. degree by H.N.B. Garhwal (Central) University, Srinagar, Uttarakhand in July 2012.
- Dr. M. Sankar: ICAR-International Fellowship (2011-12) for pursuing Ph.D. at Ohio University, U.S.A.
- Mr. Hombe Gowda, H.C: ICAR-International Fellowship (2011-12) for pursuing Ph.D at Goettingen University, Germany.

Important Publications

Research papers


Kumar, A., Avasthe, R.K., Borah, T.R., Lepcha, B. and Pandey, B.


### Books


### Distinguished Visitors

- Dr. Charan Das Shant, Honourable Minister of State for Agriculture and Food Processing Industries visited Dehradun on April 13, 2012 and reviewed progress of Research Centre, Agra on August 18, 2012 at CIRG, Makhdoom, Mathura.

- Dr. S Ayyappan, Director-General, ICAR New Delhi visited Research Centre, Udhamgandalam on June 14, 2012.
Dr. A.G. Singh, Ex Member, ASRB, ICAR, New Delhi visited Research Centre, Udthagamandalam on April 11, 2012.

Dr. A.K. Singh, Deputy Director-General (NRM), ICAR visited Dehradun on July 23, 2012.

Prof. Dr. Wolfgang-Albert Flugel and Mr. Christoph Bohm from Friedrich-Schiller University-Jena, Germany visited, Dehradun on July 23, 2012.

Dr. D.V. Singh, Sr. Scientist (Soils) joined HRD&SS Division, Dehradun on transfer from Research Centre, Udthagamandalam.

Dr. Pramod Kumar Panda, Sr. Scientist (Agronomy) relieved from Research Centre, Agra to join Directorate of Water Management, Bhubaneswar.

Dr. P.P. Adhikary, Scientist (Soils) joined Research Centre, Koraput on transfer from Research Centre, Datia.

Sh. K. Channabasappa, Technical Officer (T-5) joined Research Centre, Bellary on transfer from Ramasagara watershed.

Sh. B. Chandran, Technical Officer (T-5) joined Research Centre, Udthagamandalam on transfer from Research Centre, Koraput.

Sh. V.K. Jain, Technical Officer (T-5) joined Research Centre, Kota.

Smt. H.N. Lakra, UDC joined Research Centre, Koraput on transfer from Research Centre, Kota.

Sh. R.N. Sahoo, UDC joined at PDFM, Nanital on transfer from Research Centre Koraput.

Sh. Ramesh Chand, T-1, joined Research Centre, Kota.

Ms. Neha Sharma, Assistant joined Dehradun on selection.

Sh. Syed Mohd. Abbas Rizvi, Assistant joined Dehradun on selection.

Promotions

Dr. Biswajit Mondal, Scientist, Research Centre, Bellary promoted to the next higher grade pay.

Sh. A.N. Mohin, T-6, Dehradun Promoted to T (7-8).

Dr. S.C. Saxena, T-6, Research Centre, Agra Promoted to T (7-8).

Smt. Seema Khanna, T-5 (Technical Officer), Dehradun promoted to T-6.

Sh. Bhagwati Prasad, T-5 (Technical Officer), Research Centre, Agra promoted to T-6.

Sh. Ajay Joshi, T-4 (Lab. Technican), Dehradun promoted to T-5.

Sh. T.C. Sharma, T-4, Research Centre, Agra promoted to T-5.

Sh. Jamuna Prasad, T-4, Research Centre, Agra promoted to T-5.

Sh. S.P. Singh, T-4, Research Centre, Agra promoted to T-5.

Sh. C.N. Damor, T-4, Research Centre, Vasad promoted to T-5.

Sh. A. Murugesan, T-3, Research Centre, Udthagamandalam promoted to T-4.


Sh. Swarn Singh, T-3 (V/Driver), Dehradun promoted to T-4.

Sh. T. Ravichandra, (V/Driver), Research Centre, Bellary promoted to T-4.

Sh. C.S. Sameli, T-2 (Tr. Driver), Research Centre, Datia promoted to T-3.

Dr. Meena Kumari, DDG, Fisheries, ICAR New Delhi visited Research Centre, Chandigarh on June 10, 2012.

Dr. D.K. Sharma, Director, Central Soil Salinity Research Institute, Kamal visited Research Centre, Chandigarh on August 27, 2012.

Dr. Shivhare, Director, Central Institute of Post-Harvest Engineering and Technology visited Research Centre, Chandigarh on August 27, 2012.

Dr. P.C. Mohanta, Director, Directorate of Coldwater Fisheries Research, Bhimtal visited Dehradun on August 23, 2012.

Sh. Dushyant Nariala (IAS), Sr. Deputy Director, Lal Bahadur Shastri National Academy of Administration (LBSNAA), Mussoorie on August 23, 2012.


Mr. S.K. Pandit, Manager (Soil and Water Conservation), Odisha Watershed Development Mission, Bhubaneswar, visited Research Centre, Koraput on August 24, 2012.

Personalia

Joinings/Transfers

Dr. R.C. Jakhmola, Principal Scientist joined HRD&SS Division, Dehradun on transfer from Arid Region Campus, Central Sheep & Wool Research Institute, Bikaner.
Sh. Ajay Pal Singh, T-2 (Tubewell Optr.), Dehradun promoted to T-3.
Sh. Tilak Ram, T-2 (V/Driver), Dehradun promoted to T-3.
Sh. Sarvesh Kumar, T-2 (V/Driver), Dehradun promoted to T-3.
Sh. Laxman Singh, T-2 (V/Driver), Research Centre, Agra promoted to T-3.
Sh. Manjeet Singh, T-2 (V/Driver), Research Centre, Chandigarh promoted to T-I-3.
Sh. Budh Singh, T-2 (V/Driver), Research Centre, Chandigarh promoted to T-I-3.

Retirements

Dr. K.S. Dadhwah, Head (Soil Science & Agronomy); Sh. B. Paramasivan, Technical Officer (T-5), Research Centre, Udhamanadalam; Smt M. Vanaja, SSG, Research Centre, Udhamanadalam; Sh. H.M.K. Chandran, UDC, Research Centre, Udhamanadalam; Smt Sakuntala, UDC, Research Centre, Udhamanadalam; Sh. Bhagat Ram, SSS, Dehradun; Smt Durugamma, SSS, Research Centre, Bellary.

Obituaries

Sh. Chendrika, SSG-1, Research Centre, Chandigarh; Sh. K. Sreenivasan, Tractor Driver, Research Centre, Udhamanadalam.

Workshops/Meetings/Trainings Attended

Dr. P.K. Mishra, Director and Dr. R.S. Kurothe, Head, Research Centre, Vasad participated in exhibition “National Convention - The Next Frontier of Agri-Business and Technology” at Gandhinagar on September 3, 2012.
Dr. P.K. Mishra, Director attended ICAR Institute-SAU State department Interface Meeting at CRRI, Cuttack from July 30-31, 2012.
Dr. P.K. Mishra, Director along with 25 Scientists from Headquarters and Research Centres participated in National Conference on Livelihood and Environmental Security through Resource Conservation in Eastern Region of India (LESRC-2012) held at Bhubaneswar (Odisha) from April 5-7, 2012.
Dr. P.K. Mishra, Director; Dr. R.K. Avasthe, Head, HRD&SS; Dr. D.V. Singh, Sr. Scientist; Dr. J.M.S. Tomar, Sr. Scientist; Er. S. Patra, Scientist attended meeting with NGO-Himalayan Action Research Centre at Nauagam, Uttarkashi on October 4, 2012.
Dr. P.K. Mishra, Director and Dr. J.M.S. Tomar, Sr. Scientist attended 7th Scientific Advisory Committee meeting held at Chinyalisaur, Uttarkashi on July 9, 2012.

Dr. N.K. Sharma, Principal Scientist; Dr. M. Muruganandam, Scientist; Dr. A.C. Rathore, Scientist attended “Vetting Conference on Contingent Crop Plans” at CSKHPKV, Palampur on May 16, 2012.
Dr. N.K. Sharma, Principal Scientist and Dr. B.N. Ghosh, Sr. Scientist attended Regional Research Advisory Committee at Regional Sericulture Research Station, Central Silk Board, Sahaspur, Dehradun on July 20, 2012.
Smt. M. Prabhavathi, Scientist, Research Centre, Bellary completed the training on “Forecast Modeling in Crops” at Indian Agricultural Statistics Research Institute, New Delhi from July 17 - August 06, 2012.
Dr. Loganandhan, Scientist, Research Centre, Bellary completed the training on “Gender Mainstreaming for Resilient Agriculture” at Directorate of Research on Women in Agriculture, Bhubaneswar from July 18 - August 7, 2012.
Sh. Ramesha, M.N., Scientist, Research Centre, Datia completed a summer training programme on Geospatial Technologies and Applications at TNAU, Coimbatore from August 22 - September 11, 2012.
Dr. Kuldeep Kumar, Dr. Dileep Kumar Dr. Raman Jeet Singh and Mr. Suresh Kumar, Scientists successfully completed 5¼ months regular training course at CSWCRTI, Dehradun during April to September, 2012.

Radio Talks

Dr. A.K. Parandiyal, Sr. Scientist delivered radio talk on Krishi Vaniki avam Uska Mahatva at All India Radio Station, Kota on July 20, 2012.
Dr. Ambrish Kumar, Sr. Scientist delivered radio talk on Parviya Khetron Mein Varsha Jal Sanchay ki Vidhiya at All India Radio Najibabad on July 17, 2012.
Sh. H.R. Meena, Scientist delivered radio talk on Hadaitti Sambhag me Phaldar Poudhon ka Cheyan Avam Toyari at All India Radio Station, Kota on June 13, 2012.

New Office Bearers of IASWC

Dr. P.K. Mishra, President; Er. K.P. Tripathi, Vice President; Dr. D. Mandal, Secretary; Dr. N.K. Sharma, Treasurer; Dr. O.P. Chaturvedi, Chief Editor; Dr. J.P. Singh, Business Manager; Dr. Harsh Mehta, Dr. S.C. Pandey, Dr. Dev Narayan, Dr. Om Prakash - Members, are the new office bearers of IASWC for the year 2012-2013.
कार बाहिया बन आपने छांडी फराई आसा

जिनों की बातें से वचा सकते है बारिश का 10-20 मिलीमीटर 

राजस्थान में डंडा फराई आसा। वर्षा वर्षा से बचा सकते है बारिश का 10-20 मिलीमीटर।

राजस्थान में डंडा फराई आसा। वर्षा वर्षा से बचा सकते है बारिश का 10-20 मिलीमीटर।

राजस्थान में डंडा फराई आसा। वर्षा वर्षा से बचा सकते है बारिश का 10-20 मिलीमीटर।

राजस्थान में डंडा फराई आसा। वर्षा वर्षा से बचा सकते है बारिश का 10-20 मिलीमीटर।

राजस्थान में डंडा फराई आसा। वर्षा वर्षा से बचा सकते है बारिश का 10-20 मिलीमीटर।

राजस्थान में डंडा फराई आसा। वर्षा वर्षा से बचा सकते है बारिश का 10-20 मिलीमीटर।

राजस्थान में डंडा फराई आसा। वर्षा वर्षा से बचा सकते है बारिश का 10-20 मिलीमीटर।

राजस्थान में डंडा फराई आसा। वर्षा वर्षा से बचा सकते है बारिश का 10-20 मिलीमीटर।

राजस्थान में डंडा फराई आसा। वर्षा वर्षा से बचा सकते है बारिश का 10-20 मिलीमीटर।

राजस्थान में डंडा फराई आसा। वर्षा वर्षा से बचा सकते है बारिश का 10-20 मिलीमीटर।
Technology

An Integrated Farming System (IFS) comprising of water mill, fish farming, poultry, piggery and agriculture was developed in Sainji village of Tehri-Garhwal in Uttarakhand. Water from existing water mill functioning on flow-through water from a local stream was channeled to two cemented water harvesting ponds (100+160 m²) constructed in vertical series (Photo 1-2). Strategic pond construction to let-out subsurface water flow through a covered channel at bottom of the pond reduced water loss significantly to a minimum (Photo 3). Grownup fish seedlings of Indian and exotic major carps weighing between 20-50 gm were stocked in the ponds @ 1-2 fishes/m² for composite carp culture. Bigger size fingerlings register minimum mortality and predation by birds or snakes. A poultry hut (11.6 m²) and pigsty (6.7 m²) were constructed above the ponds, where 100-120 one-day old broiler chicks (a hardy multipurpose fast growing poultry breed) and one-month old 4 piglets (Large white Yorkshire) were reared. Leftover from water mills, poultry and pigsty and poultry or pig excreta were used as feeds for fishes or pigs to reduce cost of feeding. Water used for rearing fishes circulated for paddy and vegetable fields through gravity. Initially, 0.2 kg/100 birds/day poultry waste is generated, which increases gradually up to 7 kg during 8th-10th weeks that can be recycled. About 6-7 quintal wet pig dung and wastes are produced annually by 3-4 pigs for recycling as fish feed and fertilizer in fishponds/agriculture crops. It was observed that the IFS has potential to yield 40-50 kg fish/m², 200-250 kg live weight pigs for pork within 6-7 months, 500-650 kg poultry meat and 20-38% additional grain or vegetable yield over and above income received from traditional water mill (₹ 10,000). Farmers can recover initial investments within a period of 3-4 years with overall B:C ratio of 1.9:1. More than profit, it helps to ensure much needed quality animal protein to supplement dietary needs. Thus, IFS reduced ultimate wastes, economized small-scale farming components and provided good opportunities for food and livelihood security, benefiting resource-poor farmers of the western Himalayas. Optimum use of available or developed water resources, marginal lands and farming opportunities through integrated approach was incorporated effectively into existing land-use pattern as innovative multi-tier farming for multi-commodities on a common infrastructural base. The system is economically viable for entire mid-Himalayan areas with terraced landscape that receive annual average rainfall of about 1000-1800 mm. The system has been exposed to various stakeholders and 7 new IFS have come up in farmers’ fields in the region.

Published by: P.K. Mishra, Director
Editorial Board: Pradeep Dogra, Senior Scientist
Rajesh Kaushal, Senior Scientist
A.N. Mohin, Technical Officer

Design & Photographs: L.K. Sharma, Technical Officer

CENTRAL SOIL & WATER CONSERVATION RESEARCH & TRAINING INSTITUTE
218, Kaulagarh Road, Dehradun- 248 195, Uttarakhand
Ph:+91 135 2758564 (O), +91 135 2754968 (R) Fax: +91 135 2754213 & 2755386
Email: director@cswcrtiddn.org & pkmbellary@rediffmail.com
Website: www.cswcrtiweb.org