newsletter



NBSS&LUP

NATIONAL BUREAU OF SOIL SURVEY AND LAND USE PLANNING (ICAR) AMRAVATI ROAD, NAGPUR-440 033

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Sectorial View

The entire mankind owes its existence to soil but most unfortunately and more often than not, it is the least cared, most neglected and misused natural resource. The soils are degrading faster than our imagination and their functional capacity is declining. Proper handling of this finite, non renewable resource is, therefore, of fundamental and paramount importance to a country's overall development.

There has been genuine realization that in coming years, the country is to confront serious challenges and threats in Natural Resource Management. Just a little over three decades from now, some 30% more people will be living in India. This would imply that there will be proportionate need of food stock, water, land, energy and livelihood. In another 3-4 decades from now, there will be radical changes with regard to country's natural resources – changes in quality and productivity of resource base. The situation would get further aggravated by shrinkage of the arable land due to land degradation and that, in turn, would lead to hugely reduced

Man to Land ratio. Efforts to increase crop yields (due to population pressure) will continue to be negated in many countries including India by the concomitant degradation of soil resources. Soil degradation would perhaps be one of the most important environmental issues in 2050 and beyond. Its importance is accentuated by its potential impact on biomass productivity, water and air quality and emission of greenhouse gases into the atmosphere.

With the country's population approaching 1.5 billion by 2050, coupled with its higher earnings will lead to increased food demand which would give rise to significant challenges to sustainable agricultural production. There would be possible changes in dietary habits in emerging economies like that of our country, the average cereal grain yield will have to be increased to 44 tonnes/ha by 2025 and 60 tonnes/ha by 2050. Added to this list of already daunting challenges, climate change vulnerability would be another serious issue. It thus becomes imperative that we manage our soils for their long term productivity, sustainability and health.

Research Highlights

SOIL RESOURCE INVENTORY AND SOIL DATABASE

Georeferenced soil information system for land use planning and monitoring soil and land quality for agriculture (NAIP)

- Soil and Terrain (SOTER) datasets were finalized for Indo-Gangetic Plains (IGP) and Black Soil Region (BSR). Datasets on physical and chemical properties of soils, and climate for 245 geo-referenced BM spots (soil series) (144 for IGP and 101 for BSR) were created and linked in SOTER-GIS environment for monitoring soil and land quality. The thematic maps of the important soil quality parameters, *viz.*, soil organic carbon, bulk density, pH and saturated hydraulic conductivity (sHC) were generated for 0-30, 0-50, 0-100 and 0-150 cm depths.
- Principal Component Analysis was employed to identify the minimum soil parameters that can give the interpretable information to explain the physical and chemical properties.

Two sets of data were considered for Black Soil Region (BSR), *viz.*, the Hot Spots (26 BM spots) and extended (about 157 georeferenced data points). Six principal components (PCs) were extracted for the BSR soils. For the BSR soils, the minimum datasets (MDS) obtained were – clay, silt, base saturation, Exchangeable Sodium Percentage (ESP), Exchangeable Magnesium Percentage (EMP) and saturated hydraulic conductivity.

• The AESR map of IGP and BSR were revised by utilizing more soil and climate data generated through this database.

Predicting soil carbon changes under different cropping system in soils of selected benchmark spots in different bioclimatic systems in India

• Roth *C* and Century carbon models were used to simulate effect of different nutrient management interventions on total organic carbon at Palampur LTFE site. Roth *C* was also used to predict the effect of global warming on soil organic carbon status in sub-humid region.

Development of district level land use plan for Jorhat district in Assam under rainfed ecosystem

• A Decision Support System (DSS) has been developed for Jorhat district of Assam under reinfed ecosystem. Application of Multiple Goal Linear Programming (MGLP) followed by integration of bio-physical resources with socio-economic data sets ascertained the alternate land use options for various Land Management Units (LMU) of the district. Cultivation of *r*abivegetables, potato and mustard after *khraif* paddy appear to be highly profitable in LMU-1 and 2, whereas, plantation of citrus and tea are promising in LMU-5, 6 and 8.

Development of Indian Soil Information System (ISIS) (1:250,000 scale) – A Geoportal

 Generation of seamless soil resources database for Manipur, Meghalaya, Tripura, Jammu & Kashmir, Haryana, Punjab, Mizoram, Nagaland, Sikkim, Delhi and Arunachal Pradesh states has been completed. A uniform scheme is updated to the seamless soil database. To develop a satellite database for the soils, 370 scenes of LISS III satellite data of India, mosaic has been developed using ERDAS Imagine software and the satellite database at India level has been generated to use as one of the datasets in the ISIS.

Development of District Soil Information System (DSIS) on 1:50,000 scale (50 Districts) – A Geoportal

• The district spatial soil database of Hassan, Seoni, Jorhat, Hoshiarpur and Patiala districts has been digitized and converted into uniform projection system and brought under India district database. A uniform scheme is updated to the soil databases.

Research Papers Published

- Pal, D.K., Bhattacharyya, T., Sinha, R., Srivastava, P., Dasgupta, A.S., Chandran, P., Ray, S.K. and Nimje, A. (2012). Clay minerals record from Late Quaternary drill cores of the Ganga Plains and their implications for provenance and climate change in the Himalayan foreland. *Palaeogegraphy*, *Palaeoclimatology*, *Palaeoecology*, 356-357: 27-37.
- Satyavathi, P.L.A., Raja, P., Ray, S.K., Anantwar, S.G. and Bhaskar, B.P. (2012). Elemental composition and mineralogy of silt and clay fractions of cracking clay soils in semi-arid and arid parts of Gujarat. India. *Clay Research*, 31(1):12-25.
- Raja, P., Malpe, D.B., Bhaskar, B.P., Marghade, D. and Tapaswi, P.M. (2012). Hydro-geochemical characterization of groundwater for irrigation in Purna basin, Maharashtra. *Memoir Geological Society of India*, 80:167-184.
- Singh, S.K., Mahesh Kumar., Pandey, C.B., Sarkar, D., Ghosh, A. and Mukhpadhyay, S. (2012). Difference in soil properties between irrigation and cropping sequences in the *Thar* desert of Rajasthan, India. *Arid Land Research and Management* (DOI:10.1080/15324982.2012.719577).
- Gangopadhyay, S.K., Sarkar, D., Sahoo, A.K. and Singh, S.K. (2012). Soils of the rainfed region of West Bengal and their productivity potentials appraisal. *Journal of the Indian Society of Soil Science* 60(2), 83-91.

- Reza, S.K., Baruah, Utpal and Sarkar Dipak (2012). Hazard assessment of heavy metal contamination by the paper industry, north-eastern India. *International Journal of Environmental Studies*. (DOI: 10.1080/00207233.2012.746810). (Taylor and Francis Group. U.K)
- Reddy G. P. O. and Sarkar, Dipak (2012). Land degradation, environment and food security. *Geography and You.* 12(73): 6-9.
- Reddy, G.P.O., Nagaraju, M.S.S., Ramteke, I.K. and Sarkar, Dipak (2012). Terrain characteristics for soil resource mapping using IRS-P6 data and GIS – A case study from basaltic terrain of central India. *Journal of Indian Society of Remote Sensing*. (DOI: 10.107/s12524-012-0240-5).
- Jaya N. Surya, S.P. Singh and R.S. Jat (2012). Suitability assessment of soil resources for micro level crop planning A case study. *Journal of Soils and Crops.* 22 (2): 297-301.

BOOKS AND BOOK CHAPTERS

- Bhattacharyya, T., Pal, D.K., Sarkar Dipak, Wani S.P. and Sahrawat K.L. (2012). Rainfed agriculture: area and extent. In: T. Bhattacharyya, D.K. Pal, Dipak Sarkar, S.P. Wani (Eds.), Climate Change and Agriculture, Studium Press (India) Pvt. Ltd., New Delhi, pp. 1-18.
- Bhattacharyya, T., Pal, D.K., Chandran, P., Ray, S.K. and Mandal, C. (2012). Soil carbon reserves and prioritisation for C sequestration in Indian soils. *In:* T. Bhattacharyya, D.K. Pal, Dipak Sarkar, S.P. Wani (Eds.), Climate Change and Agriculture, Studium Press (India) Pvt. Ltd., New Delhi, pp. 123-144.
- Bhattacharyya, T. and Tiwary, P. (2012). Predicting changes in soil carbon and crop yield due to climate change. *In:* T. Bhattacharyya, D.K. Pal, Dipak Sarkar, S.P. Wani (Eds.), Climate Change and Agriculture, Studium Press (India) Pvt. Ltd., New Delhi, pp. 235-270.
- Pal, D.K., Sarkar, Dipak, Bhattacharyya, T., Datta, S.C., Chandran, P. and Ray, S.K. (2012). Impact of climate change in soils of semi-arid tropics (SAT). In: Bhattacharyya, T., D.K. Pal, Dipak Sarkar, S.P. Wani (Eds). Climate Change and Agriculture, Studium Press (India) Pvt. Ltd., New Delhi, pp. 113-122.
- Srivastava, P., Pal, D.K. and Bhattacharyya, T. (2012). Mineral formation in soils and sediments as signatures of climate change. *In:* Bhattacharyya, T., D.K. Pal, Dipak Sarkar, S.P. Wani (Eds). Climate Change and Agriculture, Studium Press (India) Pvt. Ltd., New Delhi, pp. 223-234.
- Bhaskar, B.P., Sarkar, Dipak and Baruah, Utpal (2012). Characterization and management of hydric soils for agricultural use at Majuli River Island, Assam, India: In: Environmental Biotechnology and Application (Edited by P.K. Bharti and A. Chauhan), Discovery Publishing House Pvt. Ltd., New Delhi, pp 161-177.

RESEARCH BULLETINS

- Reddy, G.P. O. and Sarkar Dipak (2012). Remote sensing and GIS in digital terrain analysis and soil-landscape modeling, NBSS Publ. No. **152**, NBSS&LUP, Nagpur, pp. 300.
- Reddy, G.P. O., Nirmal Kumar and Sarkar Dipak (2012). Training manual on GIS and Digital Image Processing, NBSS Publ. No. **153**, NBSS&LUP, Nagpur, pp. 166.

RESEARCH PAPERS PRESENTED AT DIFFERENT ORGANISATION

- Dr. Dipak Sarkar, Director delivered 30th Prof. J.N. Mukherjee ISSS - Foundation Lecture on "21st century challenges and opportunities of pedological research towards land resource management for sustained agriculture" during the 77th Annual Convention of the Indian Society of Soil Science at PAU, Ludhiana, Punjab during December 3–6, 2012.
- Dr. G.P. Obi Reddy, Senior Scientist presented a research paper entitled "Geospatial Technologies for Mapping, Monitoring and Management of Land Resources for Enhancing Food Security: A case study from Vidarbha region" in a National Symposium on "Space Technology for Food and Environmental Security" organized by Indian Society of Remote Sensing and Indian Society of Geomatics during December 5-7, 2012. pp-7.
- Dr. S.K. Singh, Principal Scientist and Head Regional Centre, Kolkata presented Research Papers at following different organization.
 - Knowledge based land use planning for mitigating the influence of soil constraints in the Eastern Region of India, delivered in the Conference on "Livelihood and environmental security through resource conservation in eastern region of India (LESRC-2012)" at Odisha University of Agriculture and Technology (OUAT) Bhubaneswar Organized by Indian Association of Soil Conservation, Dehradun, India.
 - Soil Fertility Mapping : Needs and Utility, in the seminar organized by Fertilizer Association of India in Patna, on November 24th, 2012.
 - Soil Nutrient balance in the state of West Bengal" during the seminar on "Nutrient Management in Crops for Sustainable Agriculture-Present Status and Future Need" on August 24th, 2012 at NBSS & LUP (ICAR), Kolkata
 - "GPS and GIS based Nutrient Mapping in West Bengal" in the Golden Jubilee Seminar on "Advances in agricultural research towards food security and environmental sustenance" on September 2nd, 2012 at Palli Shiksha Bhavan, Viswa Bharati, Sriniketan.

Workshop/Seminar/ Memorial Lecture Organized

Two days National Seminar on "Managing Land Resources for Sustainable Agriculture" was organized by Indian Society of Soil Survey and Land Use Planning was held at NBSS & LUP, Nagpur during 12th & 13th October 2012 at Nagpur. There were three memorial lectures, three technical sessions and poster presentations. Dr. S V Govindrajan Memorial lecture was delivered by Dr. A.K. Singh, Deputy Director General (NRM). He highlighted the importance of soil information system and maintenance of land quality for raising the agricultural production on sustainable basis. He also emphasized to include some more soil parameters related to soil quality in soil survey report and suggested research on pedotransfer functions and hydro-pedology. Dr. Dipak Sarkar, President, ISSLUP highlighted the role of soil survey in planning. About 125 delegates attended the Seminar.



Dr. Dipak Sarkar, Director and President, ISSLUP speaking in the Seminar while (from R to L) Dr. Raviprakash Dani, VC, Dr. PDKV, Akola, Dr. A.K. Singh, DDG (NRM), ICAR, N. Delhi, Dr. C.D. Mayee, Ex Chairman, ASRB, N. Delhi, Dr. M. Velayutham, Ex Director, NBSS&LUP, Dr. S.M. Virmani, Guest of Honour and Dr. T.K. Sen, Organizing Secretary ISSLUP looks on.

Training Imparted

UNDER TRIBAL SUB PLAN (TSP) SCHEME

• A TSP sponsored Training Programme on "Application of remote sensing and GIS for watershed characterization and resource planning" was organized by Regional Centre, Kolkata during the period from 25th July to 8th August, 2012 at Bhubaneshwar for the officers working in the tribal area of Odisha. The programme was organized in collaboration of Directorate of Watershed Mission, Bhubaneswar, Odisha. Sixteen officers from the different parts of the state have participated. The training module was programmed with 23 theory and 31 practical classes with a capsule of fieldwork of 3 days. Apart from in house faculty, experts from State and Central Govt. organizations addressed the trainees to cover various aspects of remote sensing and GIS applications in watershed management.



Shri R S Gopalan, Director, Agriculture, Govt. of Odisha addressing the trainee officers at Bhubaneswar during the inauguration of TSP sponsored training programme on 25^{th} July 2012.

NNRMS ISRO SPONSORED TRAINING PROGRAMME

A Training Programme on "Application of Remote Sensing and GIS in Natural Resource Management" sponsored by NNRMS ISRO Bangalore was organized during 21 November to 11 December 2012 at Regional Centre, Kolkata. The training module was programmed with 37 theories, 18 practical classes and a capsule of fieldwork of 4 days. The training programme covered the various aspects of Remote Sensing and GIS applications in natural resource management. 25 officers participated in the training programme of which 7 belonged to West Bengal, four from Odisha, 1 from Jharkhand, 2 each from Madhya Pradesh and Karnataka and 1 each from Arunachal Pradesh, Meghalava, Jammu and Kashmir, Maharashtra, Gujarat and Tamil Nadu. Dr. J. Krishnamurthy, Member Secretary, NNRMS SC-T, Deputy Director (US & U), EOS, ISRO, GOI inaugurated the training programme and Dr. V.C.Jha, Director, NATMO was the chief guest in the valedictory programme. Dr. Dipak Sarkar, Director, NBSS&LUP, Nagpur presided over the inaugural programme.



Inagural function of the NNRMS Sponsored Training Programme held during 21st November to 11th December 2012 at Regional Centre, Kolkata (Sitting (L to R) Dr A K Sahoo, Principal Scientist, NBSS & LUP, RC Kolkata & Course Coordinator , Prof. S.K. Sanyal, Vice Chancellor, BCKVV and Chairman, QRT, NBSS&LUP and Guest of Honour, Dr J. Krishnamurthy, Member Secretary, NNRMS SC-T, Deputy Director (US & U), EOS, ISRO, GOI and Chief Guest , Dr Dipak Sarkar, Director, NBSS & LUP, Nagpur, Dr S.K. Singh, Head, Regional Centre, Kolkata and Regional Coordinator of the Training programme)

STAFF TRAINED

- Dr. K. Karthikeyan, Scientist of SRS Division, attended a short course training programme on "Application of Nanotechnology in Soil Science and Plant Nutrition Research" conducted at IISS, Bhopal during September 18-27, 2012.
- Dr. V. Ramamoorthy attended one day training programme on "Research Methodology and Biostatistics" at PDADMS, Bangalore on 28-07-12.

Important Meetings Organized

JOINT RAC-QRT MEETING

Dr. M. Velayutham (Chairman RAC) and Prof. S.K. Sanyal, Chairman, QRT, NBSS&LUP attended a joint meeting of RAC and QRT held on 14th October 2012 at Nagpur to cross-learn from the experience of both the committees to give a clear direction to the Institute for way forward. Dr. Dipak Sarkar, Director brought out the research highlights, mapping programme and micro-watershed plans and also presented flagship and platform projects and future programmes of the Institute during the 12th Plan period.



(From R to L) Prof. S.K. Sanyal, Chairman, QRT, Dr. M. Velayutham, Chairman, RAC and Dr. Dipak Sarkar, Director, NBSS&LUP discussing during joint meeting of RAC – QRT held on 14th October 2012 at Nagpur

QRT MEETING

• The QRT team under the Chairmanship of Prof. S.K. Sanyal, Vice-Chancellor, BCKV and other member visited the Regional Centre Bangalore, Kolkata and Jorhat to review the research programmes of the Centres and the facilities developed during the last five years. The team had interaction with the scientists and all the staff at these centres. The QRT finalized the report and submitted its report to the ICAR.



QRT team during their visit to Research Laboratory at Regional Centre, Bangalore on 7^{th} September 2012

INSTITUTE MANAGEMENT COMMITTEE (IMC) MEETING

• Institute Management Committee (IMC) Meeting of the Bureau was held on 11th December 2012 at Nagpur to discuss the scientific, technical and administrative matters for the period March 2012 to December 2012.



A view of IMC meeting held on 11 December 2012 at HQrs. Nagpur under the Chairmanship Dr. Dipak Sarkar, Director, NBSS&LUP in presence of other Members of IMC viz. Sh. Prasad, SFAO, Dr. A. K. Biswas, Pr. Scientist, and HOD, Soil Chemistry Division, IISS, Bhopal, Dr. M.V. Venugopalan, Pr. Scientist, CICR, Nagpur, Dr. V. Ramamurhty, Pr. Scientist, Regional Centre, Bangalore, Dr. Rajiv Srivastav, Head Division of RSA and Sh. B.D. Phansal, CAO and Member Secretary.

Awards/Honors/Recognition

AWARDS

- Best poster presentation award for the paper Effect of Climate Change on Carbon Reserves in Soils of Palampur, Himachal Pradesh, India by Ray, S.K., Tiwary, P., Nimje, A.M., Chandran, P., Karthikeyen, K., Bhattacharyya, T., Sarkar, D., Prasad, J., Bhaskar, B.P., Sheikh S.M., and Balbuddhe D.V. in the ISSLUP National Seminar, October 12-13, 2012.
- Pradip Sen, S.K.Singh, Dipak Sarkar and Amit Mazumdar jointly received the Shri Ram Award 2012 instituted by FAI Marketing New Delhi for their outstanding contribution in the field of "Web and Mobile based Farmers Advisory in West Bengal".
- Best poster presentation Award by ISSLUP, Nagpur. for paper entitled "Development of crop specified AESRs for production enhancement – A case study for cotton growing Black Soil Regions of Maharashtra" by C. Mandal, D.K. Mandal, S.N. Goswami and Dipak Sarkar during the National Seminar on Managing land resources for sustainable Agriculture held on October 12-13, 2012.

Other Activities

INAUGURATION OF ICAR GUEST HOUSE

Renovated ICAR Guest House located at Krishi Kunj, Nagpur was inaugurated by **Dr. S. Ayyappan, Secretary DARE and DG, ICAR** Govt. of India on 24th **November 2012** in presence of Dr. C.D. Mayee, Ex Chairman, ASRB, New Delhi; Dr. Swapan Kumar Datta, DDG (CS) ICAR; Dr. R.G. Dani, Vice-Chancellor, PDKV, Akola; Dr. Dipak Sarkar, Director, NBSS&LUP (ICAR); Dr. K.R. Kranthi, Director, CICR (ICAR) and Dr. V.J. Shivankar, Director, NRCC (ICAR).

Dr. Ayyappan appreciated the efforts made by ICAR Institutes located in city namely NBSS&LUP, CICR and NRCC. The facility developed for comfortable stay for all ICAR employees in the country as well as officials from State Agricultural Universities (SAU's) and State Agricultural Department and other Govt. organizations.



A view of inauguration of Guest House at Krishi Kunj, Nagpur by the hands of Dr. S. Ayyappan, Hon'ble DG, ICAR & Secretary DARE, New Delhi held on 24th Nov. 2012. From Left Dr. C.D. Mayee, Ex-Chairman, ASRB, New Delhi, Dr. S. Ayyappan, Hon'ble DG, ICAR, New Delhi, Dr. R.G. Dani, VC, PDKV, Akola, Dr. Dipak Sarkar, Director, NBSS & LUP, Nagpur and Dr. V.J. Shivankar, Director, NRCC

FOUNDATION DAY CELEBRATION

National Bureau of Soil Survey and Land Use Planning (ICAR) celebrated its 36th Birthday as Foundation Day held on 23rd August 2012 with great fervor and enthusiasm. On this occasion Dr. Dipak Sarkar, Director of the Bureau narrated the past, present and future of the Bureau with emphasis on its road map, achievement and projects in pipeline as per pressing demand of the country. Ex-Directors, Head of Regional Centres, Divisions and other staff were felicitated on this occasion. Dr. C.D. Mayee, Ex Chairman ASRB (ICAR), New Delhi and Chief Guest of the function delivered Foundation Day Lecture on "Management of Natural Resources for Achieving the Second Green Revolution". He stressed for 2nd Green Revolution and self sufficiency in food production and also highlighted the deteriorating ecosystem due to faulty packages of practices. He put a challenge to the scientists to see the threat of climate change and ways to revert it by developing

appropriate genotypes and marker assisted selection. He also stressed upon convergence of knowledge from different faculties in achieving the livelihood security and nutritional quality of food. The Guest of Honor **Sh. B. Venugopal Reddy**, IAS the Divisional Commissioner of Nagpur Division pointed out that drought and flooding situation in Vidarbha and administrative problems for tackling these situations. He stressed upon *in-situ* conservation of rainwater and recharging of aquifer so that we can increase the area under irrigation and/ or to provide live saving irrigation to crops.



Sh. B. Venugopal Reddy, IAS, Divisional Commissioner and Guest of Honour felicitating one of the ex-employees of the Bureau during Foundation Day Ceremony held on 23th August 2012 in presence of Dr. C.D. Mayee, Ex Chairman, ASRB and Chief Guest of the function and Dr. Dipak Sarkar, Director, NBSS&LUP, Nagpur.

KRISHI VIGYAN MELA

Participation in Kisan Mela/Farmer's Day

• Regional Centre, Kolkata participated in the 2nd India Crop Summit 2012 during 17th and 18th September, 2012 at Netaji Indoor Stadium, Kolkata and displayed research activities based on soils of Eastern States..



Staff, NBSS & LUP (ICAR), Regional Centre, Kolkata exhibiting publications of NBSS & LUP on eastern states during India Crop Summit 2012.

MONTHLY INTERACTION MEETING

As per the directive from ICAR, a monthly meeting of Scientists and Technical Staff has been organized regularly alongwith presentation from one of the scientists of the Institute on a theme based on Mandate. One such interaction meeting was held on 23rd July 2012 in which Dr. Pramod Tiwari, Scientist has delivered a talk alongwith on "Development and Evaluation of Decision Support System for integrated water resources management".



Dr. Pramod Tiwari, Senior Scientist delivering a talk in monthly meeting of Scientists and Technical staff held on 23.7.2012 at HQrs. Nagpur

NEW ENTRANTS

- Dr. S.G. Chaudhuri joined as a Principal Scientist at Regional Centre, Kolkata on 7.7.2012
- Sh. G.C. Prasad joined as Sr. FAO at HQrs., Nagpur on 21.08.2012
- Sh. Sumit Sindhu joined as Assistant at Regional Centre, New Delhi on 14.09.2012
- Sh. Toran Prasad joined as Assistant at HQrs., Nagpur on 18.09.2012
- Ms Bedantika Datta joined as Assistant at Regional Centre, Kolkata on 6.10.2012
- Ms. Chandrakala M. joined as Scientist (Soil Sci. Pedology) at HQrs., Nagpur on 10.10.2012

STAFF RETIREMENT

- Shri M.K. Naskar, SSS, Regional Centre, Kolkata retired on superannuation on 31.07.2012
- Shri B. N. Bag, Driver, T-5 of Regional Centre, Kolkata retired on superannuation on 31.08.2012
- Sh. B.K. Saha, PA, Regional Centre, Kolkata retired on superannuation on 31.08.2012

OBITUARY

- Sh. Ramaji Giri, Driver (T-2) Regional Centre, New Delhi expired on 29.07.2012
- Sh. Vinay Landey, Sr. Technical Assistant (T-4), LUP Division, HQrs., Nagpur expired on 17.12.2012.

Visitors

Headquarters, Nagpur

Dr. H.A. Kwajaffa, Chairman, and Dr. Touba Bediwgar, Member, National Cotton Association, Nigeria alongwith their Team.



Dr. Dipak Sarkar, Director interacting with members of National Cotton Association, Nigeria on their visit to NBSS&LUP on 2.11.2012

- Prof. S.K. Sanyal, VC, BCKV, Mohanpur, West Bengal and Chairman QRT, NBSS&LUP
- Dr. M. Velayutham, Chairman, RAC, NBSS&LUP
- Prof. M.S. Kuhad, EX Registrar, HAU, Hisar and Member, QRT, NBSS&LUP
- Dr. A.N. Singh, Member, QRT, NBSS&LUP
- Dr. C.J. Thampi, Ex Head, Regional Centre, NBSS&LUP, Kolkata and Member, QRT, NBSS&LUP
- Dr. S.M. Virmani, Ex-Principal Scientist, ICRISAT
- Prof. Sanjay K. Dwivedi, IGKV, Raipur alongwith 26 students of B.Sc. (Ag.), final year.

REGIONAL CENTRE, BANGALORE

- 45 students of final year B.Sc.(Agri) Agriculture College, Ranchi, Birsa Munda University, Ranchi, Jharkhand and three faculty members visited Regional Centre, Bangalore. They were explained with the activities and achievements of Regional Centre in soil resources inventorization
- Dr. Joseph Britto and Dr Pusparath, Centre for Social Marketing visited and had discussion with Scientists of Regional Centre, Bangalore.
- Sri M.S. Goudar, Commissioner, Karnataka State Watershed Development Department
- Dr T. S. Ashok Kumar, IFS, Member Secretary and Controller of Examinations, J&K Public Service Commission.

REGIONAL CENTRE, JORHAT

Dr. S. Ayyappan, the Hon'ble Director General, ICAR and Secretary, DARE, Govt. of India visited the Regional Centre, Jorhat on 11.11.2012 and interacted with Scientists and other staff. Dr. Dipak Sarkar, Director is explaining the activities of the Centre.



Dr. Dipak Sarkar, Director, NBSS & LUP interacting with Hon'ble Director General, ICAR, Dr. S. Ayyappan on 11.11.2012 about activities of the Regional Centre, Jorhat in the presence of Dr. U. Baruah, Head and other Scientists.

- Dr. A.K. Gogoi, Zonal Project Director, Zone-III, ICAR Research Complex, Barapani
- Prof. M.S. Kuhad, Chairman, QRT team visited on 21.07.2012.
- Dr. A.N. Singh, Member, QRT team visited on 21.07.2012.
- Dr. C. J. Thampi, Member, QRT team visited on 21.07.2012.
- Dr. T. Lotha, Deputy Director, Directorate of Soil Conservation, Govt. of Nagaland
- Dr. S. Chetri, Joint Director, Directorate of Soil Conservation, Govt. of Nagaland.

REGIONAL CENTRE, KOLKATA

- Prof. S.K. Sanyal, VC, BCKV, Mohanpur, West Bengal and Chairman QRT, NBSS&LUP
- Dr. M. Velayutham, Chairman, RAC, NBSS&LUP
- Prof. M.S. Kuhad, EX Registrar, HAU, Hisar and Member, QRT, NBSS&LUP
- Dr. A.N. Singh, Member, QRT, NBSS&LUP
- Dr. C.J. Thampi, Ex Head, Regional Centre, NBSS&LUP, Kolkata and Member, QRT, NBSS&LUP

From Director's desk...



Dr. Dipak Sarkar DIRECTOR NBSS&LUP (ICAR), Nagpur

National Portal on Soils – New initiative...

The neglect and deterioration of the land resources and consequent decline in the productivity is continuing without any check for many years in the country and its impact will be felt severely on the environment and economy of the nation in the future.

It is a fact that the root cause for the degradation, neglect and irrational use of land resources exists at the grassroots/farm level, and any initiative to solve them should be at that level only. For this, the first and foremost thing needed is a detailed site-specific database on land resources at the farm level for all the villages in the country.

The detailed digital database on soil (physical, chemical and biological) is a pre-requisite to address the various issues related to scientific Land Use Planning, soil reclamation; proper diagnosis of soils, judicious use of irrigation water and chemical fertilizers, nutrient deficiencies for maintenance of sound soil health and land productivity. However, the existing database in the country, **particularly on soil is inadequate to develop micro-level agricultural land use plan in the country, for which the needed scale of resolution is 1:4,000/10,000/12,500.**

In this scenario, the proposed project on **"Soil Resource Mapping for Farm Planning in India"** aims to provide the required site-specific database needed for farm planning, for all the villages in the country in a phased manner. The detailed database generated at village level and its subsequent abstraction to mandal, taluk, district, state and country level will also form the basis and provide the required information needed for prioritizing, initiating and executing any land-based developmental programmes in all the states now and in the future.

The project will be implemented by involving various state level institutions responsible for the conservation and management of the fast degrading land resources in their respective states, like the State Departments of Agriculture, Agricultural Universities, State Remote Sensing Applications/Service Centres, National Remote Sensing Centre, Soil and Land Use Survey of India, State Land Use Boards and Departments of Geology/ Geography/Land Use in other Universities having well established GIS and lab facilities.

The National Bureau of Soil Survey and Land Use Planning (ICAR) will act as a nodal agency by providing the required scientific/technical back up needed to implement the project at different levels in the country. The National Informatics Centre (NIC) will facilitate the implementation of this project at different levels by providing the required hardware and software facilities and programmes and to make available the farm/village level database generated to various land users and line departments in the country.

The expected outputs from this project will have great practical value, specifically useful for site-specific farm and village level planning, soil-based watershed development and wasteland development, strategic planning for land use, efficient cropping zones, fertilizer recommendation, proactive advice to farmers, and monitoring the state of health of the Natural resources through a continuing watch at benchmark sites and hot spots.

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