

Proceedings of the 21st Regional Committee Meeting (Region III) ICAR, 17-18th April, 2013, AAU, Jorhat.

Inaugural Session: 17th April, 2013

The 21st RCM of Region III was held at Assam Agricultural University, Jorhat, Assam. Dr. Tarun Gogoi, Hon'ble Chief Minister of Assam was the chief guest of the function. Dr. S. Ayyappan, Director General of ICAR and Secretary DARE, Govt. of India chaired the session. The dignitaries on the dais were Sri Nilomoni Sen Deka, Hon'ble Minister of Agriculture Govt. of Assam, Shri Mir Yatachu, Hon'ble Parliamentary Secretary, Govt. of Nagaland; Shri Membor Gogoi, MLA. Dr. S. N. Puri, Vice Chancellor, Central Agricultural University, Imphal; Dr. K.M. Bujarbaruah, Vice Chancellor, AAU, Jorhat; Dr. B. Konwar, Vice Chancellor, Nagaland University; Dr. Arvind Kumar, DDG (Education) ICAR and Dr. S.V. Ngachan, Director ICAR research Complex for NEH Region, Umiam.

In his welcome address, Dr. K.M. Bujarbaruah, VC, AAU, Jorhat expressed his gratitude to the Hon'ble Chief Minister of Assam for his keen interest in agricultural development and sparing time to share his thoughts and views with the experts attending the meeting. He also appreciated the dynamic leaderships of the Hon'ble Chief Minister and Hon'ble Minister of Agriculture, Assam for the overall agricultural development of the state due to which the state bagged national award for Rice and Pulse production. He acknowledged with thanks the confidence shown by the Secretary, DARE and DG, ICAR on the abilities of AAU, to hold the meeting at Jorhat. He also welcomed other dignitaries on the dais to the AAU Campus at Jorhat.

Dr. Arvind Kumar, DDG (Edn.), ICAR in his opening remarks informed the house that the country has been divided into eight regional committees and this is the third regional committee. The regional committee No-III covers maximum number of eight states in the country and thus has greater responsibility. He brought attention on the importance of the region for its agri-diversity, varied climate and rich natural resources and highlighted the outcome of the midterm review meeting and efforts made by various agencies in agriculture development in this region. He appreciated the progress of AAU during the last 2-3 years and congratulated the V.C. and staff for bringing this university in the forefront at the national level. The deliberations

during this meeting would provide a feed back and help in identifying the issues to formulate research programmes for the succeeding years in the National Agriculture Research System and urged upon the state policy makers, and officers to have an effective interaction and active participation in the programme formulation for the farmer's benefit in the region.

Although, there is a still gap between demand and supply for food grains in North Eastern Region, the progress is encouraging, in this direction due to the need based and timely technological intervention, Govt. support and dedication of scientists and farming community resulting in reduced gap. He appreciated the coordination among the states, agriculture universities and research centers of NE region. He lauded the rich biodiversity, cultural heritage and favorable environment of the region which provide immense opportunity for production of food, vegetables and animal products, and emphasized to strengthen post harvest technology and value addition components to raise the farmer's income and reduce the losses. He expressed optimism for potentiality in augmenting the agricultural output of this region through strategic exploitation of a natural resources. Further, the gradual decline of area under *Jhum* cultivation was also highlighted to be a positive development for sustainable agriculture in the region.

Dr. S. Ayyappan, Secretary DARE, GOI and Director General ICAR, welcomed the Hon'ble Chief Minister and expressed gratitude for his presence in the meeting. He appreciated the impressive facilities developed by AAU. He mentioned that 60% of student, enrolment in the university is girls, which is not seen in other universities. He expressed his satisfaction on the performance of the students at the national level examinations of SRF and JRF. He thanked the Hon'ble Chief Minister, Dr Tarun Gogoi, for adequately financing Assam Agriculture University. It was emphasized that the North East Region represents all the agro-ecosystems of the country and this may provide fertile ground for developing agricultural planning for rest of the country. He specially mentioned certain unique features of the region, such as biodiversity of Yak, Mithun and Orchids. In this region contribution of agriculture to GDP is higher as compared to the national value of about 14 percent inspite of higher number of small and marginal farmers and thus he coined a slogan, "Smart Farming for Small Farmers".

He pointed that Production and productivity of crops and animals of the region are steadily increasing. In this context, he cited the recent development in production of oilseed and pulses in the region, rice production reaching more than 56 lakh tones, calf production of Mithun

by AI etc. He expressed optimism on the scope of double cropping in rice fallows, rain water harvesting, seed village concepts, primary processing and quality assurance of seeds, integrated farming system, reclamation of acid soil, post harvest management, climate resilient agriculture, farm mechanization, enhancing input use efficiency, aquaculture, fish farming, organic agriculture, medicinal and plantation crops, customized farm machinery, addressing the problem of the heavy metal toxicity etc. He expressed great concern about the prevalence of various forms of Cancers which might be due to various factors such as use of pesticides, heavy metal toxicity and consumption of tobacco etc.

He also emphasized on addressing the GI issues of certain commodities of the region such as Bhoot Jolokia, Joha Rice etc. He mentioned about maize, soybean, oil palm and cashew nuts as the potential crops for NE region. The “Farmers First”, development of knowledge repository and IP management were the key issues to be addressed in XII plan. The road map for increasing rice production in NE to 10 million tones was also mentioned. He urged the house to look into the issue of effectively utilizing 2 Lakh hectare of marshy land. Director, PDOP was requested to look into oil palm development in the entire north-east. He explained the need for integrating approach from all ICAR Institutes and State Govt. Institutes for comprehensive growth of agriculture. In this context, AAU could be a role model as an integrated agricultural education and research institute. He conveyed his intention of allocating substantial budgetary support for the “Student’s Ready” (Rural Entrepreneurship Awareness Development) and ARYA (Attracting Rural Youth to Agriculture) programmes of ICAR. He described this meeting as “planning and action” meeting for the North-east.

The Parliament Secretary of Government of Nagaland, Mr P. Yitachu, expressed his pleasure for participating in this meeting. He said that ICAR is doing commendable job in Nagaland. He cited the Mithun Festival at Kohima as huge encouragement for the live stock farmers of the state. He emphasized on the development of disease resistant animal breeds, production of day old chick for the poultry farmers in collaboration with Animal Resource Development Department and ICAR. The efforts of ICAR to establish KVK in the remote districts of the state which are helping in educating about the agricultural technologies among the local farmers were appreciated. Proposal to set up Veterinary College, in Nagaland was agreed during the 19th and 20th RCM (Region III) but there’s a delay in the establishment. He further pointed out chemical residues in meat to be undertaken in research for healthy food requirement

of in state. Feed requirement problem and technology generation in animal sector has been emphasized. The Hon'ble Minister invited to conduct the next RCM in Nagaland.

Sri Nilamoni Sen Deka, Minister of Agriculture, Horticulture, Food Processing and Parliamentary Affairs, Government of Assam offered Bihu greetings to the gathering and expressed his pleasure to be amongst the agricultural scientists. The emphasis on policy framing for self sufficiency in food, and assured supply is to be laid for which he extended all possible support to ICAR for agricultural development of Assam. The achievements in Agricultural Sector of Assam like, increased cropping intensity from 137% (2010-11) to 148% (2012-13), more than 1.0 lakh ha area under hybrid rice production, selection of three districts for production of APM by Govt., of India etc were highlighted. He urged upon the scientists to work on hybrid seed production in rice and vegetables, development of short duration crops, popularization of minor cereals, processing and value addition for *Jute*, storage grain pest management, farm mechanization for small farmers, organic Agriculture etc. He appreciated the dynamic leadership of Dr. K.M. Bujarbaruah, for the cause of agricultural development of Assam and expressed his optimistic view for the outcome of this meeting. He requested for extending true co-operation and technological support for double cropping in the state.

National Director NAIP, Dr Rama Rao informed the gathering that out of 31 projects operating in the NE region, the projects which have been well done by the Institutes / Universities have been appreciated and certificates to the concerned PIs and Co PIs are given. Then the books and technical publications written by various scientists were released by the dignitaries.

The chief guest of the meeting, the Hon'ble Chief Minister of Assam, Dr Tarun Gogoi, greeted the gathering on the occasion of *BIHU* and informed the relevance of farming in *BIHU*. He suggested to have highly specialized and location specific solutions to NE agriculture as the soil and climate are highly variable as compared to other parts of India. He expressed his satisfaction that NE agriculture is picking up which is a healthy trend for the economy of the region and explained the linkage of industrial growth with agricultural development, as the surplus capital from agriculture will contribute to the growth of industry in a substantial way. The government's commitment to agricultural growth was highlighted as it will enhance rural economy for inclusive growth of the country in general and NE in particular. He acknowledged

the efforts of Lal Bahadur Shastri, Dr Subramaniam, Babu Jagjeevan Ram and Dr M.S. Swaminathan in bringing green revolution in India and hoped that the current efforts focusing the NE India will also bring in similar revolution in the NE sector.

There is enormous variability in NE; every state has specific problems like drought, flood, high intensity rains, snow, low solar radiation, trans-boundary disease etc. But, we have to adjust to such problems and overcome through technology and policy back up. We also have to remain cautious about climate change and desired for a healthy and holistic agriculture. He spelled out the indirect costs associated with environmentally unfriendly intensive agriculture which results in huge financial burden on the society in terms of health care, energy waste etc. The yield maximization was an important consideration to feed the millions but health hazard because of unhealthy food is also no less important as it has greater economic hardship on rural poor. The investment should create asset but not open up new problems jeopardizing the economic growth. Agriculture is a wide subject that is influenced by soil, water, skill, air etc. He spelled out some of the immediate areas of attention such as water management, farm mechanization, ways to help small and marginal farmers, market glut, value addition, primary processing, storage and transport. Farming profession needs to be more remunerative and economically attractive so that educated youth can make their livings on agricultural enterprise. NE has the unique advantage of having the capacity to cultivate any type of crop starting from the temperate to tropical types. Floriculture, medicinal plants, off season vegetables are some of the niche areas which can be explored and ventured into. He expressed his great satisfaction to note that more and more girls students are getting enrolled in agri-education as empowerment of women is a sign of maturity, economic and intellectual prosperity of any society. He expressed his desire to extend all the support for ICAR and AAU for agricultural growth of North East.

The inaugural session ended with a vote of thanks from Dr S. V. Ngachan, Director, ICAR Research Complex for NEH Region, Umiam, Meghalaya and Member Secretary.

Meghalaya

Shri Bhalang Dhar, Commissioner (Agriculture) Pointed out about the problems of supply of planting materials of cut flowers and strawberry, potato seed for Meghalaya, improvement of 'Nadia' and 'Varada' varieties of ginger, 'Lakadong' variety of turmeric, bud rot of areca nut and citrus decline. He also said that 200 acres of land acquired for the new CAU is ready for handing over. Also, the land (additional) for CPGS is also ready for hand over.

Joint Director (Horticulture) pointed out that lichi in the border areas are affected by sting bug and requested for some non-chemical method of control.

The issues raised and response is given below:

Issue Raised	Response/Recommendations
Supply of planting materials of cutflowers and strawberry, potato seed for Meghalaya	<p>ICAR can provide technology. IIHR, Bangaluru has developed some good varieties. If the state government can arrange for growers, ICAR can provide required technology and training. For potato seeds also the entire requirement of state cannot be met by ICAR. The ICAR can supply the core material and multiplication may be taken up by the state department. For this, NEC will be approached.</p> <p>Dr. R. P. Medhi, Director NRC on Orchid mentioned that, if advance requirement is placed, planting material can be produced at Guwahati.</p> <p>Dean, College of Horticulture, CAU can provide immediately sufficient planting material for gladiolus, gerbera, anthurium and 30,000 budded plants of Khasi Mandarin.</p> <p>A meeting may be convened at ICAR Barapani within a short time to discuss issues and modalities.</p> <p>Action : Director, ICAR RC NEHR, Director NRC(O); Dean (Horti) CAU; Director (Horti), Meghalaya Govt.</p>
Bud rot of areca nut	<p>For the bud rot problem of areca nut, the Kahikuchi Centre of CPCRI should organize a meeting with different stake holders to formulate a feasible control strategy.</p> <p>Action : Director, CPCRI; Director, ICAR RC NEHR, Director (Horti), Meghalaya Govt.</p>
Improvement of 'Nadia' and 'Varada' varieties of ginger, 'Lakadong' variety of	<p>Regarding soft rot problem of ginger (Varada/Nadia) and improvement of Lakadong variety, a joint meeting with the Director of IISR, Kalikat may be convened at</p>

turmeric and citrus decline	ICAR, Barapani. Improvement of Varada/Nadia variety of ginger is also a concern. Action : Director, ICAR RCNEHR; Director, IISR; Director (Horti), Meghalaya Govt.
Lichi in the border areas of Meghalaya are affected by sting bug. Some non-chemical method of control is required as plantations are inside locality	Pesticides are not very effective and the population is expected to die out naturally. However, NRC on Litchi may look into the problem and if required may initiate research. Director (Horti), Meghalaya may contact NRC on Lichi. Action: Director (Horti), Meghalaya; Director, NRC on Lichi.
Additional land for CPGS is also ready for hand over.	The authorities of CAU may contact the state department concerned Action : Dean CPGS, CAU; VC, CAU
Land for new CAU in Meghalaya	Steps may be taken to take over the land from Govt. of Meghalaya. Action : DDG (Education) / DARE

Arunachal Pradesh :

Advisor (Agriculture) Shri.Purkayastha put forward various agenda items of Arunachal Pradesh. These included establishment of new research centers and AICRP centers, up-gradation of ICAR RC NEH Basar centre to a Directorate, establishment of Agriculture College, new KVKs, pay anomalies in KVK pay structure etc.

The issues raised and the response in given below :

Issues	Response/Recommendations
Opening of new centres- Extension unit of NRC pig, sub-centre of NRC Mithun, Central Temperate Horticultural Institute.	DG, ICAR suggested that an action plan for Jhum Improvement may be developed by integration of resource person from CAU, ICAR, AAU and other stake holders for bringing some perceptible improvement within a period of three years. The up-gradation of Basar Centre to a Directorate was discussed. However, the proposal was not accepted. It was decided that such proposals cannot be implemented as this would lead to both administrative and operational difficulties
Mega seed project on Pig (AICRP), proposed by Secretary (Animal Husbandry), Arunachal Pradesh.	Action - VC, AAU; VC, CAU; Director of all ICAR Institutes in the region; Directors of line departments, Arunachal Pradesh; Dean, Horticulture College, CAU; Director (Agri), Arunachal Pradesh and JD, AP Centre

Opening of new KVK's in the newly formed districts and technology backstopping of KVK's.	The state government may send the necessary documents of notification of new districts in order to take up the issue at the ICAR HQ. Technology backstopping to state-run KVKs will be provided by CAU, Pasighat.
Establishment of Agriculture College,	Sufficient land as required adjacent to college of Horticulture, Pasighat may be provided. Without land, it would not be possible to set up the same. Action - Advisor Agriculture, Arunachal Pradesh
PCs in the state run KVKs are drawing less pay than their counterparts in ICAR run KVKs. Disciplines of SMS in KVK should be as per the requirement of the location	Regarding pay anomaly of PCs of state run KVKs, the DG ICAR assured that the committee would be entrusted to look into the same. However, for pay parity of PC of KVK, the PC should have 8 years of service experience alongwith Ph.D. as per ASRB guidelines. Regarding the discipline of SMS, it is the a state to choose the same. However, it should be within the broad guidelines of KVK. Action- ZPD, Zone III, KVK Nodal Officer of Arunachal Pradesh, DDG Extension.
Alternative farming system for Jhum replacement.	Different models are available for different ecological situation, which have been demonstrated at different places by Basar centre. A flagship programme of ICAR RC NEHER on Jhum improvement is on under which demonstrations are being taken up. The State Departments need to propagate them. State Departments may initiate programmes on Medicinal plants, agro-forestry and vegetables for improvement of jhums to settled agriculture. VC, AAU suggested it is not possible to replace Jhum in all areas; a survey should be done regarding areas where it can be replaced, it can be improved and no intervention is possible. Demarcation of such areas should be made. Action: Directors of line departments, Arunachal Pradesh.
Requirement of glutinous variety of rice was put forward by Advisor, Agriculture. JD, Arunachal Pradesh Centre said several lines have been identified but as there is no seed, sub-committee in the state and no state policy regarding seeds. no variety has been released	Director, ICAR RCNEHR, said 'Bhalum-1' is a good glutinous variety for upland. VC, AAU, suggested that 'Aghoni Bora' can be tried in a small scale. Seed is available for small scale testing. Director, Extension, CAU said that rice variety, CAU-R-1 is doing well in low/wet land conditions. CAU can provide 100 MT of seed in the current year. The Department of Agriculture may place requirement of seed to various agencies accordingly. Steps may be initiated to constitute the State Seed Sub-

	committee and frame a seed policy. Action: CAU, Imphal, AAU.
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Sikkim :

The Director (Agriculture), informed that the state is going to be completely organic in agriculture by 2015. Therefore, research is needed for developing new varieties and package of practices for organic farming, for mechanization of agriculture using implements and machines suitable for high altitude, for chemical residue analysis etc. In addition, he requested for opening of an Agriculture University and a centre of PDFSR in Sikkim.

The issues raised and the response in given below :

Issues Raised	Response/Recommendations
For research on organic farming, the Director Agriculture requested for organic farming sub-centre of PDFSR at Sikkim.	Strengthening of ICAR RC NEH Sikkim centre and develop packages on organic agriculture in collaboration with PDFSR. Action - Director, ICAR RCNEHR, Director (Agri), Sikkim, Director, PDFSR
Establishment of a separate Agricultural University.	Additional land for the CAU and NRC Orchid should be provided. The NRC Orchid is facing a severe land problem due to handover of 5 acres of land to the Airport authorities. Hence adjacent land near the institute may be allotted for development or else the centre would be shifted to Pune. It was decided that a letter would be written to the Secy. Agriculture for immediate transfer of land and Director, Agriculture may follow it up. Action - VC, CAU; Director NRC(O); Director (Agri) Sikkim
Packages for organic cultivation of crops like ginger, turmeric, rice, maize and bean.	Packages are available with ICAR Research Complex. Soft of ginger can be controlled by botanicals developed by the institute. Also, demonstration of QPM under organic package is done at ICAR Complex, Sikkim Centre. The centre can provide training on these packages. The state department may avail the facility. Action - JD, ICARRC (Sikkim Centre); Director ICARRCNEHR, Director (Agri), Sikkim
Regarding machinery and implements for higher altitudes and terrace farming,	It was decided that all state would send their requirements of implements and machinery to Director, ICAR RCNEHR, Barapani. It should have details on type of crops, stage of crop, type of

	<p>operation, sources of power, portability requirement. Once the list is available then meeting of ICAR Scientist be organized from concerned subject matter institutes who will prepare the list of available/commercially available technologies, This list may be the base for further research.</p> <p>Action - Director of all line departments of the states; Director RCNEHR, Umiam; DDG (Engg).</p>
Testing of farm implements for high altitude and terraces.	<p>DDG Engineering informed that DAC has sanctioned testing centres for various places; however, funds have to come from RKVY.</p> <p>Action - Director (Agri), Sikkim</p>
Facilities for chemical residue analysis of meat/crops/vegetables	<p>May be developed by the state departments. ICAR may be approached for providing the technical assistance/training to the concerned departments.</p> <p>Action - Directors (Agri, Horti, AH and Fishery) of component states.</p>
Nutrient database-based organic farming plan	<p>Nutrient status-database of Sikkim will be provided by NBSS and LUP within four months time. The plan for organic farming should be prepared after consulting the soil profile database.</p> <p>Action-Director, NBSS and LUP and Director (Agri), Sikkim,</p>

Nagaland :

The Parliamentary Secretary, Joint Director (Agri), SE, Minor Irrigation and Joint Director (AH) raised various points regarding moisture stress in crops, rice for high altitude areas, decline in passion fruit orchards, seed production, suitable breed of pigs, feed from local resources.

The issues raised and the response in given below:

Issues Raised	Response/Recommendations
Issues related to water harvesting and surface run-off are causing moisture stress in upland crops.	<p>ICAR can provide training on rainwater harvesting structure. The same can be implemented and popularized by the state government.</p> <p>Action - JD, ICARRCNEHR (Nagaland), Directors of concerned line departments (Nagaland)</p>
Rice varieties for high altitude	<p>For high altitude experimental trials- currently facility is available at Meghalaya and materials generated may be tested in Nagaland. State government to provide</p>

	<p>experimental plots at high altitude then ICAR can take up trials in Nagaland.</p> <p>Director (Agri), Nagaland; Director ICARRC NEHR, Umiam, JD, ICARRCNEHR (Nagaland)</p>
Seed production and seed certification for Nagaland state	<p>JD, ICAR, informed that it has been decided to join with state department to produce 800 mt of rice and 3000 mt of maize seed. It was clarified by DG ICAR that ICAR cannot take responsibility for seed production of state. ICAR can provide the indented breeder seed against advance requisition. Accordingly, the indent be placed.</p> <p>Action : Director (Agri), Nagaland; Director ICARRC NEHR, Umiam, JD, ICARRCNEHR (Nagaland)</p>
Problem of decline in old passion fruit orchards	<p>DDG Horticulture informed the house that 2-3 years old passion fruit orchards are attacked by nematodes and fungal diseases. Trichoderma might work. IIHR may be consulted in this regard. Dr. S. V. Ngachan, Director, ICARRC NEHR opined that decline in old orchards of passion fruit is common. New plantation should be made in regular intervals.</p> <p>Action : Director (Horti), Nagaland, Director ICAR, Rs. Complex (NEHR)</p>
Pig breeds suitable for high altitude areas.	<p>Dr. S. V. Ngachan pointed that the Hampshire X Ghungroo cross is not suitable for high altitude. It was suggested to use improved breed of Hampshire X Local cross. NRC on Pig may be contacted in this regard.</p> <p>Action - Director (AH), Nagaland; Director, NRC(P), Rani</p>
Animal feed from local resources.	<p>NRC Mithun has identified some local fodder sources. The Institute may be consulted in this regard. Dr. S. V. Ngachan suggested that at lower altitudes Tapioca and at higher altitudes, Maize can be popularized.</p> <p>Action - Director (AH), Nagaland; Director, NRC(M), Jharnapani</p>

Tripura :

The representative from Tripura raised issues related to establishment of new KVKs and financing of agriculture and veterinary colleges, soil amelioration and crop diversification.

The issues raised and the response in given below:

Issues Raised	Response/Recommendations
KVKs for newly formed districts.	The DDG extension informed that notification from Government of India for new districts should be sent for initiating the process of opening new KVKs Action – Director (Agri), Tripura; ZPD (Zone III), DDG (Extn.)
Financing of agriculture and veterinary College in Tripura.	It was informed that at present it is not possible to provide any funding/financial, supports help from the Council for opening up of colleges.
Soil amelioration for improving yield of crops	During the discussion on acid soil amelioration and cost of lime, it was suggested that organic manures should be popularized to reduce lime requirements. Dr. Sarkar, Director, NBSSLUP suggested that nutrient supplementation and soil amelioration should be done considering the nutritional mapping of the area. Action : Directors (Agri, Horti, Soil), Tripura
New crops for crop diversification from rice-rice system	Oilseeds and pulses are a good candidate for crop diversification. Dr. S. V. Ngachan informed that groundnut has good production potential for Tripura and should be tried. Suitable varieties were identified by ICAR RC. Action : Director (Agri), Tripura
Fish hatchery	Dr. S.K. Das, PS (Fishery), ICARRC NEHR, informed the house that two portable hatchery units are to be set up in Tripura Action Taken by the ICAR RC NEH: Two hatcheries has been placed under TSP for the benefit of the Tribal farmers.

Assam :

Representatives from Assam discussed about testing and popularization of hybrid rice varieties, technology for rainfed and rain shadow areas, processing and value addition to jute. Also, there were discussions on availability boar semen, package of practices for field veterinarians etc.

The issues raised and the response in given below:

Issues Raised	Response/Recommendations
Identification and popularization of hybrid rice for Assam. Seed production of hybrid rice in Assam.	ADG Crop Science informed that regarding hybrid rice and hybrid rice production, promising hybrids are regularly being evaluated.

	<p>Director (Research) AAU informed that during the past year 25 hybrids developed by private companies were tested. Within 2 years time, hybrid from AAU Jorhat, would also be available.</p> <p>It was suggested that all hybrid rice trials of AICRIP should be sent to AAU for evaluation.</p> <p>Action – Director, DRR; Director (Res.) AAU</p>
Development of monsoon escaping wheat varieties and coarse cereals	<p>It was informed that AAU is already undertaking this work and screening will continue for monsoon escaping short duration wheat varieties.</p>
Processing and value addition of jute	<p>Processing of Jute and value addition should be carried out. AAU, CRIJAF and NIRJAFT should jointly develop programmes for this.</p> <p>Action – Director (Res) AAU, Directors CRIJAF and NIRJAFT</p>
Technology development for marshy lands of Assam. Opening of a research centre devoted to wetland.	<p>Technology development for marshy areas needs to be developed. Sunken and raised bed system of cultivation should be initiated.</p> <p>Regarding establishment of a wet-land institute, it was agreed that a centre under ICAR RC for Eastern region, Patna would be opened near Guwahati for which 1000 hectare land would be provided by AAU Jorhat. The matter of opening the centre has already been recommended by QRT of that Institute.</p> <p>Action – Director (Res), AAU; Director, ICARRCER, Patna; VC, AAU</p>
Regarding technologies for rainfed and rain-shadow areas	<p>VC/AAU informed the house that cropping system/ varieties are already identified. Long duration rice varieties should be replaced with medium or short duration varieties. Chickpea is a good option for rain-shadows areas. The state department, in collaboration with AAU should take up popularization of the identified technologies, varieties and cropping options.</p> <p>Action – Director (Agri), Assam, Director (Res), AAU</p>
Supply of quality boar and goat for popularization of AI. Skill up-gradation of field veterinarians and package of practices for their day-to-day operation.	<p>Regarding the availability of quality boar and A.I. in pig, it was decided that NRC Pig will procure quality boar and will make liquid semen available (20,000 doses/year) to the department of Animal Husbandry. They will also provide training on A.I to field level veterinary workers in the state. Goat semen (Beetal) is available at Byrnihat</p>

	<p>and requisition can be given to that station.</p> <p>Package of practices for the field veterinarian would be made available by the Director (Research) AAU, Khanapara</p> <p>For training needs of Veterinarian, AAU, Khanapara will provide the required infrastructure and persons.</p> <p>Action- Director, NRC(P), Rani; Dean, College of Veterinary Sciences, AAU, Dept of Animal Husbandry.</p>
Milk testing laboratory for Assam. Reservation of seats for NE students in the Dairy Science course at NDRI.	<p>If a milk testing laboratory is proposed then NDRI can help in setting up the laboratory. Work on SNF and causes for low SNF in milk of Assam could be carried out in the laboratory.</p> <p>VC, AAU informed the house that within a short period a Dairy Science College would be established at the Khanapara campus. The Director, NDRI agreed to help by providing a blue-print for setting up the same. VC also requested that till the period of establishment, 10 seats may be reserved in NDRI for NE- Students. It was suggested that modus operandi to develop enhanced numbers of seats need to be worked out, within the exiting framework so that additional students from NE could be accommodated.</p> <p>Action : Director (AH), Assam; VC, AAU; Director, NDRI</p>

Manipur:

Director (AH), Manipur raised issues on genetic characterization of local cattle, availability of swine fever vaccine, evaluation of local fodder for meeting fodder requirement, training needs on piggery etc. The Director (Horti), Manipur requested for package of practices for king chilli and tomato. Director (Fisheries), raised the issue of fish disease diagnosis in the state. The Director (Extn.), CAU requested for strain identification of CSF vaccines from Myanmar.

The issues raised and the response in given below:

Issues Raised	Response/Recommendations
Genetic characterization and Improvement of local cattle in Manipur-	VC/AAU suggested that a core lab for genetic characterization of indigenous animals in north east that was available should be continued and revived. Dean, college of Veterinary, CAU informed that indigenous Manipuri cows (37 nos.) are maintained at CAU. Conservation of these resources is very important.

	Action – VC, AAU; VC CAU; DDG (AS), ICAR
Evaluation of local fodder for meeting fodder requirement	<p>Fodder shortage is another area that was discussed. It was suggested that NDRI, ERS, Kalyani may be contacted for work relating to phyllogrous and other grasses/fodder evaluation</p> <p>Action- Director/A.H., Manipur; Centre In-charge-NDRI, ERS, Kalyani.</p>
Training needs on piggery	<p>Director, NRC on Pig informed the house that a seven day programme is organized by the Institute. The state government can make use of the programme. VC, CAU pointed out that due to problems of TA, sufficient numbers of trainees are not nominated by the state departments. Director General suggested that TA requirements for training of NE staff may be met from the NE component of ICAR or DONWER sources.</p> <p>Action – Director (AH), Manipur, Directors of all ICAR Institutes</p>
Availability of swine fever vaccine in required number of dosages and at proper time	<p>Vice-Chancellor, AAU, informed that during last RCM, it was decided that NRC on Pigs would store vaccines. However, the vaccines stored at NRC on Pig were not lifted by the State Govts. Director General suggested that requisition for the vaccine should be given with advance payment and it will be ensured by IVRI that vaccine is made available. However, if this is not followed, the matter will not be taken up in subsequent RCMs.</p> <p>Action – Director (AH) of all component states, Director, IVRI</p>
Package of practice for tomato and King Chilli	<p>Dr. S. V. Ngachan, Director ICARRCNEHR informed the house that package of practices for these crops were available at the Manipur centre. It was suggested that ICAR packages may be adopted.</p> <p>Action – Director (Horti), Manipur; JD, ICARRCNEHR, Manipur Centre</p>
Breeding of indigenous fish and establishment of fish disease diagnosis laboratory.	<p>Dr. Meenakumari, DDG (Fisheries) informed the house that for fish disease diagnosis lab within the state, the NFDB option with 40 – 50% subsidy can be explored by the State Departments</p> <p>Dr. S.K. Das PS (Fisheries, ICARRC) informed that seed production competence of indigenous fishes like <i>Bangana dero</i> and <i>Osteobrama</i> have been studied and can be adopted. Amur Carp should be propagated. He</p>

	also informed that a fish disease diagnosis laboratory is available at the Fisheries college of CAU. Action – Director (Fisheries), Manipur
Strain identification of CSF vaccines from Myanmar	It was felt necessary to identify the strain of CSF vaccines coming from Myanmar to Manipur. Action : Dean, College of Veterinary Science, CAU; Director, NRC on Pig
Up-gradation of the Imphal Centre/KVK with regard to Animal Husbandry Scientist/SMS and posting of new scientists.	On the discussion on up-gradation of the Imphal centre, Dr. S. V. Ngachan informed the house that new scientists have been posted to the centre and new facilities added. Scientist/SMS in the Animal Husbandry discipline were posted at the Institute/KVK. Further up-gradation of laboratory facilities for animal science at the Manipur Centre has been envisaged in the XIIth Plan. Also creation of one more SMS in Veterinary Science and Animal Husbandry has been proposed in the XII plan.

Mizoram:

Director (Horti), Mizoram, requested for a regional centre of DOPR and development of a seed garden of oil palm. He informed that, for the garden 50 h land will be provided by Govt. of Mizoram. After 4 years it would become self sustainable and after 10 years it would become profit earning. Survey of districts and stake holders meeting for oil palm expansion had been completed, he informed. DDG (Engg.) suggested that the grid area where summer irrigation is possible may be mapped and there the crop may be introduced. In addition, cold tolerant varieties may be introduced. Dr. S. V. Ngachan requested the Mizoram Govt. to provide the 25 ha land required for the AICRP. He suggested that the collaboration that was initiated with NRC, Oil-Palm should be considered for revival.

The issues raised and the response in given below:

Issues Raised	Response/Recommendations
Popularization of oilseed palm in NE states	Director General suggested that one hectare demonstration units across NE states should be taken up by the DOPR. A small processing and crushing unit should be set up at CAU Pasighat and Mizoram Centre of ICAR. DG also suggested that nodal officers for oil seed programme of Mizoram should visit DOPR following which a training of farmers should be organized at DOPR. Expenditure for farmers training may be booked under the NE components.

	Action – Director, DOPR; Director ICARRCNEHR, Director (Horti) of concerned states, Dean, College of Horticulture, Pasighat.
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Presentation by Vice Chancellors:

Assam Agricultural University:

Vice-Chancellor, AAU, Dr. K. M. Bujarbaruah enquired if the component states of NEH can produce P-2 level seeds of Muga insects. He also requested for opportunity of Ph. D. students to do research in advanced laboratories. Dr. Bujarbaruah also suggested that a centre for research on ducks under CARI may be opened in Assam, Tripura, and Manipur. He also brought it to the notice of the house that disposal of male buffalo is a problem in Assam and proposed for a buffalo fettering centre in Assam in collaboration with CIRB. VC, AAU also proposed for a Vanaraja poultry bird centre in NE and an Agri Science Centre for the NE at Guwahati.

The issues raised and the response in given below:

Issues Raised	Response/Recommendations
Opportunity of Ph. D. Students to do research in advanced laboratories	Principally agreed, however, it was suggested that the matter should be decided by concerned institutes/universities. Action : VCs of AAU, CAU, NU
Opening a center for duck research under CARI for Assam, Tripura, and Manipur	It was decided that the matter would be decided by DG and concerned SMD. Action – DDG (AS)
Proposal for a buffalo fettering centre in Assam in collaboration with CIRB	The proposal was also considered. It was suggested that Director, CIRB may include the same under CIRB, EFC. Action–Director, CIRB; VC,AAU; DDG(AS).
Proposal for a Vanaraja poultry birds center under PDP, Hyderabad	Principally agreed upon. SMD may look into the possibilities. Action – Director, PDP, Hyderabad; DDG (AS)
Proposal for setting up of a NE – Agri-Science Center at Guwahati	The proposal was agreed. Action – VC, AAU; Director, ICAR Research Complex for NEH Region

Central Agricultural University, Imphal

Dr. S. N. Puri, Vice Chancellor raised the issue of availability of land for the university. He said that even those cases where money has been remitted, land transfer is yet to take place. DG

requested the state officials of component states that the issue of land transfer should be looked into by them on a priority basis. Dr. Puri also raised the issue of delay in nominating students to various courses by the state governments. He also pointed out about the insufficiency of fund allotted for construction work under KVKs and the need for special relaxation on vehicle purchase and recruitment in the NE region. He also raised the issue of paucity of funds in the TA heads under the AICRPs.

The issues raised and the response in given below:

Issues Raised	Response/Recommendations
Admission of Students in state quota	The state departments were asked to expedite timely nomination. In the specific case of college of home sciences, filling up of left over seats through open advertisement was accepted. Action – All concerned in the component states, VC, CAU
Insufficiency of fund allotted for construction work under KVKs	It was agreed that CPWD index of component states would be followed for KVKs of that state. Action : ZPD (Zone III), DDG (Extn.)
Paucity of funds in the TA heads under the AICRPs	DG suggested that all the Project Coordinators whose projects are running in the NE may increase their grants under contingency and TA. DDG (Extn) also suggested that a special programme under TSP may be taken up by DMR for the NE region. Action – All Project Coordinators, Director, DMR

Nagaland University:

Dr. B. Konwar, VC, Nagaland University said that the university has only one college, SASARD, where faculties are involved only in teaching. However, a research backup is needed for quality teaching. He requested for grant from ICAR for the full development of SASARD.

Action – DDG (Edn) ICAR, Dean, SASARD, Nagaland

Presentation by Directors of ICAR Institutes

Director, CIAE, Bhopal

The Director, CIAE said that if specific requirement plan for mechanization is received, a plan can be developed. Four states in the NE are having AICRP centres and these would be further

strengthened. A new centre would be developed at Guwahati. He informed the house that millet, millet duhusker, arecanut desheller, coconut tree climber and soybean tofu makers developed by CIAE would be of use in the NE states. He stressed upon the need for human resource development in the agricultural engineering sector.

Dr. S. Ayappan, DG, ICAR requested all state departments to give their specific requirement for mechanization. He also suggested that additional fund for contractual manpower recruitment may be given to AICRP centres in the NE.

Action – Directors of all line departments of component states, Director, CIAE, Bhopal

Director, CIRG, Makdum

Director, CIRG, Dr. S. K. Agarwal informed the house that technology for semen preservation is available and training on AI can be given to field veterinarians. Complete pellet feed technology for goat has been developed.

DG suggested to prepare a state-wise action plan for goat farming in consultation with VC(AAU) and send the same for inclusion in the proceedings.

Action – VC, AAU; Director CIRG and all cooperating centres in NEH

Director, PDP, Hyderabad

Dr. R. N. Chatarjee, Director, PDP, Hyderabad stated that commercial poultry farming always faces the threat of avian influenza. The chick (Vanaraja) supply to NE is 50 lakh/year. This could be increased under XII plan. There was the possibility of introducing the Sreenidhi breed that has colored plumage and higher egg production. Dr. S. V. Ngachan stated that the backyard poultry needs to be scaled up to rural poultry. There was a suggestion to develop a centre in NE for supply of chicks.

As DG, ICAR, suggested that assessment of cost of production of poultry/impact assessment in the NE, by a good economist, should be taken up.

Action : Director, PDP, Hyderabad and all its cooperating centres in the NE states.

Director, CIFE, Mumbai

Dr. W. S. Lakra, Director, CIFE said that they have a special programme for NE states; students from CAU and AAU were included in the ‘on-board’ training programme of CIFE. The Institute can provide training on brood bank including training on prawn hatchery. VC, AAU requested for opening a fish disease diagnostic centre at Khanapara.

It was suggested that, a fish disease diagnostic centre may be established at AAU, Khanapara.

Action: Director, CIFE; VC, AAU

Director, NDRI

Dr. A.K. Srivastava, Director discussed on the genetic characterization and identification of Manipuri cow. He also discussed the issue of feed and fodder resources in the NE. Dr. Srivastava said that NDRI can help in training the AI workers so that success of AI is improved. He informed the house that NDRI is starting a diploma course in Animal Husbandry from 2014 be some seats may be kept for NE students.

Director, NRC on Pig

Dr. D. Sharma said that breeding of pigs is a major issue. Availability of breeding boar is a problem. A central pig breeding centre may be set up. Protocol frozen semen production would be standardized at NRC(P) very soon. The technology for AI in pigs is already standardized.

The issues raised and the response in given below :

Issues Raised	Response/Recommendations
Central pig breeding farm	A plan for central pig breeding farm may be developed in consultation with VC, AAU. Action – Director, NRC(P)
Popularization of AI in pigs	Regular training on AI using frozen semen should be initiated after 6 months by which time the technology is expected to be perfected
Extension of scientific piggery	As per the suggestion of DG, ICAR, farmers visit to the pig farms should be sponsored from the NE fund. Action – Director, NRC(P)

CIFT, Visakhapattanam

Dr. M. Prasad said that CIFT can provide technologies for smoke cured fish and harvesting fish from fast flowing rivers.

NRC on Cashew

Dr. Hariprasad informed that there is potential for cashew expansion in Meghalaya, Nagaland and Assam. Dr. S. Ayappan, DG, ICAR suggested that in all programmes relating to NE, there should be involvement of ICAR Research Complex, Barapani, as this is the main platform of ICAR in the NE.

The centre was asked to provide a note on the possible intervention for the NE. The note is appended as Annexure-I

Action - Director ICAR RC NEH

Scientist I/c, Ramie Research Station

Scientist I/c informed the house about new varieties of ramie. However, he said that the demonstration programmes were not picking up.

DG, ICAR, suggested the station should join hands with AAU and Directorates of Assam to develop joint programmes. The Scientist I/c was also asked to give a note on the contemplated plan for ramie development plan. VC, AAU was requested to convene a meeting with stake holders for ramie improvement in the state.

Action: Scientist I/c, Ramie Research Station; VC, AAU.

CPCRI, Kahikuchi Centre

The scientist I/c informed the house that the centre is carrying out evaluation of germplasm and cropping systems. Demonstrations in the farmers field and supply of Trichoderma and organic manures for spice crops were also taken up.

Central Inland Fisheries Research Institute

Director CIFRI stated that a GIS based fish catch program is being developed for mapping fisheries resources.

DG, ICAR, suggested that the NE mode of operation should be in a proper way and field oriented. The beneficiaries should gain from the intervention.

Action: Director, CIFRI

The Scientist I/c informed the house that the centre undertook fish stock assessment of wetlands/flood plains of Assam along with nutrient profiling of Pengba, Hilsha from Brahmaputra and Puntins sp. were completed. Forty flood plain lake surveys were also completed.

The scientist I/c was suggested to take up collaboration with college of fisheries, Raha on fish stock assessment. As requested by the VC, AAU, Scientist from Guwahati Centre of CFCFRI may provide teaching support to AAU, Khanapara.

Action: Scientist I/c, CIFRI, Guwahati

NBSS&LUP Regional Centre, Jorhat

The Scientist I/c informed that they have developed a decision support system and which is used for selection of an appropriate land use system. The model is under validation and an attempt at grid identification is in progress. 1: 12,500 scale mapping is being attempted and Dimapur is being mapped.

CRRI, Geruah

Two lines viz. Rajalaskshmi and Ajay have been identified for Boro season. Rice-Fish-Horticultural systems validated under the integrated farming mode. Rice varieties for flood prone plain areas have been developed.

CTCRI, Bhubaneswar

Centre I/c, CTCRI, Bhubaneswar informed that propagation / popularization of elephant foot yam, tapioca, colocasia, sweet potato etc. in collaboration with ICAR Research Complex, Umiam are being taken up.

Action point- A note on district wise crop requirement and plan of work for NE states may be prepared and sent for inclusion in proceedings.

Action: Scientist I/c, CTCRI, Bhubaneswar

CPRS, Shillong

Dr. T.K. Bag, Scientist I/c informed the house that Kufri- Giridhari, and Kufri Megha were identified as suitable varieties for Meghalaya. 450 quintal potato seed were produced and 378 quintals were distributed. During March, 2013, aeroponics production was started and yield was good.

NBPGR Regional Station, Barapani

Dr. A.K. Mishra said that the centre carried out 35 exploration in which about 1000 new gerplasm were collected and characterization of 800 of them completed. In addition, the centre supplied GP as per requisition.

NDRI Regional Station, Kalyani

Dr. T. K. Dutta, Scientist I/c, informed that collaboration on improvement of dairy farming in NE India is ongoing. Multi-institution involvement is complete.

Action point- DG, ICAR, expressed that there should be regular visits to NE states and projects should have NE component.

Action – Scientist I/c, NDRI Regional Centre, Kalyani

Director, NBSS&LUP, Jorhat

Dr. Dipak Sarkar informed the house that nutrient mapping of Tripura and Assam was completed and mapping of Nagaland and Sikkim was in progress. The Institute was undertaking land resource inventorization on a 1:10,000 scale in collaboration with SAUs, CAUs and remote sensing agencies. District level land use planning for Jorhat district was also started. The Institute was undertaking training programmes for capacity building which would be intensified in the XII plan.

Directorate of Maize Research, New Delhi

Director, DMR in his presentation informed the house that 14 cultivars of maize have been released during last 10 years of which 8 hybrids were suitable for the NEH Region. There is no seed chain for maize in the region. Therefore, seed production need to be propagated in areas where it is possible. Under the ultra-farm scheme- Biofortified maize is to be introduced. Involvements of JDs of ICAR Regional Centres are crucial. Data reporting of various maize trials need to be improved.

DG, ICAR; suggested that identification of material for NEH should be continued. More emphasis should be given on single cross hybrids and training programmes arranged for seed production. Additional fund for contingency and contractual manpower may be provided. A seed production policy for NEH states may be developed in collaboration with ICARRCNEHR.

Action-Director, DMR, Director, ICARRCNEHR.

NRC on Soybean, Indore

Director, NRC on Soybean, discussed potential for Soybean in NE Market support for soybean in minimal. State Department of Agriculture could take up the popularized varieties of soya bean. A total of 4 centres are being operated in NE. Arunachal Pradesh has good potential for soybean.

Prepare a note on plan for NE and send it for inclusion in proceedings (four years- action plan)

Action: Director, NRC on Soybean, Indore

Director, IGRI

Dr. P. K. Ghosh, Director informed the house about various programmes taken up by IGRI in the NE. He was of the opinion that in the jhum areas, range and legume grasses may be good for rejuvenating soil health. He also suggested that some new programmes can be taken up for Tripura. At present there is no fodder seed bank in NE. VC, AAU offered to provide 10 ha land for the fodder seed bank.

DG, suggested a note on the contemplated programmes for the NE may be provided for inclusion in the proceedings.

Action: Director, IGFRI; ICAR RC NEH; Director Research (A.A.U.)

ICAR Research Complex for NEH Region

Dr. S. V. Ngachan presented the achievements and future programmes of the Institute. He said that the Institute has varietal options for different ecosystems of both field and horticultural crops. They fit well in the farming system models developed by the Institute. The institute also made successful interventions in piggery, poultry and fishery sector. The Institute has full fledged facility for AI in pig and has developed some tools for semen collection. In the Agril. Engg. Sector, the Institute has developed various machines and implements suitable for operations in terraces and sloppy land. Under TSP about 60,000 farm families were covered. In Manipur zero-tillage and Integrated farming system are being encouraged. In Mizoram deficiency of trace mineral is a major issue to be focused, and requested more collaboration with NBSSLUP. In case of Animal Sciences and fisheries, more emphasis be on Integrated farming system and ornamental fishes. Three mega seed project are operational at the Institute at Nagaland, Tripura and Sikkim.

In the XII Five Year Plan Jhum Improvement and Trans-boundary Disease Management are two flagship programmes of the Institute. He requested for a poultry seed project at Umiam. In the IT sector, KIRAN is a flagship programme. He requested input from all ICAR Institutes, CAU, AAU, NU and others for enriching KIRAN.

The issues raised and the response in given below :

Issues Raised	Response/Recommendations
Regular interface meeting with state officials	Regular interface meeting should be conducted to improve coordination. Where a low response is apprehended, the Institute may visit the line departments and have interface with them. Action : Directors and Scientist I/c of all ICAR Institutes in the region.
A statewise combined interface meeting should held regularly.	Statewise interface meeting between line departments of a particular state and scientists from ICAR, AAU and CAU should be organized regularly. In this meeting scientists from other institutes may be invited depending on requirement. Scientists, who come from outside the region, would stay back for 2-3 days and look at the real situations. A committee with VC, AAU/CAU as chairman and Director ICARRCNEHR as Secretary would organize the meetings. Proceedings of such meeting should be made available at KIRAN.

	Action : VC, AAU; VC, CAU; Director, ICARRCNEHR
Mega seed project on poultry at Umiam	Director, PDP may provide a project from NE component. Action : Director PDP; Director ICARRCNEHR
Uploading information at KIRAN	Institute/ Universities located in the NE should be forthcoming in providing details for uploading on KIRAN and make the website more enriched in term of data content. Action – VC, AAU; VC, CAU; VC, NU; Directors and Scientist I/c of all ICAR Institutes in the region.

NRC on Citrus, Nagpur

Dr. Nadania, Principal Scientist, NRC (Nagpur) highlighted the importance, problems and future research agenda as citrus in the NE. The institute can provide assistance to growers and farmers. The major drawbacks in NRC is paucity of scientific manpower. Dr. Nadania said NRCC can train Scientist and farms on citrus bud grafting.

Dr. Puri, VC, CAU, said that Khasi Mandarin is one of the best germplasm. The college of horticulture at Pasighat has facilities for creating rootstock and budding material. However, Private nursery owners are not showing any interest/initiation in taking up propagation of these materials. The mother orchards are to be grown in protected cultivation and areas of intervention are Pasighat and Imphal.

Dr. Bujarbaruah, VC, AAU said that Tinsukia Research Station of AAU has been doing exclusive work on citrus. There is a notion that budded plants are best. However, budded plants show faster decline. Hence, seeded plant to budded plant ratios need to be worked upon. He also suggested for creating new facilities for mother stocks of citrus under protected environment for quality planting material production.

Action point - It was decided that AAU should be called whenever there is a meeting/brainstorming on citrus for NE region. NRC Citrus would prepare an action plan for next 4 years and submit for inclusion in the proceedings.

Action – Director, NRC on Citrus.

ZPD, Zone III

Dr. A. K. Gogoi, Zonal Coordinator presented the achievements made under the Zone-III Component of the ZPD. He informed that 74 KVKs were opened across the NE States and 11 new KVKs will be opening shortly. He emphasized on enhancing funds allotted for field

demonstration and establishment of permanent demonstration sites with KVKs. Dr. K. M. Bujarbaruah, VC, AAU said that the KVK staff in state departments feel job insecurity. Whether their jobs are temporary or permanent needs to be clarified.

Action: ZDP, Zone III

NRC on Mithun

Dr. C. Rajkhowa informed the house that the institute has identified some good fodder source from local weed and grasses. KOMUL, a local autonomous cooperative has taken the identified fodders for production and use in their dairy units. The institute successfully carried out AI of Mithun in farmers' field and developed Mithun-based farming systems. The institute is organizing training programmes in Manipur, Nagaland and Arunachal Pradesh and collaborating with KVKs

NRC on Yak

Dr. S.M. Deb presented material relating to NRC on Yak. Under the TSP, the Institute carried out local interventions in states of Mizoram, Manipur and Arunachal Pradesh. Artificial insemination technology has been standardized in Yak. The main problem is that they are reared on a single platform and pasture land development is one of the areas of intervention. In Sikkim, there would be a need for logistics to demonstrate the technology for farmers especially yak rearing, he said. Germplasm from Laddakh would be procured from Sher-e-Kashmir-Agril University for further studies at the centre.

NRC on Orchid

Dr. R.P. Medhi, Director, NRC Orchid presented the work being carried out. He stated that for the first time in vitro flowering was observed in Cymbidium orchid. Four clones of orchid have been selected and registered at the Royal Horticultural Society.

Action point- There should be more of entrepreneurial activity in this sector. Interested Private growers/nurseries may be mobilized. Production of orchids for entire NE in XII plan should be contemplated and plans to implement the same may be formulated.

Action: Director, NRC on Orchids

Presentation by Member Governing Body

Shri S. Bhargava, Member Governing Body, ICAR, in his concluding remarks suggested ICAR to depute scientist from other states to serve in NE region for a period of 3 years to share knowledge with Scientist in NE region. There is need to create proper marketing facilities in the region and timely supply for farm inputs. He suggested that a long-term HRD requirement should be assessed. He was of the opinion that AICRPs on farm implements and animal health need more support as both of these are very important for the NE region.

Action: VC. A.A.U.; VC C.A.U.; Director ICAR RC NEH

Presentation by participants from ICAR Head Quarter

Secretary, ICAR

Mr. A. Kuashal (Secretary) ICAR said that region specific projects may be submitted by NE region scientists. He also suggested that Agri-food product hub may be created for exchange and trans-border trade. He also said that there should be a rotational transfer of scientists from and to the region.

DDG, (Education)

Dr. Arvind Kumar DDG (Edu) expressed happiness that students from this region are performing well in various ICAR competitive examination and they will be a competent manpower in the future. Opportunities will be made available to the students to carry out a part of their Ph.D. research in any advanced lab within India for which guidelines have already been issued. He suggested that every year a pre-kharif and pre-rabi convergence meeting should be conducted with SAU, KVKs and Govt. stakeholders for proper planning. He also suggested that a small bulletin based on the suggestions and recommendations emerging out of the RCM may be published.

DDG (Animal Sciences)

Dr. K. M. L. Pathak, DDG (AS) said that priority areas of animal husbandry in NE are rural poultry, dairy and goatary. He said that quality semen and package of practices for beetle goat can be made available to region. The milk testing kit can be used to check milk quality. Duck research centre of CARI may not be possible to establish at this moment but some support for research on duck can be provided. To enhance milk production in this region, "Murrah" buffalo rearing may be introduced. He also stressed on upgrading the non-descript breed of NE livestock. He was optimistic that a centre of AICRP on Pig can be given to Arunachal Pradesh. For the state wise priorities, he suggested that Meghalaya may adopt goatary and poultry along with piggery while for Sikkim the priority areas are goat/poultry-based integrated farming. For Tripura, goatary using Black Bengal Goat is the priority area.

DDG, (Horticulture)

Dr. N.K Krishna Kumar DDG (Hort) said that for proper marketing of horticultural produce of NE region, a systematic market linkage analysis is required. For the problems of stem borer in Arunachal Pradesh and Lichi bug in Meghalaya, suitable measures would be taken. He also proposed to opt for organic cultivating of Tea to avoid indiscriminate use of pesticides and fetch better revenue in international market. For growing horticultural crops, micronutrient

deficiencies in soil need to be identified and mapped. Besides, emphasis may be given on cultivation of temperate/tropical fruits under protected cultivation, mushroom cultivation and betel-vine for better economic sustainability for NE region, he said. On the point of improvement of Sabri banana, he said that NRC on Banana would be requested to look into it. He was of the opinion that oil palm has very good potential in NE and need persuasion for introduction in all the component states. On the matter of research on Cashew and Citrus, he suggested that a cell may be opened at ICARRCNEHR, Umiam where scientists from concerned institutes can come and their work is coordinated. For popularization of honey bee, the results obtained at AAU may be disseminated to other potential areas. Development of citrus mother block and the concept of custodian farmers for germplasm conservation are other points on which he gave stress.

DDG (Engineering)

Dr. M. M. Pandey DDG (Ag. Engg) informed the house about opening of a farm machinery development centre at Guwahati. One more centre would be opened in one of the component states of NE. The Engineering Division is taking up a platform project on post harvest technology for various crops including ginger, turmeric and pineapple, The centre will provide infrastructure for food processing and testing unit for ginger, turmeric and pineapple in NE region. Grants for setting up food testing may be forwarded to the division. Non-availability of implements is a major problem for NE. He suggested for expansion of the revolving fund scheme. As soybean has good potential, the soybean processing model being developed at Umiam may be replicated by other institutes/states.

DDG (Extn)

Dr. K. D Kokate DDG (Extn.) talked about filling up of the vacant post of PC in KVKs and effective technological backstopping to KVKs by SAUs and ICAR Research Institutes. A road map is required for statewide policy planning, he said. Dr. Kokate said that there are scopes of interventions by KVKs in organic farming, floriculture and participatory seed production in farmers' field. Besides, state govt. may take responsibility for marketing of agriculture and allied products under popular brand name as exemplified by 'Assam Tea'. He also informed the house that risk management committees, custom hiring system of farm machines and three tier monitoring of KVK activities were effectively functioning.

DDG (Fisheries)

Dr. M Meenakumari DDG (Fisheries) informed the house that CIFA can install a hatchery either at the Fisheries College, CAU or in the State department. For adequate availability of fish seeds, brood stock of indigenous fishes should be established and for this the Kalyani Centre of CIFA can provide necessary training. Commenting on the high cost of fish feed, she said that the outreach programme of CIFA on fish feed development could be of help. She also informed that under the 12th plan, a mega seed programme on quality fish seed is proposed to will be taken. Integrated farming system including fishery may be given more emphasis by the KVKs and SAUs. Moreover, diagnostics lab for fish may also be established by private company, in partnership with ICAR, to cater to the need of the states. Dr. Meenakumari said that solar fish driers were installed in Manipur and Meghalaya. These driers may be tried for ginger drying

also. Discussing on ornamental fish resources of the region, she said that CIFA was already taking samples and developing broods. Interested entrepreneurs could receive training at CIFA. She also said that if fish diagnostic laboratories are established in the region, training to the owners could be given at CIFA or CIBA.

ND, NAIP

Dr. D. Ramarao, National Director (NAIP) emphasized on proper implementation of market links and establishing good communication to disseminate knowledge to farmers. He appreciated the performance of the Livelihood project at ICAR Research Complex. He also said that only few months are left for the project, therefore, fund utilization plan should be chalked out.

Director Finance

Shri D Kumar, Director (Finance) was of the opinion that for utilization of the NE fund smart planning is required. Discussing on the issue of insufficient budget for payment of salary to KVK staff, he suggested that payment can be made from other ICAR funded projects until such time as funds are available. All the KVKs attached to SAU/CAU are required to submit monthly statement of expenditure and UC on regular basis. Records related to the grants released to universities need to be maintained properly along with asset register and physical verification report.

Dr. S. Maurya, ADG, IP & TM

Dr. Maurya informed the house about geographical indicator for promising bio-resources of the region and IPR protection activities at various institutes. He stressed on the uploading of IPR protection related information at KIRAN website. He also stressed on the licensing of various developed technologies, biodiversity mapping and PPVFRA activities. DG, ICAR said that the region is rich in biodiversity but our efforts to protect their intellectual right is not enough. He also stressed on the point that caution should be exercised while approving twining research programmes and it should be ensured that they are NE-based and NE-focused.

Action: All V.C.s and Directors of ICAR Institutes

Dr. A. K. Vasisth, ADG, (PIM)

Dr A.K. Vasisht, expressed his views on land use planning in NE region and suggested that multidisciplinary approach is required for proper land use planning and mapping.

Action: Director, NBSS&LUP

Dr. T. P. Rajendran, ADG (PP)

Dr T. P Rajendran ADG (PP), ICAR suggested to enhance pulse production in NE region through large scale demonstration by KVKs with ensured input supply. Regarding oilseed a value chain was recommended so that oilseed by-products can be used as animal feed. He also

emphasized on setting up of planning cell to improve production of breeder seed in collaboration with KVKs, ATMA and State department stakeholders and opening a state based production plan for fodder and legumes. The region is suitable for jute, ramie and cotton; therefore, cultivation of fibre crops may be enhanced.

Action: ZPD, Zone III, Directors of ICAR Institutes operating in Zone III

Dr B Mohan Kumar, ADG (A and AF)

Dr B Mohan Kumar, ADG (A and AF), ICAR said the proposal for setting up of a wet land management centre under ICAR Research Complex for Eastern Region in Assam need clearance from the state Govt. Land degradation is major issue in NE, hence optimum land usage may be followed. He suggested opting for organic farming, conservation agriculture and micro-irrigation technique.

Director, DKMA, ICAR

Dr R. Singh, Director, DKMA, ICAR expressed his happiness on successful launch on “KIRAN” and requested all the member of the house to provide necessary inputs to the webpage. He promised that a link will be given to KIRAN at ICAR website. He suggested to use ‘Google Analytic’ to monitor website visits. Dr. Singh also asked member to submit concept note for short films (5-10mins) on successful technologies generated in NE region. He suggested the member to document success stories of farmers after technology interventions by SAU, CAUS and ICAR institutes. He was of the opinion that contribution to general popular journals like ‘Indian Farming’ has reduced and scientists should contribute to these journals for the benefit of public in general.

Action: All V.C.s and Directors of ICAR Institutes

Director, DAC

Dr R. K Tripathi, Director DAC informed the house that the Kisan Call Centres are the best model for communicating with the farmers and provide advanced technologies to them. He indicated that Agri Business centers, community radio station are required in the NE region.

Closing Remarks:

Dr. S. Ayyappan, DG, ICAR in his closing remarks said that the NE region has huge potential and commensurate investing opportunities. However, prioritization and smart planning is required to use the investment in a meaningful manner and creating an ambiance for research and development. He said that except for 4 institutes in the ICAR system, all other institutes should have a NE component and the fund allocation should be a minimum 10%. He finally thanked the VC and staff of AAU for the excellent logistics and all participants for their valuable contributions.

The meeting ended with a vote of thanks by Dr. S. V. Ngachan, Member Secretary, RCM, Zone III.