ICAR Reporter

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News in Brief

From the DG's Desk

Dear Readers,

Indian agriculture continues to be considerably dependent on monsoon. Intermittent onslaughts of drought have adversely affected agricultural productivity, profitability, and finally livelihood and food security of our vast population. After the famine of forties in pre-independent India, onset of Green Revolution in the sixties brought food self-sufficiency. Thereafter, the first severe drought was encountered in 1987. Again we faced adverse impact of monsoon failure in 2002 when *kharif* production went down considerably, and consequently total foodgrains production dropped down by 38 million tonnes.

Despite predictions of a normal monsoon during the on-going year, we faced drought-like situations in June to early August, 2009, which is a vital period for *kharif* crops, affecting adversely both sowing and transplanting and crop stand and growth. This drought has reminded us once again the dire need of investing heavily in water harvesting, judicious and effective use of water and in increasing water productivity to mitigate ill-effects of such severe droughts. In fact, this calls for a heavy investment and maximizing water resources in a medium to long run to ensure our food security, an integral part of our national security. This is primarily so as we are 1.1 billion people, and likely to surpass China in coming decades in becoming the most populous nation. Hence, we will have to essentially enhance and intensify our efforts on increasing productivity, minimizing losses, and sustaining agro-based livelihood security.

In drought, livestock provides much needed sustenance while they are the most adversely affected lot. Thanks to the good late rains that this situation for the time-being has been averted. Hence, in our country, we essentially need to have a feed and fodder bank policy. As feed-fodder compaction and fortification technologies are available, enriched feedblocks can be made and stored to manage such contingent situations in years to come; such a situation is likely to arise not only due to drought but due to floods as well. This calls for investment at

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least on the regional basis to ensure feed and fodder security to livestock, which is 15% of the total livestock population of the world. The second casualty is seed and planting material. As farm produce is lost and farm-saved seeds are used for food in scarcity, seeds are not available for sowing in the subsequent season. For growing catch crop/alternate crop, seeds of appropriate varieties of right crops are also not available in such an emergency. It is in this context that a policy in perspective with considerable investment is required to be put in place to produce and store seeds as an *ex-ante* decision to meet contingent situations. To meet the requisite quality of seeds, seed atlases are needed to be prepared and put to use.

As we go along, we will also have to perfect and commercialize tissue-culture technologies at a large scale. This would act as a substratum not only in producing disease-free materials but also ensuring availability of right kind of material in large quantities. Initially, this can be taken for perennial plants, and subsequently for biennials and annuals.

Intercropping, mixed-cropping and *paira/utera* cropping using oilseeds and pulses hold promise. Indeed, crop by crop, region by region, situation by situation and system by system, technology packages and for different crops and commodities advisories are available on the ICAR web site (www.icar.org.in). This is required to be effectively made use of to boost agricultural productivity and production in the ensuing *rabi*.

Apart from use of improved technologies and adequate inputs, need is to bring vast area under cultivation that is lying fallow in a number of states. In such a scenario, underground and stored water holds the key. In Asom on account of shallow tube-wells, which were initiated in the late nineties, there was increase in productivity during *rabi*. This can as a policy, be extended on a large scale in northern Bihar, where even productivity or *kharif* crops productivity would be enhanced if water-table goes down, due to enhanced use of underground water in *rabi* crops. This would subsequently enhance cropping intensity as well.

To harvest energy in encapsulated food and feed, electricity as a source of energy holds the key in rural areas, where diesel, animal and human-based energy, which is costly, is utilized the most in the agriculture. This is required to be altered with effective electrification of rural areas, and with supply of quality power to ensure that agriculture is viable and cost-effective.

There are path-breaking decisions on the nutrient-based subsidy, fortified fertilizers and transport subsidy but these need to be put to effective implementation to address soil-health concerns on the priority.

Conservation agriculture is brought to bear in about 3 m ha in the Indo-Gangetic alluvium. We had an International Congress on 'Conservation Agriculture', and its recommendation are available on the ICAR web site. The Council has also taken steps to modify its research agenda by involving Directors of all the ICAR Institutes and Vice-Chancellors of all the State Agricultural Universities in August 2009. Nevertheless, to harness the fruit, the technologies available are to be put to use with accelerated extension efforts.

All the Krishi Vigyan Kendras in operation in over 560 rural districts in the country are empowered and backstopped with relevant technologies. Extension requirements of today are different from what they were in the past. They need to be knowledge-intensive, specific in extent, content and quality to meet users' diversified needs. Technology transfer, now needs to answer questions: what is to be done? why to be done? how to be done? when to be done? and what not to be done ?

Colossal losses in harvesting and also because of glut in the market, fluctuations in prices of essential commodities have been observed. Say five months back, potato was sold at Rs 2 per kg and today it is Rs 20 per kg. Such a situation calls for maximum resource mobilization for ensuring cold storage facilities and cool-chain facilities to ensure stability in the availability of perishable commodities to consumers at a reasonable price. Along with, we need to invest intelligently in processing, product development, value-addition, storage, transportation and marketing system, if we want to compete and compete effectively, locally, regionally and globally.

We often forget that the producer, the farmer etc. suffer twice: first, when they do not get the worth of their produce because of man-made and natural calamities, and secondly when they have to buy consumable items from the market. To start with, availability of right kind of inputs at the right time holds the key to help them. The spurious seeds, insecticides and now even fertilizers are becoming an impediment and a bottleneck to enhance farm productivity substantially. Hence, quality control and quality law enforcement is crucial. We have to think of bringing a systems reform by even contemplating a system of having effective outlets for these essential ingredients for agriculture at each of the petrol pumps in the rural areas where farmers go for refilling, as tractors, diesel pumps etc. have become an essentiality with our rural community.

In a nutshell, we have appropriate technologies, manpower, knowledge, only we have to tap all these resources in unison to enhance *rabi* productivity and production to ensure our food security, and also we need to invest rather heavily in coming decades to cope with the ever-growing requirements with limited soil and water resources.

Mangala Rai
e mail: mrai.icar@nic.in

WORKSHOPS, MEETINGS, SEMINARS, SYMPOSIA, CONFERENCES

Technology for Agricultural Drainage

Bhopal. 16 September 2009. A 2-day workshop on Drainage Technology, sponsored by National Committee on Plasticulture Applications in Horticulture (NCPAH), Ministry of Agriculture, Government of India, was inaugurated on 15 September 2009 at the Central Institute of Agricultural Engineering (CIAE).

Dr T K Sarkar (Ex-Project Director, Water Technology Centre, IARI, New Delhi), Chief Guest of the function, emphasized on the importance of agricultural drainage and its impact on environment and increasing productivity of crop land in the scenario of reducing per caput availability of land. Participants belonged to different State Governments, Research and Development Organizations, State Agricultural Universities and Industries.

Dr Pitam Chandra (Director, CIAE, Bhopal) emphasized the importance of Precision Farming and need of National Agricultural Drainage Policy for large-scale implementation to boost agricultural production. Two technical bulletins related to irrigation and drainage engineering were also released.

On this occasion an exhibition was organized and 2 firms manufacturing drainage materials and 5 firms manufacturing irrigation equipment participated.

e mail: director@ciae.res.in

Plastics in Agriculture Workshop

Srinagar. 20 August 2009. Prof Anwar Alam (Vice Chancellor), SKUAST-K) inaugurated a 3-day workshop of AICRP on Application of Plastics in Agriculture on 18 August 2009 at Shalimar, Srinagar. He stressed on promoting surface covered cultivation, rainwater harvesting, water conservation through plastic-lined pond etc. He told that by the usage of plastic-lined ponds 33% water saving is achieved, and by usage of drip irrigation 35-50% water saving and almost same percentage increase in the agricultural production with good quality is achieved. He elaborated on other usage of plastics for polyhouse, mulching, nursery raising and vegetative propagation in polyhouse, which can tremendously increase the income of the farmers.

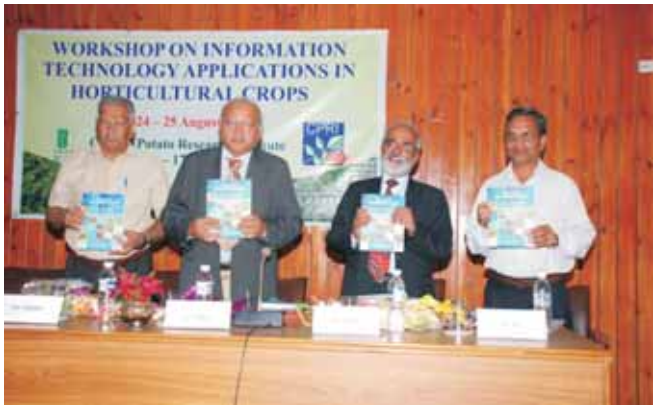
Dr M M Pandey, Deputy Director General (Engg.) mentioned that challenges facing Indian agriculture are ever-growing input cost and lower or stagnant output cost. These are demotivating farmers. Hence, high quality high-value, off-season vegetables grown in polyhouse can offer the much needed extra revenue even to small farmers. Dr R T Patil, Director, CIPHET stressed upon the problems and challenges

faced by Indian agriculture such as scarcity of water, climate change and fragmentation of land holdings due to increasing population. The use of plastic in polyhouse, micro-irrigation has come to the rescue of the Indian farmers just like zero-till drill in farm mechanization. The equation of half input and twice output is a wonder equation which needs to be converted into reality in the farmers' field and hence the post-harvest engineers and the team associated with them need to work hard to popularize this technology. There is a need to sensitize the hardware store and agro-service centres in rural areas for the construction and maintenance of polyhouses. There are many schemes of the Government for demonstrating the polyhouse technology but they are not supported with network of dealers and maintenance people accessible in the rural areas and hence, the transfer of technology remains ineffective. The minimal processing and proper management and value-addition to commodities grown with the greenhouse technology are also important. The higher productivity may result in glut in the market and reduce the profitability of farmers, hence simultaneous technology support of post-harvest management and value-addition technology are very essential. Higher production of commodities through intervention of APA should utilize the technology developed at CIPHET and AICRP on Post-Harvest Technology for their proper handling, preservation and value-addition.

e mail: rtpatel@sify.com

Information Technology Applications in Horticulture Crops

Shimla, 24 August 2009. Dr H P Singh, Deputy Director General (Horticulture), ICAR inaugurated a 2-day workshop on 'Information Technology Applications in Horticultural Crops' at Central Potato Research Institute on 24 August 2009 and said that information technology is very important to take challenges of change, which continue to happen and how we take challenges determine our success. We can meet the challenges of 21 century only if we are prepared. Use of IT in the ICAR system is rather new, and this workshop was organized so that the scientists working on IT get an opportunity to learn from the experiences of each other and explore the ways and means to augment the use of IT in agriculture and particularly in horticulture. There were 80 participants and 38 presentations on crop modeling, remote sensing and GIS, decision support systems and databases, e-books on ARIsoft solution developed at ISSR, Calicut, initiatives of NIC in ICT dissemination for horticulture and on Bio-informatics for genome analysis of plants. Six working groups on GIS: Decision Support Systems; Precision Farming and Expert Systems; Office Automation; Bioinformatics; Germplasm Management; and Disease Forecasting were identified to prepare the road maps for implementing/integrating various programmes of Information Technology on Horticultural Crops.



Dr S K Pandey (Director, CPRI) while speaking on IT in Horticultural Crops said that Information Technology is the *Mantra* for success in 21st century. The Chairman of the Inaugural session Dr R K Sood, Secretary (EC), State Council of Science, Technology and Environment, Government of Himachal Pradesh, Shimla stated that Information Technology is helpful in collecting, managing and integrating the available information for sustainable planning.

e mail: dircpri@sancharnet.in

Fish Genetic Resources of India

Lucknow, 25 July 2009. The National Bureau of Fish Genetic Resources organized a 2-day national workshop on 'Evaluation and Valuation of Fish Genetic Resources of India' that during 24-25 July 2009. The workshop was focused on addressing the conceptual and methodological issues related to the valuation of aquatic genetic resources. The participants from various organizations including ICAR fisheries institutes, NCAP, New Delhi and IIT, Mumbai attended the workshop. Dr W S Lakra (Director, NBFGR) emphasized the need of valuation of aquatic genetic resources as a national priority, wherein the role of stakeholders and community should be well defined; and added that the required literature in this field is very scanty. The participants made important presentations related with the strategies to evaluate the aquatic germplasm. Dr Ganesh Kumar (NCAP) explained benefits of aquatic resources in ecological and economic contributions, and further added various economic models used for valuation of biodiversity, pricing methods and a concept of gene bank costing techniques.

e mail: nbfgr@sancharnet.in

Nutritional Strategies for Improvement in Quality of Life

Pantnagar. 12 September 2009. A 2-day seminar on 'Nutritional strategies for improvement in quality of life', organized by the Department of Foods and Nutrition, College of Home Science, Govind Ballabh Pant University of Agriculture and Technology, Pantnagar, was started on 11 September 2009. Dr R T Patil (Director, Central Institute for Post-Harvest Engineering and Technology, Ludhiana) inaugurated seminar in Dr Ratan Singh Auditorium. Dr Umesh Kapil (Professor and Head, Division of Human Nutrition, AIIMS, New Delhi) was the guest of honour and Dr B.S. Bisht (Vice-Chancellor, GBPUAT, Pantnagar) presided over the inaugural session.

Dr R.T. Patil said that *dal* (pulses) is the main source of protein in the diet of vegetarians. Less intake of protein results in degenerative diseases like diabetes, fatigue, tiredness and less efficiency. He emphasized the need of value added protein-based food and health drinks.

Dr B S Bisht highlighted the importance of human resource development for which various agricultural universities and traditional universities are working. He said that keeping in view the integral relation of food with agriculture ICAR has also established a number of research institutes in this area. He expressed concern that very small quantity of foodgrains, milk, meat, fruits and vegetables produced in India are being processed. He said that there is a need of food processing industries to come up. Uttarakhand has taken lead in the development of food park in Hardwar, he added.

e mail: vc@gbpuat.ernet.in

National Conference of State Fisheries Ministers

Bhubaneshwar. 5 July 2009. Union Minister for Agriculture, Shri Sharad Pawar, chaired a 2-day National Conference of State Fisheries Ministers on 4 and 5 July 2009. Shri Naveen Patnaik, Chief Minister of Orissa was the Chief Guest of the function. Prof. K V Thomas, Union Minister of State for Agriculture, Consumer Affairs, Food and Public Distribution attended the function as the Guest of Honour. Dr Mangala Rai (Secretary, DARE and Director General, ICAR), and Dr S Ayyappan (Deputy Director General, Fisheries, ICAR) were instrumental in conducting the conference and delivered the key note addresses. The primary objectives of the meeting were to develop a road map for enhancing fish production to 10 million tonnes by 2012 from the present level of 7.13 million tonnes and avenues to meet domestic demand and to increase export earning potential in terms of value-added products and ornamental fish trade. The livelihood and economic security of fishers was also one of the main issues discussed in the

conference, as also interventions required in areas of technology, infrastructure, marketing and capacity building. The ICAR was directed to carryout an intensive and comprehensive study and survey of socio-economic conditions of fishermen so that a national policy on welfare of fishermen could be developed based on reliable data.

e mail: icarreporter@rediffmail.com

Focusing Research Priorities for Quality Litchi Production and Export

Muzaffarpur. 2 September 2009. National Research Centre for Litchi organized a 2-day Brain Storming Session on "Focusing Research Priorities for Quality Litchi Production and Export" on 1 September 2009, to prioritize area-specific need based research

programmes to solve the growers problems, to enhance productivity and profitability. Dr K K Kumar (Director, NRC Litchi) highlighted the progress of research and new initiatives made at the centre. The important aspects of discussion during the deliberations were on to increase variability through seedling/clonal selection along with genomics and molecular characterization of litchi cultivars, using GIS for identifying non-traditional locations/areas for litchi growing, to give a holistic approach of litchi production system including nutrient, water, pesticide management, root as well as associated microbial studies, canopy management, increasing pollination efficiency, standardization of efficient propagation techniques, mechanization in litchi (viz. cultivation for harvesting, developing peeling machine, de-stoning machine etc). At post-harvest level processing and value addition with development of new products were also discussed in detail.

Recommendations that emerged in each of the scientific sessions were further discussed and finalised in the plenary session, which was chaired by Dr H P Singh, Deputy Director General (Horticulture) who expressed his concerns on the problems of farmers, processors and industries along with appropriate suggestive measures. He also suggested that NHB and NHM may be advised to support farmers for mechanization, skill development as well as market expansion and export.

e mail : nrclitchi@yahoo.co.in

Environmental Sustainability of Brackishwater Aquaculture

Chennai. 30 July 2009. The Central Institute of Brackishwater Aquaculture celebrated the ICAR Day and the CIBA Foundation Day, by organizing a Brainstorming Workshop on 'Environmental Sustainability of Brackishwater Aquaculture' at the Institute (Headquarters) in Chennai. Dr R Paulraj, Member-Secretary, Coastal Aquaculture Authority, Government of India, Ministry of Agriculture, was the Chief Guest of the function and delivered the inaugural address.

During inaugural session the decision support software on 'Estimation of carrying capacity of water body for shrimp farming' developed by CIBA was released. This software is highly useful for the estimation of maximum area under shrimp farming for a selected water-body and also useful for constructing future guidelines and policy decisions for environmentally compatible and sustainable development of shrimp farming. This will also help the maritime state governments and other regulatory organizations to regulate the level of shrimp farming activity for each receiving water-body. This software can be also used by private entrepreneurs and aqua-farmer cluster groups, who would like to develop large areas for shrimp farming, as a planning tool so as not to exceed the carrying capacity of the receiving water body. Three technical sessions were conducted, viz. (*i*) ecosystem carrying capacity assessment and integration of aquaculture into integrated coastal zone management (ICZM),

Performance of Rainwater Harvesting Unit with Micro-irrigation System

Bengaluru. Zonal Project Directorate, Zone VIII, conducted a 1-day meeting to review the progress made at 14 KVKs where Rainwater Harvesting Unit with Micro-Irrigation System was provided by the ICAR. This meeting was conducted specially in the context of prevailing drought in some districts of Southern State. Nine KVKs from Karnataka (Bijapur, Gadag, Hassan, Tumkur, Gulbarga, Dharwad, Haveri, Chitradurga and Chickmagalur; 4 KVKs from Kerala (Pathanamthitta, Kannur, Kollam and Malappuram) and 1 KVK from Tamil Nadu (Perambalur) presented the achievements made with the establishment of above facility.

The components of rainwater harvesting system varied from very simple to the complex systems from one KVK to other. However, mainly the system included farm bunds, waste weirs, infiltration wells, bore-well recharging pits, sub-surface dams, plantation of grass and forest plant species, check dams, rain gauges, sunken ponds, roof top water harvesting structures, storage ponds, recharging of

existing open and bore wells, contour bunds, percolation ponds, loose rock check dams, gabion check dams, graded bunds, trenches, compartmental bunds and subsurface dykes.

The subsurface dyke at Krishi Vigyan Kendra, Kannur, Kerala, proved an effective method for groundwater conservation. This sub-surface dyke has demonstrated that it is a feasible method for conserving and exploiting the groundwater resources. The dyke is now the largest rainwater harvesting system in the Kannur region.

e mail: kdkokate@icar.org.in

(*ii*) discharge water treatment of brackishwater aquaculture farms, and (*iii*) environmental monitoring of coastal water-bodies, and the discussions were focused on selected points in each session. 'Drivers of Change' a film on the ICAR was screened during the Workshop.

Recommendations

Based on the deliberations in the sessions the following action points were identified to make the coastal aquaculture environmentally sustainable:

- Institutes like CIBA and Centre for Environment Studies and Institute of Remote Sensing, Anna University and other related organizations should work together to create database on aquaculture impact on water quality and to increase public awareness on the fact that 'aquaculture is not polluting the environment'.
- Integrated coastal zone management plans should integrate aquaculture in the planning stage.
- Discharge water treatment system should be demonstrated in farmers' fields to prove that it is economical and feasible.
- Research work on aqua-feed digestibility, FCR, fatty acids and minerals imbalances in relation to nutrients/suspended particles loading, on priority.
- Identify the mechanisms for environmental monitoring of water-bodies and ways and means to make availability the related data to the farmers.

e mail: vsc1955@gmail.com

State Agriculture/Horticulture Ministers Meet 2009

New Delhi. 21 August, 2009. State Agriculture Ministers and Horticulture Ministers met in a Conference under the Chairmanship of Union Minister of Agriculture, Shri Sharad Pawar, to discuss the situation arising due to deficit monsoon, 2009. They deliberated upon possible mitigation measures. Shri Pawar focused on grim situation of monsoon in 246 districts in 10 states. He added that he had a meeting of the food ministers of the states on the 19 August and it was a matter of satisfaction that adequate stocks of foodgrains are available due to record procurement operations last year. In fact, production of the total foodgrains achieved record levels, with rice production touching 100 million tonnes and wheat production 81 million tonnes. Food ministers of the State have assured that the State Food Department and its agencies are geared up to ensure that the adequate quantities of foodgrains are accessible to everybody.

Shri Pawar said that prolonged dry spells at the critical crop growth period could also impact the crop health and consequently the productivity of the crops.

For the paddy crop area that could not be sown due to unfavourable climatic condition, there is an urgent need to promote alternate crops like *toria*, pulses, sunflower, *bajra* or fodder and vegetables.

Weather based agriculture development plan, which is being updated daily is available on the website of the ICAR. This plan informs farmers the correct package of practices in different agro-climatic zones as per the changing weather conditions. The ICAR field organizations, research institutes, State Agricultural Universities and the Krishi Vigyan Kendras are disseminating this information among the farming community. He urged that State Governments to gear up the extension machinery to increase their reach up to the farmers with useful knowledge inputs for helping the farmer with right advice.

Union Minister of Agriculture focused on diverse agro-climatic range and said that different types of crops in different regions can contribute even if some crop in some region is lost to some extent. There is a need to exploit such diversity to normalize the expected agriculture production particularly for the food crops. Schemes like NREGA and IWDP can help in creating rainwater harvesting, ground-water recharge structures for on farm moisture conservation. It is time that agriculture department takes advantage of such schemes for accelerating the agriculture development programmes in the States.

There is a good potential to exploit ground-water particularly in the Eastern Region of the country. States should accord priority to developing such water sources like shallow tubewells, dug-wells, farm ponds on farmer' fields. Use the Rural Infrastructure Development Fund (RIDF) to dig shallow tubewells in the potential areas on an urgent basis. Punjab and Haryana farmers have demonstrated the importance of developed ground-water sources by completing the sowing in time despite getting scanty rainfall during the current monsoon.

Despite all efforts, emergency relief measures are need to be taken in many states to mitigate the suffering of the poor. To extend the relief measures in the affected area immediately, Calamity Relief Funds are available to the States in advance. Considering the magnitude of the problem, the Central Government has also released the first instalment of CRF to Asom, Bihar, Jharkhand and Uttar Pradesh, pending submission of the utilization certificate for the previous allocation. As to the additional fund requirement, on receipt of memoranda from Jharkhand, Uttar Pradesh, Manipur, Bihar, Madhya Pradesh and Karnataka seeking additional central assistance under NCCF, the Indian Government immediately constituted Inter-Ministerial Central Teams that are currently visiting these states and have got assessed the ground situation. On the basis of their recommendations, needed additional

amounts would be released at the earliest by the empowered high level committee of ministers.

There is a need to create similar set up in the affected states also for regular review of the developing situation. To ensure proper co-ordination and exchange of information, control rooms should be activated at the State capital and district levels and it should be ensured that these control rooms are in regular touch with the control room in the Ministry at the centre.

All the Ministers of Agriculture agreed that actions, as under, will be taken:

Actions to be taken by the Central Government

- Formulate a scheme for large-scale sinking of shallow tubewells, involving NABARD loans and an element of subsidy for the farmers in drought affected districts amenable to exploitation of groundwater.
- The primary requirements faced by farmers in late *kharif*, pre-*rabi* and *rabi* 2009 would be that of seeds, National Seeds Corporation and State Farms Corporation of India would endeavour to ensure that seeds for the requisite crops are available to the State Governments. In case, it is so required, the relaxation allowed by the Central Government for inclusion of Truthfully Labelled (TL) seeds under Rashtriya Krishi Vikas Yojana would be extended till *rabi* 2009.
- NABARD would be advised to commence a drive on providing loans specifically meant for the shallow tubewells programme and short-term credit.
- The Krishi Vigyan Kendras and other ICAR institutions in the states would assist the state governments in preparing advisories for the farmers, in the matter of varieties, alternative crops, pest surveillance and pesticide use, nutrient requirement etc.
- Services of *Doordarshan* and All India Radio would be utilized both by the Ministry of Agriculture and the State Governments to launch an extensive awareness campaign amongst the farmers.
- Wherever feasible, depending upon availability of surplus power, Central government would provide additional power from the Central Pool to the States for irrigation purposes.
- Ensure availability of fertilizers in accordance with the requirements of the states determined during the Zonal Conference jointly by Department of Agriculture and Co-operation and Department of Forest and the State governments.
- The process of visit of central teams to those states which sent their Memoranda for assistance under the National Calamity Contingency Fund and clearance of the proposals of the Central Teams by the High Level Committee would be expedited.

Action to be taken by the State Governments

- The Crop Plan formulated would be put into operation for early *rabi*, *rabi* 2009 and summer crops.
- A seed requirement, availability and supply plan will be worked out on a realistic basis based on the Contingency Crop Plan and tie up with National and State seed agencies ensured to fulfill the requirement of seeds. In crops/varieties in which certified seeds are not available in the country, the option of truthfully labelled seeds would be explored. However, the states would take extra precaution to ensure quality standards of truthfully labelled seeds. A similar Seed Plan would be framed for *kharif* 2010.
- Organize a drive against spurious seeds and pesticide manufacturers and distributors and take stringent action against defaulters.
- Organize a 100% seed treatment campaign for balance *kharif* and *rabi* 2009 to enhance productivity.
- Ensure that the funds available through Central assistance in schemes such as RKVY, NFSM, NHM, ISOPOM, Micro-irrigation be fully utilized in 2009–10. Moreover, the state should ensure that, this year, funds under these schemes flow primarily for production and productivity increases, restoring of water-bodies, soil moisture conservation, micro-irrigation and expenditure on medium-term and long-term schemes/projects and those involving infrastructure would be put on hold.
- Take advance action in consultation with the fertilizer companies about movement of fertilizers to the districts based on the allocations by the Department of Fertilizer. The states should also

ensure that production units of SSP, physical mixtures and granulated mixtures are operational and achieve optimal capacity utilization. Those states which do not have a state agency for channelizing fertilizers should immediately identify such an agency to ensure adequate buffer stocks of fertilizers.

- Fully utilize the funds available from the Department of Drinking Water Supply for addition of new drinking water sources and repair of existing ones.
- Launch an intensive drive in collaboration with NABARD, to issue additional *Kisan* Credit Cards, and for this purpose meetings of the State Level Committee would be organized by the first week of September 2009.
- Those states which have declared drought, would undertake a realistic assessment of the distress caused and expedite submission of Memorandum for assistance under the NCCF.
- Immediately make functional a Control Room at the State Headquarters to monitor the situation on a regular basis and submit situation reports to the Control Room in the Union Ministry of Agriculture. The situation report, *inter-alia* should contain details of area sown, state of the crops, availability of seeds, availability of fertilizers, position of drinking water, fodder, reservoir situation etc.

e mail: icarreporter@rediffmail.com

Multi-agency Extension Approach for Agricultural Development

Bengaluru, 9 August 2009. A regional seminar was organized during 8-9 August 2009 on 'Strategies for Multi-Agency Extension Approach for Agricultural Development' at Zonal Project Directorate, Zone VIII. It was jointly conducted by International Society of Extension Education, Nagpur; University of Agricultural Sciences, Bengaluru; Indian Society of Extension Education (Karnataka) and Indian Council of Agricultural Research. Dr C D Mayee (Chairman, Agricultural Scientists' Recruitment Board, New Delhi) inaugurated it and about 70 participants attended the seminar. During the seminar a need for reorientation of extension strategies for agricultural development was emphasized. It was also stressed that multi-agency approach involving farmers, research and extension systems, other development agencies need to polarize on Participatory Technology Development and Dissemination methods.

e mail: kdkokate@icar.org.in

Launch Workshop on Mass Media Project

New Delhi. 9 September 2009. Dr Mruthyunjaya (National Director of the National Agricultural Innovation Project), Chief Guest, inaugurated a 1-day launch workshop of the Directorate of Information and Publications of Agriculture, ICAR-NAIP project 'Mobilizing Mass Media Support for Sharing Agro-Information', and emphasized the urgent need to bridge the widening gap between the agricultural technology generators and the users by exploring mass media and effective and potential message multiplier. And the present project is a right step in this direction.

Dr N T Yaduraju (National Coordinator, NAIP) while enumerating the genesis of the project, said that the project aims for the development of a scientist-media-farmer country-wide interactive-and-participatory network addressing the problem of technology information diffusion, dissemination and sharing. Dr T P Trivedi (Project Director, DIPA and PI) informed that the project is being implemented in a participatory and network mode called consortium consisting of nine partners. These centres, including seven ICAR institutes and two State Agricultural Universities (SAUs) will be equipped with the required facilities to take out effective communication and outreach activities showcasing the ICAR technologies to farmers and the various other stakeholders.

Capacity building of scientists through relevant trainings for better communication skills is another innovative activity of the project. DIPA is acting as a Nodal and Lead Centre for the implementation and monitoring of the project.

e mail: icarreporter@rediffmail.com

Hillary Clinton visits Indian Agricultural Research Institute

New Delhi, 19 July 2009. The United States Secretary of State Ms. Hillary Clinton lauded the achievements made by Indian Agricultural Research Institute, Delhi. She highlighted the long history of Indo-US cooperation in agriculture, and assured to strengthen it further for not only mutual benefit but also to address global concerns of food security.

Union Minister of Agriculture, Mr Sharad Pawar said that it was significant that she chose to visit an agricultural project in her first official visit to India as US Secretary of State, as the two countries prepared to work on the new agenda of bilateral co-operation.

Recalling the long history of cooperation between the two countries in agriculture, Shri Pawar said that now the two countries are at a juncture when they can also address global challenges of our time, such as food security, biosecurity, energy security, natural resources management and capacity building. Our joint collaboration in frontier areas of research including biotechnology could make a significant contribution to the world, Union Minister of Agriculture, Shri Sharad Pawar said.

Dr Mangala Rai (Secretary, DARE and Director General (ICAR), Ms Meera Shankar (Indian Ambassador to US) and Mr A K Upadhyay (Special Secretary, DARE) were also present.

e mail: icarreporter@rediffmail.com

Group Meeting of AICRP on Rapeseed-Mustard

Nagpur, 8 August 2009. The sixteenth Annual Group Meeting of AICRP on Rapeseed-Mustard, organized by Directorate of Rapeseed-Mustard, Bharatpur, was organized at College of Agriculture, Nagpur (Maharashtra) on 6 August 2009. The meeting was inaugurated by Professor S K Datta, Deputy Director General, Crop Science. He emphasized that rapeseed-mustard is a major source of income especially to the marginal and small farmers in rainfed areas, offers higher return with low-cost of production and low-water requirement. He stressed research on crop management practices focusing on mitigating the adverse climate change that need to be given a place of priority while formulating research strategies. The use of innovative agro-techniques, resource conservation technologies,

precision farming, contingency crop planning, etc are some of the indicative areas of frontier research areas, which can be taken up by researchers.

Professor Datta mentioned that for rapeseed mustard crop the future action plan and thrust areas—are

genetic enhancement for seed and oil yields, development of hybrids, varieties with heat and drought tolerant, developing surveillance mechanisms in view of changing climate, integrated management and optimization of scarce natural resources like rainwater, surface and groundwater, capacity building in emerging areas like bio-processing, bio-prospecting, bio-informatics and ICT and IPR management in view of the emerging global trends, post-harvest technology and value-addition, and strengthening market surveillance and market intelligence.

Dr Arvind Kumar, Director, DRMR Bharatpur, in his presentation informed the house that thirty-eight strains consisting 1 of *toria*, 36 of Indian mustard and 1 of taramira have been promoted for advance testing. Mustard hybrids NRCHJ 1103, 45S45 and PCJ 04-405 tested under initial hybrid trial have shown their superiority. Against the indents 132.2 q breeder seed of 63 rapeseed-mustard varieties was produced. He also reported that 26 co-operating centres conducted 612 FIDs in 67 districts across 17 states of the country. Under the normal sown irrigated conditions, the highest yield gap was 90.1, 24.3, 20.2 and 114.2% in case of mustard, *toria*, *yellow sarson* and *gobhi sarson*, in the whole package demonstrations.

e mail: icarreporter@rediffmail.com

Union Budget and Agriculture: More Focus Towards Demand Side

New Delhi, 9 July 2009. The 2009-10 budget was presented in a scenario of decelerating agricultural growth, rising food prices and growing uncertainty due to delayed and scanty monsoon. The agricultural growth has dipped to a low of 1.6% during 2008-09 compared to a high of 4.9% during 2007-08. This has led to rising wholesale prices of food commodities, but on the contrary the overall inflating was negative. The scenario in ensuing year is not too bright as the delayed and scanty monsoon would adversely affect agricultural production. Such a scenario warranted for more thrust to agricultural sector with respect to budget allocations and new programmes. On this count the budget has not included adequate provisions for ensuring a growth in agricultural sector. The focus of this budget is more towards demand side through expanding the existing programmes or initiating new programmes and allocating more outlay for inclusive growth through social safety net programmes.

To accelerate agricultural growth, credit sector received highest priority in the budget. Five areas have been proposed: *(i)* increased agricultural credit flow from Rs 287,000 million in 2008-09 to Rs 325,000 million; *(ii)* extended the interest subvention schemes for short-term crop loans up to Rs 0.3 million per farmer at 7% interest rate; *(iii)* additional 1% subvention of 1% as an incentive for timely repayment of crop loans; *(iv)* extended the loan waiving scheme for farmers having land more than 2 ha up to 31 December 2009; and *(v)* provision of constituting a task force for debt relief for those taken loan from unorganized sector. These are welcome provisions, which are expected to increase lending in agriculture sector and encourage timely repayment.

Other components for augmenting agricultural production are related with 'nutrient link fertilizer subsidy', and higher allocation to accelerated irrigation benefit scheme and to the *Bharat Nirman Programme*. The nutrient link fertilizer subsidy is expected to promote more innovative fertilizer products, which may improve soil fertility and increase agricultural production. Under *Bharat Nirman Programme*, more funds have been allocated for irrigation development, rural roads and rural electrification. Undoubtedly, irrigation development and rural electrification will contribute in enhancing agricultural production. But both water and power sectors, need to be reformed for improving their efficiency and governance through public-private sector partnership. Mere allocation of higher resources to these sectors may not commensurate in increasing agricultural production. Both these sectors need a medium- and long-term strategy for their efficient utilization in agricultural sector.

To promote private sector investment and reduce wastage, this budget has given tax incentives for setting up and operating cold chains, warehousing facilities and storing agricultural produce. This will attract agri-corporate sector to invest in developing value chains to reduce wastage of perishable commodities and increasing storage capacity of agri-commodities. Similarly, excise duties are reduced for wool waste and cotton waste from 15 to 10%.

The budget is more biased towards inclusive growth through strengthening existing social safety net programmes for announcing new ones. Most important among these are National Rural Employment Guarantee Scheme and National Food Security Act. The former is related with empowering

poor through generating employment opportunities and increasing purchasing power, while the latter is making food available to the poor at a subsidized rate. The National Rural Employment Guarantee Scheme has provided employment opportunities to more than 44.7 million households; its budget outlay has been increased by about 144% to Rs 39,1000 million for 2009-10. Provision has been made for conversance of this programme, with other schemes related to agriculture, forests, water resources, land resources and rural roads in 115 pilot districts to begin with. While it is welcoming, the need is to develop mechanisms for the sustainability of the programme. There is a need to link this programme with capacity development and skill improvement of the beneficiaries so that in the long run they gradually move to non-agricultural sector. Another flagship programme of the government in coming year would be the Food Security Act, which would guarantee 25 kg/household rice/wheat @ Rs 3. Through this government intends to target population below poverty line (approximately 65.2 million families). It is good that the scope for debate has been provided so that a transparent and effective governance system is created to benefit the poorest of the poor in the country.

Growing fertilizer and food subsidies are fattening non-plan expenditure and adding to the fiscal deficit. This is a matter of serious concern. Both fertilizer and food sector need overall reform by evolving more innovative institutional and governance mechanism to reduce the inefficiencies. The rain water conservation needs a major thrust by galvanizing rainwater harvesting, conservation and utilization for increasing agricultural production and recharging groundwater.

e mail: director@ncap.res.in

Scheme on Continuation and Strengthening of Schemes of IVRI Approved

New Delhi, 30 July 2009. The Cabinet Committee on Economic Affairs (CCEA) today approved the implementation of the scheme on Continuation and strengthening of Main Scheme and Sub-scheme of Indian Veterinary Research Institute (IVRI) with a total amount of Rs 2,624.1 million as 100% ICAR share for XI Plan and approval for opening of one new centre of PDADMAS at Assam Agricultural University, Khanapara, Guwahati (Asom). The main objectives of the project would be to raise productivity of the livestock and poultry sector by improving animal health so that a 4% growth rate in the overall agriculture and allied sectors may be achieved.

The brief details of the scheme components are: (*i*) development of newer generation diagnostics and vaccines for livestock and poultry diseases with strengthening of disease diagnosis and service delivery mechanism, (*ii*) nanotechnology for diagnostics and therapeutics interventions along with stem cell research and related techniques for enhancing health and production, (*iii*) development of suitable disease forecasting models for different diseases in different agro-climatic zones and updating of livestock disease profile with region-wise epidemiological mapping of economically important diseases, (*iv*) strategies for the improvement in risk management and monitoring through early warning system of the diseases, (*v*) stress physiology research and technology forecasting for climate scenario, (*vi*) human resource development and capacity building in the frontier areas of research, and (*vii*) extension strategies for strengthening rural economy through improvement in livestock sector.

e mail: icarreporter@rediffmail.com

Strengthening gender perspective in agriculture

Bhubaneshwar, 5 September 2009. Dr Krishna Srinath, Director inaugurated the 2-day training-cum-workshop on Strengthening gender perspective in agricultural research and extension. It was organized at DRWA on 4 September 2009 under the NAIP sub-project V-PAGe. The objectives of the programme included orienting subject matter specialist of KVKs on gender concepts, importance of gender in agriculture and programme of planning methodologies to help them strengthen gender perspective in KVK activities.The workshop recommended the need to strengthen gender perspective in all activities of KVK and highlighted the specific role that SMS (Home Science) could play in sensitizing professionals of other disciplines and in strengthening gender in KVK activities through team efforts.

e mail: dir@nrcwa.org

Annual Scientists' Meet of the Network Programme on Blue Tongue Disease

Hisar. 14 July 2009. The Sixth Annual Scientists' Meet of the Network programme on Blue Tongue Disease was held on 13-14 July 2009 at College of Veterinary Science, CCSHAU, Hisar. The meeting started with formal inauguration by the Chief Guest, Professor K S Khokar, Vice-Chancellor, CCSHAU, Hisar and presided over by Dr Lal Krishna, Assistant Director General (AH). Inactivated pentavalent bluetongue vaccine developed by TANUVAS, Chennai Centre, and indirect-ELISA kit for blue tongue antibody detection by IVRI, Mukteswar Centre were released.

Good progress in terms of its epidemiology, prevalence of serotypes, vector population, validation of diagnostics and vaccines has been made. It was decided that Mukteswar and Izatnagar centres will take up work on bluetongue in goats at the CIRG, Makhdoom, whereas Chennai and Mukteswar centres will initiate the process to transfer the technology of vaccine under PPP programme mode. IPR issues may also be taken into consideration, while formulating the agreement with the commercial units. The PD-ADMAS will provide the details of sheep sera tested by Izatnagar centre to analyze the results for retrospective study and also initiate the process of co-ordination with all the centres for molecular epidemiology work in collaboration with Bengaluru centre as a non-funded unit. It may be noted carefully that none of the centres will transfer any virus/genetic material/antiserum, etc. to any organization/person without the permission of ICAR.

e mail: icarreporter@rediffmail.com

Patent granted for two inventions of CPCRI

National patents were granted by Controller of Patents and Designs, Chennai for the following inventions of CPCRI, Kasaragod.

Tender coconut punch and cutter (Patent Number: 233744): A simple tender nut punch and cutter have been developed.

These devices would enhance the efficiency and can bring down exertion in tender nut parlours. Women can also operate a tender nut parlour with these simple and affordable equipments without acquiring any special skills.

Coconut de-shelling machine (Patent Number 233742) : A power operated coconut de-shelling machine was designed and developed. Capacity of the machine is 400 half cups per batch.

This machine is a useful asset for coconut oil industry as it can increase the efficiency and less expensive processing of raw material.

This machine was developed by Dr T Vidhan Singh, Senior Scientist (FM&P), Post-harvest Technology Section of this Institute.

e mail: icarreporter@rediffmail.com

Sustainable Aquaculture Development in the North-eastern Region

Shillong. 17 September 2009. The Central Institute of Freshwater Aquaculture (CIFA) organized a regional consultation to devise strategies for research and development in aquaculture for the North-eastern Region from 16 to 17 September 2009 at Shillong, Meghalaya. The focus of the programme was to develop research priorities for CIFA for the next five years. The workshop was attended by State Fisheries Directors of Asom, Meghalaya,Manipur, Mizoram, Nagaland, Tripura and Arunachal Pradesh, and Joint Director of Sikkim. The Directors or representatives of ICAR fisheries institutes, viz. CIFA, CIFRI, DCWFR, CIFT also participated besides subject matter experts. The development stakeholders like North-eastern Council (NEC), National Fisheries Development Board (NFDB), North-eastern

Development Finance Institution (NEDFI), National Bank for Agriculture and Rural Development (NABARD) provided their inputs for the development of fisheries in the North-eastern Region.

e mail: icarreporter@rediffmail.com

International Linkages

Myanmar Fishery Delegation to Study Indian Aquaculture

Vijaywada. 21 July 2009. A 15-member Myanmar fisheries delegation led by Mr U Than Lwin visited Central Institute for Freshwater Aquaculture (CIFA) and its Regional Centre between 14 and 21 July 2009 to study the remarkable aquaculture development in India, the second highest aquaculture producer in the world, next to China. Dr A E Eknath said Myanmar and India have many things in common since long past. He expressed happiness that such a large delegation has sought CIFA's technology to help boost its fish production. Giving a comprehensive and informative account of the institute's overall growth, Dr Eknath pin-pointed the remarkable achievement of CIFA in development of 'Jayanti rohu' through selective breeding technique. The team evinced keen interest in this improved variety of *rohu*, which gives 17% higher yield per generation than normal *rohu*. 'Our main objective for coming here is to learn carp culture technology available here to increase fish production in our own country', said Mr U Than Lwin, the President of Myanmar Fish Farmers Association. 'Our endeavour would be to increase both quality and quantity of fish without destabilizing our environment', he added.

The delegation later visited a number of aquaculture farms and hatcheries in Kolleru lake area of Andhra Pradesh, the carp pocket of India. They had a series of interactions with the progressive fish farmers, entrepreneurs and hatchery owners in the area. The delegation studied the whole process of fish production and marketing chain in Kolleru operating through forward linkages of improved post-harvest services like packaging, processing, storage, transport, marketing and backward linkages of providing inputs like seeds, fertilizers, chemicals, feed and aquaculture machineries, which have scripted the success story of aquaculture in the region. The delegation also had interactions with members of trade bodies to understand the whole production and marketing process. Before leaving for Myanmar on 21 July 2009, the delegation expressed hope for transfer of knowledge, better linkages and co-operation, capacity building through training and exchange programmes, and strengthen bilateral ties through participation in various programmes.

e mail: icarreporter@rediffmail.com

Review of Indo-US AKI Water Management Projects

Karnal. 21 July 2009. Dr A K Singh (Deputy Director General, NRM) inaugurated a 2-day final review and planning workshop on Indo-US AKI Projects on 'Water Management' at the Central Soil Salinity Research Institute, Karnal. Dr A K Singh, DDG (NRM) expressed satisfaction with the achievements and success stories that emerged under AKI projects on water management. He mentioned that waste water will be an important resource for irrigation in the country and stressed the need for developing interventions for its safe use in agriculture. He emphasised the need for developing effective rainwater harvesting and groundwater recharge technologies.

Dr Gurbachan Singh (Director, CSSRI and Co-ordinator, Water Management) presented the background and overall progress of the project. Dr R K Mittal (ADG, EQR, ICAR) appreciated the success of e-learning systems operationalized in a project at Indian Agricultural universities. Also, an interest was generated in the sandwich programme in which 3 postgraduate students from India and 2 from United States carried out their research work in the United States and India, respectively. Dr R S Kanwar (Professor and Head, Ohio State University, USA and AKI Water Management Project Coordinator from US side) addressed the participants and highlighted major issues of water, food and energy crisis confronting the society in view of impending climate change. He hoped that collaboration between Indian and United States universities and research institutes will continue to jointly tackle the global problems. The delegates including Principal Investigators of the Water Management projects under Indo-US AKI, from 14 Indian agricultural institutes and universities and 5 scientists and students from Iowa State University, Purdue University and University of Illinois participated in the workshop.

e mail: director@cssri.ernet.in

Meeting of ACIAR/GRDC Project

Victoria. 16 September 2009. A 3-day meeting of AICAR/GRDC Project "Oilseed *Brassica* improvement in China, India and Australia" was held at the University of Melbourne, Victoria, on 9 September 2009 in conjunction with XVI Australian Research Assembly on *Brassicas* (ARAB) in Ballarat, Victoria from 14 to 16 September 2009.

Dr Arvind Kumar (Director) and other scientists of Directorate of Rapeseed-Mustard Research and Dr V D Patil (ADG, O&P), attended the meeting.

There were 9 different sessions in the meeting. Dr Pankaj Sharma presented the results of *Sclerotinia* tolerance. Dr Maharaj Singh discussed the findings of drought tolerance in session VII, while in session VIII, Dr J S Chauhan presented the results of drought tolerance and also the study on canola quality in *Brassica juncea*. During the meeting, project achievement, opportunities, challenges and possible new projects were discussed.

Advances and future opportunities for traits were presented by project leader Dr Phil Salisbury. The project reviewer Dr Brondwen Maclean in his remarks mentioned that collaboration of the project was good as well as exchange of germplasm among different countries gave good results for agronomic traits, canola quality, shattering resistance and tolerance against thermo, *Sclerotina* and drought. Publications based on findings of the project were good and young scientists from different countries also got trained.

Scientists visiting Canola field in Australia

Sixteenth Australian Research Assembly on *Brassica* was held on "Changing foods, changing climate, changing canola" at Ballarat, Victoria from 14 to 16 September 2009. On 14 September, a field tour was organized to visit trials on different herbicide tolerance, nitrogen application and canopy management.

e mail: icarreporter@rediffmail.com

Celebrations

ICAR Foundation Day

"Innovative technologies needed to face complex problems in the farming sector"

Sharad Pawar

New Delhi. 16 July 2009. Union Agriculture Minister, Shri Sharad Pawar, inaugurated the ICAR Foundation Day. He said, "Agriculture today is facing problems of climate change, decreasing efficiency of input and new emerging issues of world trade. There is no room for complacency; we need to move ahead with new innovative technologies, policy support and greater investment in agriculture to sustain the food security."

Lauding the contribution made by the agricultural research and education institutes in the country, the Minister said that every ICAR Institute throughout the country has contributed substantially in developing appropriate technologies, products and services for the farmers. Agriculture sector occupies the centre stage of India's social security and overall economic welfare. Since independence, India has witnessed significant increase in production of foodgrains (the Green Revolution), oilseeds (the Yellow Revolution), milk (the White Revolution), fish

(Blue Revolution) and fruits and vegetable (Golden Revolution). All these became possible due to application of cutting-edge technologies coupled with positive policy support and hard work.

Dr G Madhawan Nair (Secretary, Department of Space and Chairman of ISRO), gave ICAR Foundation Day Lecture on the Achievements of Space Technology Applications for Development of Agriculture in India.

ICAR Award Ceremony 2008

New Delhi. 16 July 2009. Union Minister of Renewable Energy, Dr Farooq Abdullah, awarded 55 awardees under 12 categories at the NASC complex. This comprised 3 institutions, 47 scientists, 3 farmers and 2 journalists; out of 47 scientists there are 9 women scientists. Dr Abdullah said, "the ICAR aims to equip the farmers with innovative technologies to increase the farmers' income". The Council has documented state-specific technological interventions to address location specific problems of agriculture. This need to be translated into action.

Dr Mangala Rai, Secretary (DARE) and Director General (ICAR), said that these awards, besides recognizing merit and accomplishments help trigger a healthy competition among individuals, groups and institutions to attain yet higher level of excellence in their respective fields. He congratulated all the winners and stated that these awards will provide needed encouragement and incentive to them to achieve excellence in future research endeavours. The details of awards are as follows:

- **Sardar Patel Outstanding Institution Award, 2008**. In order to recognize the outstanding performance in agricultural research and education and to promote a sense of partnership, competition, pride and belonging in the mind of the staff, the ICAR has instituted Sardar Patel Outstanding Institution Award. The two institutes that won the award are Central Rice Research Institute, Cuttack and Directorate of Oilseeds Research, Hyderabad. Central Rice Research Institute (CRRI), Cuttack for its significant contributions towards developing improved rice varieties such as 'Gitanjali', 'Ajai' and 'Rajlaxmi' and IPM modules. The award was bestowed upon the Directorate of Oilseeds Research, for developing 19 varieties and 12 hybrids in sunflower, 23 varieties and 5 hybrids in safflower and 20 varieties and 13 hybrids in castor.

- **Chaudhary Devi Lal Outstanding AICRP Award** has been bagged by All-India Co-ordinated Research Project on Arid Legumes, Jodhpur, for its stupendous role in developing need based production and protection technologies.

- Eighteen **Jawaharlal Nehru Awards** for high quality Ph.D. theses have been given, of which six recipients are young women scientists. The ICAR instituted this award in January 1969. The Jawaharlal Nehru Awards for Post-Graduate Agricultural Research based on the Ph.D. thesis, an incentive for high quality fundamental or applied research among post-graduate students, have been awarded to Dr R. Laha, Dr Aruna Kumari Gangineni, Dr Rajendran Thomas, Dr Rekha Devi K, Dr Dipnarayan Saha, Dr Leema Jose, Dr Anil Bharadwaj, Dr S. Balasubramanian, Dr Amjad Masood Husaini, Dr Shyamalamma, S., Dr Narayanaswamy, C., Dr Partha Pratim Adhikary, Dr L. Reddy, C.N., Dr Vidya Mulimani, Dr Rakesh Singh, Dr G. Velu, Dr S. Nedumaran and Dr Seema Bathla.

- **Panjabrao Deshmukh Woman Agricultural Scientist Awards** were received by two women

agricultural scientists, viz. Dr Sandhya Kranthi and Dr S. Uma, for their contributions in agricultural research and development.

- The **Vasantrao Naik Award for Research Applications in Dryland Agriculture** for 2008 has gone to research team consisting of Dr Manivannan Sandrasekaran and Dr V S Korikanthimath, from ICAR Research Complex at Goa.

- **Lal Bahadur Shastri Young Scientist Award (Biennium 2007-2008)** has been given to Dr Pradeep Sharma, Dr Anirban Roy, Dr Sanjay Mothkur Thimma Reddy, Dr Gopinath K. A., Dr V. B. Patel, Dr Mohammed Shafiq Alam, Dr Amlan Kumar Patra, Dr Sameer Shrivastava, Dr Suresh.A. Kurup for their original research work.

- Eight scientists have been honoured with **Hari Om Ashram Trust Award** in crop sciences, horticulture, natural resource management and animal sciences. Among these one is a woman scientist, viz. Dr Shailaja Hittalmani, and others are Dr R. S. Marwaha, Dinesh Kumar and S. K. Pandey, Dr Gouranga Kar, Dr Ashwani Kumar and Dr Ravender Singh and Dr W. S. Lakra.

- The **Rafi Ahmed Kidwai Award (Biennium 2007-08)** has been bagged by five scientists ,viz.Dr. K. C. Bansal, Dr. S. K. Rao, Dr. P. S. Minhas, Dr. Sushil Kumar Kamra, Dr. Gaya Prasad for their outstanding research work done in fields of agriculture, animal husbandry and allied sciences.

- **Swami Sahajanand Extension Scientist/Worker Award (Biennium 2007-2008)** has been conferred on to three scientists one each in crop production, livestock production, resource management. Dr. Shalander Kumar, Dr P. Jeyakumar, Dr K. Narayana Gowda were awarded for their innovative researches in developing extension education programmes, methodologies and creating impact of the programme on the farming community.

- The **Jagjivan Ram Kisan Puruskar in Crop Production** has been awarded to two farmers, Shri G. Nagarathnam Naidu and Shri Veera Kempanna, one from Andhra Pradesh and the other from Karnataka.

- The **N.G. Ranga Award for Diversified Agriculture** has been awarded to a farmer Shri Shashi Kumar from Bihar.

- The **Chaudhry Charan Singh Award** for excellence in journalism in Agricultural Research and Development has been awarded to two journalists, viz.Shri Dilip Kumar Yadav and Dr Som Dutt, for their valuable role in extensive coverage of problems of farmers in Hindi Newspapers as well as in scientific journals.

e mail: icarreporter@rediffmail.com

Capacity Building

Specific Pathogen Free and Transmission Electron Microscope Units Inaugurated at Bhopal

Bhopal. 31 July 2009. Dr Mangala Rai, Secretary (DARE) and Director General (ICAR) inaugurated newly installed units of "Specific Pathogen Free" SPF and "Transmission Electron Microscope" (TEM) at High Security Animal Disease Laboratory of Indian Veterinary Research Institute Campus. He praised the contribution of HSADL laboratory of the Indian Veterinary Research Institute in containment of emerging and re-emerging diseases particularly Avian Influenza in the country, and congratulated the institute for achieving international recognition of OIE reference laboratory. He also announced that a grant of Rs 130.00 million has been approved for development of a BSL-2 laboratory besides the already existing BSL-4 laboratory at Bhopal station of IVRI.

The specific pathogen free unit has been established for producing SPF eggs and chickens, which would be helpful in carrying out research and diagnosis work on avian influenza at HSADL. The SPF facility constructed at a cost of Rs 34.3 million has 2 positive pressure super-isolators with a capacity to house 50 adult birds each, two hatcher isolators for hatching 400 eggs each, two transport isolators for transport of SPF chickens, and one egg incubator for incubating 600 eggs.

The TEM facility is unique in itself and would be further helpful in frontier areas of ultrastructural studies and diagnosis not only to HSADL but to other institutes of the country as well. The TEM facility has a 120 kV class high-resolution transmission electron microscope. The services of the TEM unit will add to the existing array of diagnostic facilities available at HSADL for quick confirmation of various exotic and emerging viral infections of animals including avian influenza, bovine viral diarrhoea, etc. Apart from being useful in ultrastructural studies on viral infections, it can also be of great help in identification and confirmation of viral etiology in unknown disease outbreaks in future.

With status of OIE reference laboratory, HSADL is likely to have similar upward linkages with other OIE recognized labs in frontier areas of bird flu research and participation with OFFLU ((OIE-FAO common platform to handle avian influenza on global basis). Simultaneously, this lab will initiate downward linkages with neighbouring countries not having up-to-date facilities for bird flu diagnosis.

e mail: singhkt@rediffmail.com

Inauguration of Training-cum-Guest House

The newly constructed Training-cum-Guest House of Directorate of Soybean Research was inaugurated by Dr Mangala Rai, Secretary (DARE) and Director General (ICAR). Dr S P Tiwari, Deputy Director General (Education), ICAR presided over this auspicious function. The function was also attended by Dr S K Srivastava, Director, Directorate of Soybean Research, Indore along with Scientist/Staff and other dignitaries. After the inauguration Director General and Deputy Director General (Education) visited different labortories of the Directorate, reviewed the Research and Development work and suggested important tips for strengthening the research/ infrastructural facilities.

While reviewing the research activities undertaken at the Directorate, Dr Mangala Rai emphasized on teamwork and greater involvement of all the Scientists and Technical staff to meet the future challenges. He also said that the scientists should work in a time-bound manner for quality research taking into account the new innovations in agriculture and its global competitiveness.

E mail: director@nrcsoya.com

Inauguration of Seed Processing and Storage Unit at Jhansi

Jhansi. 1 August 2009. Dr Mangala Rai, Secretary (DARE) and Director General (ICAR) visited Indian Grassland and Fodder Research Institute on 31 July 2009 and appreciated the overall development made in seed production and central research farm. He appreciated the efforts made in forage research particularly biotechnology. The IGFRI must strengthen the apomixes research so that it may be exploited across the crops to develop varieties affordable by the poor farming community. He called upon the scientific community to enhance the pace of the agricultural research for addressing the issues related with maintaining the purity of the five elements of the universe "*Kshiti, Jal, Pawak, Gagan* and *Sameera*". He appealed for the rational utilization of the natural resource so that great vision of National song "*Sujalam Suphalam Malayaj Sheetlam*" can be a reality in the future. He laid the foundation stone of the ATIC building, inaugurated Auditorium, Seed Processing and Storage unit, and the VIP Guest House. Dr Mangala Rai also dedicated Inspiration Tower to Forage Research and Water-Harvesting Pond to Forage Seed Production. On this occasion, Chief

Guest released four research bulletins: '*Soil Biodiversity under forage production system*; *Livestock rearing, an ecological perspectives*; *Grasslands of Himachal Pradesh* and *IGFRI Deenanath Grass Germplasm Catalogue*' and 2 technical bulletins: *Farming Systems Approach for Livelihood Improvement* and *Biotechnological Approaches for Forage Crops Improvement*. He advised scientists to address the increasing requirements of livestock products due to accelerated economic growth in the country. In coming years to meet these demands we need annual 4 to 5% compound growth in the coarse cereals to meet the demand of feed. There can be option to import food but not the forage. Requirement of feed and forage can also be met through establishment of strong linkage between IGFRI and other All-India Co-ordinated Research Projects/institutions working on the mandated crops to develop the varieties efficient in both forage and grain production as these two traits are mutually inclusive. He further stressed the need for linkage among the Institutes, viz. National Institute of Animal Nutrition and Physiology, Central Soil Salinity Research Institute, Indian Veterinary Research Institute and National Dairy Research Institute to harness the positive interactions and broaden the knowledge base. He also emphasized the need for development of abiotic stress tolerant forage crop

varieties efficient in utilization of water and nutrients. Techniques and technologies should be identified and models of partnership should be developed to utilize problem soils like salt affected, acid soils, ravines and gullied land for development of forage resources.

e mail: kasingh@igfri.ernet.in

Rainwater Harvesting Tank for Irrigation

Kufri. 16 August 2009. Dr C D Mayee (Chairman, ASRB) inaugurated water-tank and Fagu Complex at CPRI Research Station. In this water tank water harvested will be used gravitationally for the irrigation of crop (raised from tissue-culture developed planting material) inside the poly-houses during both the seasons, besides providing life saving field irrigations at least to the basic stages of nucleus seed potatoes raised from either mini-tubers and/or clonal multiplications. This will definitely prove fruitful in covering the risk related to the crop failure due to severe droughts and thus in maintaining the continuity of seed cycle involving different stages of multiplications. This will also save a lot of money spent on buying water for irrigation in polyhouses. Being located in the centre of the farm along central farm road, this tank is also improving the outlook of the surrounding area, besides serving the water needs.

e mail: dircpri@sancharnet.in

New buildings of KVK, Namakkal

Namakkal. 5 July 2009. Dr K D Kokate (Deputy Director General, Agriculture Extension) inaugurated the new administrative building and coconut nursery established at KVK, Namakkal. Besides the farmers' hostel the staff quarters were also inaugurated.

Shri U. Sagayam (District Collector, Namakkal) inaugurated a seminar on "Advanced techniques in Goat farming". On this occasion, new varieties of groundnut TMV 13 and Co 6 of redgram were distributed to two farmers each. The CIPHET banana comb cutter was given to 3 progressive farmers. Nandhanam broiler –II was distributed to twenty farmers of Namakkal district. A compendium on *Advanced techniques in goat farming* and *Directory of KVK beneficiaries*, were also released during the occasion.

Lectures on housing, feeding, diseases prevention, first aid treatment, artificial insemination and economics of goat farm were the highlights during the seminar. A total of 32 stalls exhibiting fodder seeds, feed ingredients, TANUVAS books and CDs, specimen of internal and external parasite affecting sheep and goat, commonly used vaccines for goat, live Boer, Sirohi, Tellicherry bucks and does, value addition in meat and meat products, dairy products, farm implements like chaff cutter, brush cutter, milking machine were the other main attractions.

e mail: kdkokate@icar.org.in

Potato Genome Laboratory at Shimla

Shimla. 25 August 2009. Dr H P Singh, Deputy Director General (Horticulture) inaugurated the Potato Genome Laboratory at the Central Potato Research Institute. An ultra-high throughput DNA sequencer (GS FLX Titanium) has been installed in the laboratory, which is unique in the ICAR system and placed Shimla in the world map of high throughput DNA sequencing. This ultra-high throughput sequencer will expedite the potato genome sequencing project being financed in India exclusively by the ICAR as a partner of a multinational consorium (Potato Genome Sequencing Consortium), which aims at sequencing the entire 840,000,000 nucleotide long potato genome by 2010. The laboratory would facilitate application of modern genome based research tools for development of high-yielding potato varieties with inbuilt resistance to diseases and pests. The laboratory would also extend the facility of ultra-high throughput genome, sequencing to other ICAR institutes especially to those under the Horticulture Division.

The CPRI would take up functional genomics work for the targeted traits, i.e. tuberization and late blight durable resistance, as follow up action of potato genome sequencing. However, of the genes involved in tuberization process of potato were identified, much is still left to completely understand the process and its environmental control. The project aims to identify genes involved in sensing temperature signal during tuberization. Once such genes are identified, attempts will be made to generate thermoinsensitive potato varieties so that its cultivation can be extended to warmer areas. Similarly, late blight resistance is a complex process that requires continuous refining to keep one step ahead of the pathogen.

e mail: dircpri@sancharnet.in

Toll free number 1800-180-1551 for farmer's guidance

New Delhi. 24 July 2009. A new number 1800-180-1551 has been allotted to enable farmers to accesss *Kisan* Call Centres (KCC) through landline and mobile network of both public and private telephone service providing agencies. At present the Call Centres are located in 25 different locations of the country covering all the states/union territories including Andhra Pradesh. KCC provides guidance to farmers in local dialects on all aspects of agriculture and allied subjects. KCC services are accessible through all telephone networks from 6 am to 10 pm on all seven days of the week.

e mail: icarreporter@rediffmail.com

Krishi Vigyan Kendra promotes refined broiler goat rearing technology

Calicut. Goat rearing is an important and fast growing enterprise providing self-employment to the farm women and provides additional income for economic uplift of rural farmers. Goat meat (chevon/mutton) has huge demand in domestic market and there is excellent scope for rearing goats for meat purpose through feed management. Considering the highly suitable technology of broiler goat production in areas where green fodder is not easily available the KVK, Calicut in Kerala took initiatives in popularizing the technology to improve the economy of rural farming communities. This technology is highly remunerative compared to rearing other farm animals, and Krishi Vigyan Kendra is advocating it as a better substitute of livelihood for the rural farmers.

Krishi Vigyan Kendra has earlier taken up this technology as an On-Farm Testing involving 2 to 3-month-old goat kids but faced several problems like poor growth rate, low adoption of concentrate feed and susceptibility to diseases etc. Therefore,

the technology was refined by selecting 15-30 days old kids instead of 2-3 months old kids. The selected kids were housed in a separate pen and concentrate goat feed was provided @ 5 g mixed with equal quantity of rice gruel. The feed allowance was increased gradually as per feed intake like 7g, 10g, 15 g etc. per day per kid. The kids were not allowed for open grazing. Feed supplements like liver tonic @ 2.5 ml/kid/day for 15 to 45 days and @ 5 ml per kid per day for 46 days to up to marketing age and fish oil were also provided along with feed. Pure wholesome water was made available at all time. Apart from these, the kids were also allowed for mother milk twice a day. The kids reared under this system were attaining an average body weight of 25 to 30 kg at about 90 to 100 days. Feed efficiency was approximately 1.6 to 1.7 and no serious diseases or disorders were observed with the refined technology.

e mail: kdkokate@icar.org.in

Field Days at KVK, Nalbari

Nalbari. Under the Farmers' Participatory Action Research Programme (FPARP), Ministry of Water Resources, Government of India, 2-frontline demonstration programmes were conducted by Krishi Vigyan Kendra (KVK), with the aim to achieve higher yield potential of crops through efficient water manaement practices. The demonstrations were organized at Pipalibari and Tegheriattari villages of Nalbari district, wherein a short-duration and high-yielding early *ahu* rice variety 'Luit', developed by the Assam Agricultural University, was grown by the farmers, under technical guidance of KVK, Nalbari.

Coinciding with the harvesting time of the variety 'Luit', 2-field days were recently organized by KVK, Nalbari in the 2 locations for awareness generation and mass popularization of the technology among the local populace. The higher yield potential with new water management technology with lower cost of cultivation were conclusively established in the field days, as revealed by the participating demonstration farmers.

In both the field Days, scientists of the KVK, Nalbari, put forwarded the rationale and economic advantage of the latest water management technology in the present age of escalating cultivation costs due to irrigation water. The participating farmers lauded the efforts of KVK, Nalbari and expressed their desire to adopt the variety 'Luit' in their cropping sequence.

E mail: KVKnlb@gmail.com

Field day on Bt Cotton at Hassan

Hassan. With the mandate of popularizing new technologies among farmers, Krishi Vigyan Kendra, Hassan, Karnataka, conducted Frontline Demonstrations on Bt Cotton in 22.50 ha with the participation of 100 farmers at K. Bommenahally of Hassan *Taluk*. Components demonstrated were selection of suitable Bt Cotton, application of Planofix, application of micronutrient mixtures, use of Ha-NPV and pheromone traps, use of insecticides and fungicides and growing of trap crop in the border.

During the frontline demonstrations conducted in 2008-09 with DHB-105 of cotton, sucking pests like aphids, jassids, thrips and minor leaf web pests, diseases like *Alternaria* leaf spot, powdery mildew and rust were observed. This prompted KVK for the need to popularize the suitable hybrids/Bt cotton in the region, which have high-yielding potential in non-traditional areas and resistance to pest and diseases.

Shri Janka Naik one of the participating farmers who has grown Bt cotton said that he had grown both Bt and non-Bt cotton, and is satisfied with the performance of Bt cotton since the squares and bolls are not dropping and is expecting high yield. He added that he could see 3-fold more number of squares in Bt cotton, which has brought smiles on the faces of fellow farmers.

e mail: kdkokate@icar.org.in

Sensitizing Krishi Vigyan Kendras of Zone VIII

Puducherry. 11 August 2009. Dr K D Kokate, Deputy Director General, Agriculture Exension chaired 2-day interaction that was organized for orientation of the Director of Extension Education and the Programme Coordinator of Krishi Vigyan Kendras of Gadag, Bijapur, Raichur, Belgaum, Mysore and Hassan of Karnataka; Trivandrum, Kannur, Kasaragod and Pathanamthitta of Kerala; Erode, Cuddalore, Nilgiris, Namakkal and Trichy districts of Tamil Nadu including and KVK Pondicherry Zone VIII from 10 to 11 August 2009 at Krishi Vigyan Kendra.

The successful cases of large-scale technology dissemination like Promotion of sweet orange cultivation in Raichur district; Production and marketing of agricultural produces through Self Help Groups in Gadag district; Potato-based cropping System in Hassan district; Promotion of pomegranate in dryland horticultural belt in Bijapur district; Cotton production technologies in Belgaum district; Seed production and promotion through group approach in Mysore district; Integrated farming development in Erode district; Precision farming techniques in Cuddalore district; Group dynamics in Nilgiris district; Integrated farming system in Namakkal district; Integrated production and processing of banana in Trichy district; Post-harvest technology and value addition in Kasaragod district; E-extension in Kannur district; Improving productivity and profitability of paddy cultivation in Trivandrum district; Rainwater harvesting models in Pathanamthitta district and Integrated pest management in paddy in Pondicherry district were presented and it was urged that such cases should be promoted by all the KVKs.

Before reviewing the activities of KVKs, Dr K D Kokate (DDG, Agriculture Extension) visited the KVK farm, its demonstration units, hi-tech nursery under precision farming and appreciated the functioning of KVK Pondicherry. While addressing the Programme Co-ordinators of KVKs he requested them to develop expertise in relation to their specific fields. He also stressed that the KVKs should give weather-based agro-advisory services to farmers and develop district level intervention to formulate contingent/ management plans for helping the farmers.

e mail: kdkokate@icar.org.in

National Fish Farmer's Day at Cochin

Cochin. 10 July 2009. The Institute celebrated National Fish Farmers' day in its campus. Speaking on the occasion Dr A E Eknath, Director said that India today is the third largest fish producing country in the world, with a total production of 7.13 million tonnes and the sector also fetches foreign currency

worth Rs 8,000 crores. He presented an overview of institute's technologies pertaining to carps, prawn, ornamental fish, magur and different products developed by it with an emphasis on 'out reach' activity so that fruits of research are made accessible to the farming community.

Mrs Usha Padhi (Director, Mission Shakti, the chief guest of the function) expressed her happiness that women fish farmers are also active in fisheries. She informed that women Self-Help-Groups are being given priority while leasing out water bodies. The nodal agency for social and economic empowerment of women ''Mission Shakti' has created a massive Social Capital of 380,000 SHGs with over 4,500,000 members. While the traditional enterprises like plate making, candle making, *papad* making often face the problem of marketing, fish that is in high demand, faces no such problem. She urged that women Self-Help-Groups are trained in different aspects of aquaculture including value addition and processing. According to a survey 40% of total farmers in India are no longer interested in agriculture. She urged the researchers present on the occasion to lay focus not only on raising productivity, but also to make farming more profitable.

Over 300 persons comprising fish farmers, farm women, researchers, students and general public participated in the programme.

e mail: icarreporter@rediffmail.com

Tissue culture datepalm plants supplied to the farmers

Mundra. 10 July 2009. Dr R C Maheshwari (Hon. V C SDAU, SK Nagar), Mr M K Seth (Chairman, RARDS, host Institution of KVK, Mundra) and Mr Kalyanji Gala (President, KCSL, Bhuj) were present while the hardened plants of datepalm were initially given to

the datepalm growers who supplied the offshoots. A second lot of tissue culture datepalm plants were given to the farmers during the programme of datepalm exhibition-cum-competition and seminar held at Krishi Vigyan Kendra.

Kisan Mela at Sugarcane Breeding Institute, Coimbatore

Coimbatore. 16 September 2009. A three-day *kisan mela* was inaugurated at the Sugarcane Breeding Institute of Indian Council of Agricultural Research.

Inaugurating the *kisan mela* Dr C Swaminathan, Vice-Chancellor of Bharathiar University, said that the demand for sugar is growing steadily everyday with population growth. However, the land area for sugarcane expansion is limited and scientists should develop technologies to improve sugarcane productivity per unit area, he said. He also mentioned that the present shortage of sugar should be taken seriously by researchers and should make efforts to stabilize production.

Presiding over the function, Dr N Vijayan Nair, Director of this Institute, said that the Institute is developing new varieties and technologies to improve productivity and reduce cost of cultivation. Six new varieties were released by the institute during 2009. These have high yield and quality potential besides being resistant to red rot, drought and salinity, are on display.

The 32 stalls were put up by various research institutions, fertilizer and pesticide manufacturers, sugar factories, farm equipment manufacturers and other service providers in the agricultural sector. Outdoor demonstrations of various implements used in sugarcane farming were arranged. New varieties developed by the institute and wild canes with potential as energy canes were also on display. Visits to fields of Sugarcane Breeding Institute, demonstration of 'Caneinfo' an exclusive website on sugarcane, Video shows and interactive seminars between sugarcane technologists and farmers were also arranged.

e mail: sugaris@vsnl.com

SRI Method of Paddy Cultivation helps Farmers

Cuddalore. To create awareness among the farmers of the district, an exhibition was organised to demonstrate SRI techniques for paddy, nursery production of cashew and crossandra, and intensification of mechanization for rice cultivation in collaboration with development departments. Followed by this, a farmers-scientists interaction

meeting was organised in which 74 farmers representing 13 blocks including ex-trainees of KVK, farmer's science clubs, Cuddalore District Precision Farmers Association promoted by KVK and farmers associations of the District shared their rich experience in adopting and spreading technologies promoted by KVK in the district.

The team led by Dr K D Kokate, Deputy Director General (Agriculture Extension) visited paddy field plots in this village, where SRI technique was adopted widely during *kuruvai* (*kharif*).

The team interacted with farmers of the village Nainarkuppam, where Mr V. Selvaraju, a progressive farmer adopted SRI cultivation method in 11 ha, explained in details chronologically the empowerment given to them by KVK and promotional activity of the Department of Agriculture, Cuddalore District in SRI techniques. The farmers felt that SRI cultivation was very economically worthy, and it has been put in right perspective by the implementing agencies in view of perceived advantages.

e mail: kdkokate@icar.org.in

Trainings

Higher productivity in sub-tropical fruits

Training on Management of Canopy Architecture for higher productivity in subtropical fruits at Central Institute for Subtropical Horticulture, Rehmankhera.

e mail: director@cish.ernet.in

Aquafarmers trained

The NBFGR organized training courses for aquafarmers at Lucknow and at Chinhat.

e mail: nbfgr2@sancharnet.in

ICAR Vichar Manch

New Delhi. 28 July 2009. Professor M J Modayil, Member, ASRB, said nature is one of the creations of God during his lecture on '*Prakritivadi ke darshinik Vichar*'. He sought to convey the beauty of nature and deeper philosophical meaning behind it.

Dr S Ayyappan, DDG (Fisheries) shared his vast experience by his lecture on Pearls and Pebbles, a presentation of random thoughts of a traveller. Some encounter with places and people were shared as a learning experience in life.

New Delhi, 27 August 2009. Dr Vijay Shankar Shukla a Sanskrit Scholar at the National Mission for Manuscripts and Kalakosa Division, Indira Gandhi National Centre for the Arts, spoke on *Vedaon ke Parprekshya mein Bhartiya Sanskrite*, at NASC Complex.

ICAR Inter-Institutional (North Zone) Sports Meet

Lucknow. 6 July 2009. A 4-day ICAR Inter-institutional North Zone Staff Sports Meet was organized at Indian Institute of Sugarcane Research (IISR), Lucknow from 6 to 9 July 2009. In this sports meet 763 sports persons from 23 ICAR institutes participated. On the basis of overall performance National Dairy Research Institute, Karnal has won Champion Trophy of the tournament. Mr. Virendra Kumar of NDRI, Karnal and Chanchal Chaurasia of CSSRI, Karnal were announced best men and women athlets of the tournament.

ICAR Awards 2009

The Indian Council of Agricultural Research, New Delhi announces following ICAR Awards

- **Sardar Patel Outstanding ICAR Institution Award 2009:** To recognise best performance in Agricultural Research and Education, three Awards of Rs five lakh each will be given to two ICAR Institutes/NRCs/Project Directorates and one to State Agricultural University.

- **Chaudhary Devi Lal Outstanding All-India Coordinated Research Project Award 2009:** To recognise the outstanding performance of the All-India Coordinated Research Project and its cooperating Centres, one award of Rs one lakh is given. All-India Coordinated Research Projects, which have been in operation for at least 10 years, can apply for the award.

- **Jawaharlal Nehru Award for P.G. Agricultural Research 2009:** To promote high quality doctoral thesis research in priority/frontier areas of agriculture and allied sciences, ICAR has instituted 18 awards of Rs 20,000 each to be given annually for outstanding original research work in agriculture and allied sciences. All postgraduate students who have obtained Ph.D. degree during 2008 in India in agriculture or allied sciences are eligible to apply.

- **Panjabrao Deshmukh Woman Agricultural Scientist Award 2009:** All women scientists working in ICAR Institutes/ State Agricultural Universities are eligible for the award. Two awards of Rs 50,000 are given annually for the significant contributions made during their career as agricultural scientists.

- **Vasantrao Naik Award for Research Applications in Dryland Agriculture 2009:** All scientists or extenstion workers who have made outstanding contribution in Water Conservation and Dryland Farming in India shall be eligible for the award. One award of Rs 100,000 is given annually for the work done during the preceding five years of the award.

- **Jagjivan Ram Kisan Puruskar 2009#:** To recognise the outstanding contributions of innovative farmers in agriculture and allied activities, one annual award of one lakh is given to a practising farmer (he/she) whose creative approaches and initiatives should result in (i) new knowledge/packages of practices/management strategies/additional information to the existing one, (ii) additional income to individual farmer/farming community, (iii) saving in resources/inputs (iv) prevention of outbreak of diseases and pests, and in breaking technology transfer barriers.

- **N.G. Ranga Farmer Award for Diversified Agriculture 2009#:** To recognise outstanding contributions of innovative farmers for diversified agricultural activities, one annual award of Rs one lakh is given to a practising farmer (he/she) whose creative approaches and initiatives should result in (i) new entrepreneurship/enterprises/management strategies/ additional information to the existing one in diversification of Indian agriculture, (ii) additional income to the individual farmer/farming community.

- **Chaudhary Charan Singh Award for Excellence in Journalism in Agricultural Research and Development 2009:** To recognize excellence in journalism and to create awareness among the farmers and policy makers for the enhancement and promotion of Agricultural Research and Development in the country, one annual award of Rs one lakh is given to a journalist for his outstanding contributions in Journalism in agriculture and allied sciences.

- **Fakhruddin Ali Ahmed Award for Agricultural Research in Tribal Areas for the biennium 2007-2008:** All scientists working in tribal areas and engaged in applied research and its application aimed at improving productivity, profitability and sustainability of tribal farming systems are eligible for the award. Two prizes of the value of Rs 50,000 each are given biennially for outstanding original research in agricultural sciences and animal sciences. The number of associates in a single application should be restricted to two only, if any.

- **ICAR Awards for Outstanding Team Research for the Biennium 2007-2008:** These awards are exclusively meant for inter-disciplinary teams of scientists jointly planning and implementing an integrated programme/project of system based research dealing with an inter-disciplinary problem. Team membership should be restricted to 8 members. A total of 9 individual prizes of Rs 100,000 each are given once in two years in agriculture, horticulture, natural resource management, engineering & technology, animal husbandry and fisheries.

- **Bharat Ratna Dr C. Subramaniam Award for Outstanding Teachers for the Biennium 2007-2008#:** All faculty members engaged in undergraduate or postgraduate teaching for at least 5 years in deemed universities, ICAR Institutes and State Agricultural Universities shall be eligible for the award. Eight awards of Rs 50,000 each are given once in two years in crop science, horticulture, natural Resource Management, Engineering & food technology, veterinary science, fishery science and social science.

- **National Krishi Vigyan Kendra Award 2009:** All KVKs in the country that have completed five years of operation after the year of the establishment are eligible for the award. Three awards of Rs 100,000 each are given every year to the KVK in the field of research and training. A KVK winning the award will be eligible to apply again after the lapse of 5 years.

- **Dr Rajendra Prasad Puruskar for Technical Books in Hindi in the field of Agriculture and Allied Sciences for the Biennium 2007-2008:** The award is open to Indian authors including Editors of multi-authored books. Both published works and manuscripts proposed to be published by its author will be accepted provided that such a work is written originally in Hindi and does not infringe copyright of any other person. The publication must have been written and published during the last three years preceding the year of the award. Eight awards of Rs 50,000 each are to given once in two years.

Awards by nomination.

General Instructions

The prescribed proforma for applying these awards may be obtained from the ICAR on or before **31.10.2009** by sending a self-addressed stamped envelope or it can be downloaded from the ICAR's website **www.icar.org.in** . Six copies of applications with complete documents should be sent to the **Assistant Director-General (Co-ordination), ICAR, Krishi Anusandhan Bhavan I, Pusa, New Delhi 110 012,** so as to reach him on or before **30.11.2009.** The last date for candidates in the Andaman and Nicobar Islands, Lakshadweep, States/Union Territory in the North Eastern Region, Ladakh Division of J&K State and Sikkim is **15.12.2009**. **The candidates are required to submit six copies of applications/documents failing which application will not be considered.** The Council will retain the award winning application/thesis for record. Each candidate will be judged on the basis of the originality and the applied value of the investigations as revealed in the documents submitted by him. **In all matters relating to the award, the decision of the Council shall be final and no correspondence on this account will be entertained.**

□

Remembering Dr Norman E. Borlaug — A Great Scientist and Humanitarian

"Reach for the stars. Although you will never touch them, you may get a little stardust on your hands" **- Dr Borlaug**

New Delhi, 15 September 2009. ICAR Scientists and staff members gathered today on September 15th, 2009 at 5 PM, at the NASC Complex to pay homage to Dr Norman E. Borlaug, the father of Green Revolution. The condolence meeting was chaired by Shri A K Upadhyay, Special Secretary (DARE) and Secretary, ICAR. The entire ICAR family including the Fellowship of the National Academy of Agricultural Sciences respectfully paid homage and remembered the contributions Dr Borlaug made for increasing wheat production in the country that brought food security and self sufficiency.

Shri Upadhyay in his tribute said that in the demise of Prof Borlaug, the mankind has lost a great soul. India owes special gratitude to him for his contribution to the Green Revolution.

At this occasion, several scientists paid their tributes to the departed soul. Prof S K Datta, DDG (Crop Sciences), Dr Timothy Reeves, Ex-Director General, CIMMYT, Dr K D Kokate, DDG (Ext), Dr S S Singh, Director, DWR, Karnal, Dr K V Prabhu, IARI, Dr K R Koundal, Joint Director (Research), IARI, and Dr R P Singh, Wheat agronomist and Executive Secretary, IAUA.

Personnel

Visits

- Dr Mangala Rai (Secretary, DARE and DG, ICAR) visited Manila, Philippines from 14 to 17 April 2009 to participate in IRRI BOT meeting at International Rice Research Institute, Manila, Philippines.
- Dr Mangala Rai (Secretary, DARE and DG, ICAR) and Shri A K Upadhyay (Additional Secretary DARE and Secretary, ICAR) visited Turkey to see Turkey's Research Activities on Winter Wheat and Legumes in Turkey, and to participate in ICARDA's BOT meeting and presentation Day at ICARDA (Hq) Syria from 27 April to 3 May 2009.
- Dr Ajai Kumar, Director, DARE visited Indonesia during 27 to 29 April 2009 as a part of the delegation led by Secretary (Agriculture) to attend 1st Joint Working Group Meeting.
- Dr Rakeh Kumar, Scientist (SS), CIFT, Cochin visited Michigan State University from 1.5.2009 to 30.6.2009 for undergoing training in the field areas of "Green Knowkout, Gene expression and regulation in food borne bacterial pathogens" under the Norman E. Borlaug Fellowship Programme 2008 under India-US Knowledge Initiative in Agriculture.
- Dr Suresh Pal (Head, Division of Agricultural Economics, IARI, New Delhi) visiting IFPRI, Washington, DC, USA from 15 September 2009 to 15 October 2009 for the Norman E. Borlaug International Agricultural Science Technology Fellowship Programme, 2009 under Indo-US AKI in the field of Agricultural Economics.
- Dr Anjani Kumar (Senior Scientist, NCAP, New Delhi) to visit USA for the Norman E. Borlaug International Agriculture Science Technology Fellowship Programme 2008 under the Indo-US AKI in the field of Agricultural Economics from 12 October to 26 November 2009.
- Dr S P Tiwari (DDG, Education, ICAR) visited Afghanistan from 29 September to 1 October 2009 to explore the possibilities of establishing the Afghan University of Agriculture and Technology with Indian Assistance.
- Dr S L Mehta (Vice-Chancellor, MPUAT, Udaipur)

visited Afghanistan from 29 September to 1 October 2009 to explore the possibilities of establishing the Afghan University of Agriculture and Technology with Indian Assistance.

- Dr S P Tiwari, Deputy Director General (Education, ICAR) and Dr K Vijayaragavan, Head, Division of Agricultural Extension, IARI, New Delhi visited Sri Lanka from 16 to 19 September 2009 for Assistance to Northern Sri Lanka for Agricultural Revival including setting up of a Institute of Agricultural Transformation.
- Study visit of 4-CARP scientists in the field of Agriculture Risk Management and Extension at National Centre for Agricultural Economics and Policy Research (NCAP), New Delhi from 22 to 26 September 2009.
- Mr Parashuram Lal Karna, Director, Financial Administration and Mr Narendra Lakhe, Administrative Officer, Senior Managers from Nepal Agricultural Research Council, Nepal visited for 5 days from 7 to 11 September 2009 at National Academy of Agricultural Research Management, Hyderabad.

Appointments

- Dr K K Sapthay has joined as Director, NIRJAFT, Kolkata on 1 July 2009.
- Dr S Maiti has joined as Director, DM&AP, Anand (Gujarat) on 1 July 2009.
- Dr V Venkatasubramaniam has joined as ADG (Agriculture Extension), ICAR on 2 July 2009.
- Dr D M Hegde has joined as Project Director, DOR, Hyderabad on 3 July 2009.
- Dr S S Singh has joined as Project Director, DWR, Karnal on 3 July 2009.
- Dr Madan Mohan has joined as ADG (MF), ICAR on 13 July 2009.
- Dr K P R Vittal has joined as Director, NBAS, Baramati, Pune (MS) on 17 August 2009.
- Dr Narendra Prakash has joined as Joint Director, Manipur Centre of ICAR Research for NEH Region, Umiam (Meghalaya) on 27 August 2009.
- Dr A R G Ranganathan has joined as Project Co-ordinator (Seasame), ICAR Hqrs bases, JNKVV, Jabalpur on 4 September 2009.
- Dr Deepak Chaudhuri has joined as Project Co-ordinator (UAEESE), CIAE, Bhopal on 7 September 2009.
- Dr J C Bhatt has joined as Director, VPKAS, Almora on 8 September 2009.
- Dr Shashank Mauria has joined as ADG (IP&TM), ICAR on 8 September 2009.
- Dr Pitam Chandra has joined as Director, CIAE, Bhopal on 11 September 2009.
- Dr M C Sharma has joined as Director, IVRI, Izatnagar (Uttar Pradesh) on 14 September 2009.
- Dr M V C Gowda has joined as Project Co-ordinator (Small Millets Improvement), ICAR Hqrs based Project, UAS, Bengaluru on 17 September 2009.
- Dr C Devakumar has joined as ADG (EP&D), ICAR on 18 September 2009.
- Dr P K Joshi has joined as Director, NAARM, Hyderabad on 19 September 2009.
- Dr N Nadarajan has joined as Director, IIPR, Kanpur on 24 September 2009.
- Dr H Ravishankar has joined as Director, CISH, Lucknow on 24 September 2009.

Relieved / Retirements

- Dr J P Mittal, National Co-ordinator, NAIP has retired on 31 July 2009.
- Dr Masood Ali, Director, IIPR, Kanpur, retired on 31 July 2009.
- Dr S M Ilyas, Director, NAARM, Hyderabad retired on 31 July 2009.
- Dr K P R Vittal, Director, CAZRI, Jodhpur relieved on 17 August to join as Director, NBASM, Pune.
- Dr M S Gill, Project Director, PDFSR, Modipuram, Meerut relieved on 31 August 2009 to join as Director (Extension Education) at PAU, Ludhiana.
- Dr P K Joshi, Director, NCAP, New Delhi relieved on 18 August 2009 to join as Director, NAARM, Hyderabad.
- Dr Mruthunjaya, National Director (NAIP), ICAR relieved on 30 September 2009 after completion of his re-employment.

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Editing: **Mrs Aruna T. Kumar, Dr Sudhir Pradhan** • ***Production:*** **V.K. Bharti and K B Gupta**