

Proceedings of
First Consultative Meeting of
Deans of Agricultural Universities



25-26 June, 2010

University Auditorium, ANGRAU
Rajendranagar, Hyderabad - 30



Acharya N.G. Ranga Agricultural University
and
Indian Council of Agricultural Research



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(शिक्षा विभाग)

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F. No. 8-8/2010-EPD

Dated : 24th July, 2010

Sub: First Consultative Meet of the Deans of Agricultural Universities held on 25–26 June, 2010 at ANGRAU, Hyderabad.

The proceedings of the above meeting duly approved by the Secretary, DARE & DG, ICAR is enclosed for your kind information and necessary action.

(C. Devakumar)

Encl: As above

Distribution:

1. All Vice-chancellors of SAUs/CUs/DUs
2. All Deans of AUs
3. Chairman & Members of ASRB
4. All DDGs
5. ADG(EQR)/ ADG(HRD)/ DS(Edn.)
6. Directors (NAARM)/ DOR/ DRR/ CRIDA, Hyderabad
7. Sr. PPS to DG, ICAR/ASCD/AS&FA
8. PS to DDG (Edn.)
9. Guard file

First Consultative Meet of Deans of Agricultural Universities

Inaugural Session I

The First Consultative Meet of Deans of Agricultural Universities comprising 46 State Agricultural Universities, 5 Deemed Universities and Agricultural Faculties and 4 Central Universities was inaugurated at University Auditorium on 25 June 2010. Over 160 Deans and Associate Deans participated. The two day's meet jointly organized by ANGRAU and ICAR aimed at reviewing the impact of various initiatives taken up to strengthen higher agricultural education sector in this country.

The event started with a formal inaugural session which was graced by the Chief Guest Padma Sri Dr M.V. Rao, Former Special Director General ICAR, Dr S. Ayyappan, Secretary, DARE & Director General, ICAR; Dr P. Raghava Reddy, Vice-chancellor, ANGRAU; Dr Arvind Kumar, DDG (Edn.), ICAR; Dr C. Devakumar, ADG (EPD), ICAR and Dr R.K. Mittal, ADG (EQR), ICAR. The participants included Deans of Faculties from various AUs' across the country, Directors of various ICAR institutes located in Hyderabad, selected faculty from ANGRAU and representatives of Print and Electronic media.

Hon'ble Vice-chancellor of ANGRAU Dr P. Raghava Reddy while welcoming the participants highlighted the achievements of the university.

Introducing the objectives of the maiden meet, Dr Arvind Kumar, DDG (Edn.), stressed on the need in improving the quality of agricultural higher education in the country. He further stated that in view of emerging scenario due to change in agricultural trade, marketing and intellectual property regime the IV Deans Committee was constituted in 2005. The committee after a wide range of consultations has come out with recommendations in 2007, some of which are yet to be implemented. He requested all Deans to contribute enormously in implementing the necessary changes in education system to develop professional skills, team building, communication and inter-personal skills, so as to restore the pride in students of being agricultural graduates and professionals.

Dr R.K. Mittal, Asst. Director General (EQR), ICAR in his remarks added that by now most of AUs have implemented the revised course curricula including postgraduate courses. He informed about the new initiative of ICAR in funding one time grant for modernizing the SAUs' farms.

While delivering inspiring speech, Dr S. Ayyappan, the Secretary (DARE) and Director General, ICAR opined that this conference gives the best opportunity to analyze the impact of initiatives taken by the ICAR in the field of agricultural higher education, viz., RAWEP, Experiential Learning, Niche Area of Excellence, Modernization of Agricultural University Farms, revision of the course curricula, quality reforms etc. The following issues were highlighted by him.

- The initiative of modernization of the AU farms should focus on creating a model farm with unique infrastructure facilities to serve as a model to the young professionals.
- Efforts are needed to make higher agricultural education attractive for the talented students.
- Investment in agriculture is to be increased as the returns to investment are very high in agriculture.
- Capacity building programmes are to be formulated at various levels. Initially, a modular training programme on leadership and management is planned for the Faculty-Deans by NAARM, Hyderabad.
- Agricultural Universities should exploit the online access of over 2000 journals available under Consortium for e-Resources for Agriculture (CeRA).
- To improve and maintain standards of education, priority should be accorded to accreditation of SAUs, colleges, implementing NET and syllabi updation on a continuation basis.
- Develop international linkages and establish the enterprises to infuse efficiency in crop production activities at affordable cost for small and medium farmers.
- Re-thinking in implementing optimal mode of teaching methodologies through ICT.
- About 50% of the posts are vacant in some of the Universities and Vice-chancellors should approach the State governments for filling the

vacant positions. The possibility of filling 25% posts through all India cadre be also examined.

- Assessment of Human Resources requirement and impact assessment be done for each and every State. Format for getting credible information is to be developed.
- The Deans Meet would be an annual event hereafter to have a meaningful dialogue to strengthen the quality of higher agricultural education in the country.

Dr M.V. Rao raised the following issues:

- Second Green Revolution must include rainfed agriculture through enhancement of the productivity and by minimizing the post-harvest losses.
- Diversify in secondary agriculture to accommodate the rural population profitably. Still 30% of the population is below poverty line.
- Maintenance of quality of soil, water and air in the agro-ecosystem must be ensured.
- Inclusion of WTO related issues, IPR, Codex standards etc in the course-curricula and involvement of the VCs' and Deans in active teaching.
- Need to review the land grant model which, in USA has diversified. He lamented the narrow approach of excluding non-agricultural streams in the student enrolment. While the world is witnessing consolidation of universities and companies, we witness increased fragmentation of AUs into Horticulture, Animal and Veterinary sciences etc.

Dr C. Devakumar, Assistant Director General (Education Planning & Development), ICAR in his vote of thanks hailed Hyderabad as the agriculture knowledge city and appreciated the ICAR–AU axis practised in the city.

INTERACTIVE SESSION – I

(25 June 2010 at 11:30 am to 1:30 pm)

- Themes** : Course-curricula and needed revisions suiting to changing demands of the job market, entrepreneurship skills and agricultural development.
- Chairman** : Dr S. Ayyappan, Secretary, DARE & DG, ICAR
- Rapporteurs** : Dr Viraktamath, Director, DRR, Hyderabad
Dr H.S. Gaur, Dean, IARI, New Delhi

The Chairman highlighted the importance of the role of achieving high standards of education and improving the productivity of Universities. After a round of introduction, the DDG (Edn) called for increased efforts in enhancing the quality of students coming out, especially personality traits, communication skills and stakeholder needs. Dr P.K. Joshi, Director, NAARM also highlighted the need to impart business management traits to students. He also recommended that the Deans alongwith senior officials from Education Division of ICAR may be enabled to visit some good Universities in USA to appraise them with the latest teaching systems. He also proposed higher education management modules for Deans. The Deans of different Universities expressed their difficulties and also made some suggestions. Some of these are listed below:

1. Faculty shortage is rampant. Recruitments or some alternate innovative methods of sharing the teaching is necessary.
2. Most faculty members need exposure to other universities in India or abroad.
3. Faculty training programmes should be organized.
4. The public awareness of opportunities in higher agricultural education should be increased and also to the school students at IX–XII standards.
5. The employment opportunities in agricultural stream are much brighter than other streams. But other streams such as medicine have created status symbol which we need to capture vigorously, considering the role of agriculture in the economy of the country.

6. The practical content in teaching must be enriched.
7. The UG students may be given 50% optional course work to improve their personality.
8. Exchange of students among universities for a few months may be explored.
9. Aggressive marketing of agricultural education is necessary.
10. Placement and career counseling cells should be strengthened under the charge of trained professionals, but not as an additional charge of teachers.
11. More emphasis is required on entrepreneurship development and RAWE.
12. Regular alumni meets should be held to motivate and guide the younger students.
13. Rural students may be encouraged to study agricultural courses.
14. It was proposed that 25% or more faculty positions may be recruited through ASRB to discourage "son of the soil" factor and in-breeding. More than two degrees should not be allowed from the same University.
15. The 15 and 25% quota of ICAR seats under UG and PG programmes respectively may be increased to 25 and 35% respectively to have more national character in the campuses from other States.
16. Health education and extra-curricular activities including sports should be promoted.
17. Public–Private partnership may be promoted especially in experiential learning for entrepreneurship development.
18. A programme of seed money to young students to set up business or entrepreneurship may be provided.
19. A national level core faculty in different disciplines may be identified, who may provide on-line/e-learning/distance learning modules on principles and major theoretical concepts at the national level, which can be complemented with practical aspects by the local faculty.
20. More support to renovate or rebuild old hostels, laboratories, buildings etc. is needed.
21. Case studies of successful models may be prepared and propagated.

22. The department of “Post-harvest management and Value-addition” (PHMV) may be included under the faculty of Horticulture as is being followed in the faculty of fisheries.
23. Some courses (with detailed syllabi) on “Agro-tourism/Agro-eco tourism” may be included.
24. During RAWE/RHWE programme, students may be exposed to the success stories of the stakeholders/farmers.

INTERACTIVE SESSION – II

(25 June 2010 at 2:30 pm to 4:30 pm)

- Themes** : Critical areas of infrastructure and faculty training
- Chairman** : Dr S. Ayyappan, Secretary, DARE & DG, ICAR
- Co-Chairmen** : Dr Arvind Kumar, DDG (Edn.), ICAR
Dr P. Raghava Redy, Vice-chancellor, ANGRAU, Hyderabad
- Rapporteurs** : Dr D.M.Hegde, Director, DOR, Hyderabad
Dr Dharmeswar Das, Dean & Joint Director (Acad.), IVRI, Izatnagar

Dr R.C. Goyal, Principal Scientist, IASRI, New Delhi gave an overview of the National Information System on Agricultural Education (NISAGENET) which was set up based on the recommendations of National Statistical Commission. It was informed that NISAGENET will enable to have every conceivable information about agricultural education in the country. It will enable sharing of information, facilities, manpower and information regarding vacancies, publications, R&D activities etc. It was requested that all the remaining State agricultural universities may also join NISAGENET by nominating a nodal officer, The following action points were suggested to make NISAGENET more useful.

- The Deans may update and oversee the information at least once in a year and the nodal officers of the Universities every quarterly in a systematic manner.
- Event-wise information has to be updated as and when the events take place, month-wise.

This was followed by a brief presentation by Dr C. Devakumar, ADG (EPD) outlining the guidelines governing the ICAR Development Grant. He specially mentioned the following points.

- A copy of the instructional materials such as practical manuals available for different courses must be sent to the office of the DDG (Edn.),

ICAR so that a national level manual could be prepared with the help of experts. The expenditure on their preparation will be met on actual basis.

- Constant re-orientation of courses keeping in mind the market demand and global scenario be done.
- Civil works be restricted to only construction of girls hostel, international hostel, examination hall, sports complex, museum as per the approved plan.
- There is need for level-playing in expenditure so that per capita expenditure on UG/PG education across agricultural universities is at par.

The Chairman called for uniformity in the nomenclature of different faculties, specialized courses, departments and also colleges.

This was followed by presentation by Deans of different agricultural universities from various States. The discussion centred around on admissions, academic activities and facilities. It was also requested to suggest measures to make the system more effective by giving importance for maintenance of buildings and field facilities.

INTERACTIVE SESSION–III

(25 June 2010 at 4:45 pm to 6:00 pm)

- Themes** : Review of thrust areas of XI Plan Schemes, ICAR Grants to colleges and future strategies
- Chairman** : Dr S. Ayyappan, Secretary, DARE & DG, ICAR
- Co-Chairman** : Dr Arvind Kumar, DDG(Edn.)
- Rapporteurs** : Dr T. Ramesh Babu & Dr A. Siva Sankar, ANGRAU, Hyderabad

In the opening remarks, DG emphasized that we must not lose sight of the long term vision to promote quality education in agriculture across the country. He cautioned against sporadic opening of colleges and departments without proper planning. He cited the area of funding to Biotechnology in colleges in that context. It was also emphasized that keeping in view the demand, funds could be sought for modernization of instructional farms, training programmes such as water management etc.

Following are some areas of funding and support required from ICAR as per the interaction from various Deans of SAUs.

- Renovation of old hostels and college blocks
- Sanction for examination hall enabling the smooth conduct of examination
- Sanction for girls hostels
- Sanction for library strengthening
- Funding to improve transport for visits to industry and regular classes
- Modernization of instructional farms

INTERACTIVE SESSION-IV

(26 June 2010 at 10:00 am to 11:30 am)

- Themes** : (a) RAWE and Experiential Learning Units, their performance and Relevance
(b) Consolidation of Agricultural Universities.
(c) Model Act, Governance and related issues
- Chairman** : Dr S. Ayyappan, Secretary, DARE & DG, ICAR
- Co-Chairman** : Dr Arvind Kumar, DDG (Edn.)
- Rapporteurs** : Dr B.Venkateshwarlu, Director, CRIDA, Hyderabad
Dr P. Narayana Reddy, ANGRAU, Hyderabad

Following observations were made:

- Each SAU should have a comprehensive plan for each college regarding admissions and corresponding facilities required and project requirements. A concept paper/ vision document for each college / programme may be prepared.
- In view of increasing numbers of girls students, some boys, hostels may be converted to girls hostels, wherever necessary. There is need to review the relevance and cost of 100% residential facility to students. Deans should have a vision and highlight academic issues rather than raising construction proposals only.
- Assistance for instructional farm for fisheries requested for Kashmir to preserve germplasm. Unemployment among veterinary graduates in J&K — a status report needed.
- BAU, Ranchi sought assistance for development of dairy unit.
- Each SAU should have a strong animal science breed improvement programme aiming at more milk yield in non-descript animals.
- KAU, Thrissur sought more funds for cross breeding program in cattle.
- Emphasis on fodder development, matching the requirements of high yielding animals needed.

- Some research projects should be taken up with KVKs as platform. Some of the KVKs scientists can be included as co-guides.
- Wherever possible if any ICAR institute/Research station is located in the same town/city, the Deans should take their help and students should be sent to work at research stations. ICAR scientists may be made co-guides.
- Each SAU should address State specific problems/issues.
- Capacity building of Assistant Professors can be taken up by NAARM.
- ATIC, KVK and Experiential Learning Units in SAU should have good synergy.

CONCLUDING SESSION

- Chairman** : Dr S. Ayyappan, Secretary, DARE & DG ICAR
- Co- Chair** : Dr Arvind Kumar, DDG (Edn.), ICAR
- On the Dias** : Dr C. Devakumar, ADG (EPD)
Dr R.K.Mittal, ADG (EQR)

Remarks of DDG (Edn.), ICAR

- Modernization of infrastructure facilities must address improvement of technical aspects instead of civil works.
- Experiential learning : Funding for units could be given for 2 years, afterwards they must be self-sustainable. There should not be any duplication of units.
- Depending upon the strength of the university “Niche area of excellence” be identified for provision of funding.
- Explore and generate own financial resources also – Alumni association, collaboration with industries (Public–Private partnership)
- Encourage global education by admitting foreign students.
- Maintain close liaison with State governments.
- Undertake Technology Assessment and Refinement for constant upgradation of knowledge and transfer of technology.
- Faculty improvement need to be taken up as per recommendation in specialized areas of excellence.
- For release of funds, time frame with respect to submission of audit utilization certificate, half yearly and annual reports must be ensured.
- Additional funds will be given to respective colleges for best performance (such as Rs 1.00 lakh for Jawaharlal Nehru Award, Rs 50,000 per JRF produced etc.)

Remarks by ADG (EPD)

- Ensure a core strategy for strengthening higher education and

accordingly revisit the minimal requirement of funds item-wise, prioritize year-wise and send the list to the Education Division.

- All are once again requested to email the filled-in questionnaire so that the inputs could be used by the High Power Review Team. Your inputs would also be useful in drawing the roadmap for XII Plan Scheme.
- Whenever possible repair and renovate the existing facilities rather than seeking funds for new buildings/equipments.
- As directed by the DG, ICAR, share the resources available under ICAR/AUs within a city or town.

Remarks by ADG (EQR)

- Visit to hostels by Deans periodically and ascertain requirement of modernization, renovation and maintenance.
- The central instrumentation facility must be open to all faculty/students.
- Faculty must be motivated by seniors.
- Deans of faculty should visit other universities.
- Monitoring mechanisms on the operation of schemes must be worked out.

Concluding Remarks by Dr S. Ayyappan, Secretary, DARE & DG, ICAR

- The AUs can form about 8–10 Consortia on different flagship programmes and work for tangible outcomes. There is a need to harness solar energy, wind energy etc. Similarly the varietal improvement must be revisited in a cohesive manner.
- Customised training to new recruits in the cadre of Asst Professors at NAARM may be planned.
- Each university may develop a comprehensive roadmap encompassing every college, research stations, KVK, etc.
- Each college must spare time to prepare an approach paper/vision document.
- A committee under the chairmanship of Dr S.L. Mehta is engaged in enlarging in the NAAS Journals database for which inputs may be provided.

- There is a need to re-assess continuing Sericulture and Forestry under Agricultural Higher Education as the ICFRE is also engaged in the promotion of this faculty. Till such time, there must be a single accreditation Review Team comprising of nominees drawn both from ICFRE and ICAR. Similarly for disciplines related to Biotechnology DBT nominees may be included in the Accreditation Review Team.
- There is a need to develop robust database on crop losses and such a database would be of help for crop insurance companies. These documents may be placed in the next VC Conference.

Dr C. Devakumar ADG (EPD) profusely thanked Dr S. Ayyappan, Secretary, DARE and DG, ICAR for guiding the two-day meeting with his continuous and energizing presence, Dr Arvind Kumar, DDG (Edn.) for his constant encouragement, Dr P. Raghav Reddy, VC, ANGRAU, Hyderabad and his entire team of the organizing committee for the outstanding hospitality and organization of the meet, Deans and other officers of AUs for their overwhelming participation, VCs of AUs for deputing the officials, Dr P.K. Joshi, Dr Viraktamath, Dr D.M. Hegde and Dr Venkateswarlu the Directors of ICAR institutes for their benign participation in the meeting and Dr R.K. Mittal ADG (EQR) for his valuable support and guidance.

ANNEXURE-I

BREAK-OUT SESSION: SUB-GROUPS

(26 June 2010, 9:00 am to 10:00 am)

AGRICULTURE

Facilitators : Dr H.S. Gaur
Dean, Indian Agricultural Research Institute
New Delhi

Dr (Mrs) S.K. Mann
Dean, Post Graduate Studies & Chairperson
RIC (Agriculture)
Punjab Agricultural University, Ludhiana

Rapporteur : Dr A. Siva Sankar, ANGRAU, Hyderabad

Deans of SAUs' and Associated Deans of constituent colleges participated in the interaction meeting. During the interaction it was felt that faculty must maintain and sustain the place in terms of relevance and status in the rapidly changing globalised competitive era. It was pointed out that long term and short term plans need to be drawn to develop strategies based on strength and opportunities. During the interaction following points were discussed:

- Sharing of human resources (Faculty & Students), infrastructural facilities and germplasm
- Updating and upgrading current methods of teaching including e-learning
- Attracting more students towards agriculture

From the interaction following points emerged:

- More number of students in P.G. need to be given scholarships
- Increasing the ICAR quota of seats in SAUs (from 15% to 25% in UG and from 25% to 40% in PG) was advocated.
- Some seats may be reserved for nomination by States and wards of ICAR employees.

- Sharing of faculty of excellence after identification of core faculty available in SAUs
- Encouraging students in postgraduate programme with national and international collaboration.
- Faculty upgradation need to be strengthened
- Critical areas of grants for improving infrastructure may be examined and supported without duplication.

HORTICULTURE

To update and upgrade the current methods and teaching and to identify the issues which need ICAR's intervention in terms of functioning and logistic support were discussed. In all 17 Deans participated, facilitated by Dr D.V. Raghava Rao, Dean, Horticulture, APHU, Venkataramannagudem, A.P. and Dr O.P. Jyothi, Registrar, University of Horticultural Sciences, Bagalkot, Karnataka. Dr V. Radhakrishna Murthy, Professor (Acad.), ANGRAU, Hyderabad, A.P. was the Rapporteur. The group discussed issues as specified and the following recommendations were made:

1. Identification of colleges/departments for teaching excellence in the new and emerging areas/courses may be included in the revised curriculum for shared curriculum delivery.

Dr Y.S. Parmar, University of Horticulture & Forestry offered to act as Centre of Excellence for teaching in "Temperate Horticultural Crops & Nuts". The College of Horticulture, Dr BSKKV, Dapoli for "Fruit Science" and for "Medicinal Crops" Andhra Pradesh Horticultural University, Venkataramannagudem, A.P. were identified.

2. Identification of critical areas for ICAR grants/support including infrastructure development and faculty training / development, students' progression and how it should be provided by ICAR.
 - Experiential Learning
 - Girls Hostels
 - Development of Instructional Farms at every campus
 - Establishment of Quality Control Laboratories
 - Allocation of funds to the established colleges from the first year of establishment onwards as a one-time grant

3. Changes felt necessary in UG & PG curriculum and syllabi.

- (a) It was felt necessary to include post-harvest Technology in the faculty of Horticulture which is now missing. It should be included in the syllabus. The lead will be taken by Dr BSKKV, Dapoli, Maharashtra.
- (b) Organic system of cultivation may be included both in UG & PG syllabi
- (c) It is necessary to train the faculty at UG & PG levels on newer areas including Biotechnology, Molecular Biology, maintenance of Genetic Resources, Breeding of Horticultural Crops etc.
- (d) It is felt essential to ensure uniformity in course curricula for all the courses of Horticulture faculty common to all colleges. A meeting with all Deans and College Heads of horticultural universities may be convened at Dr Y.S. Parmar, University of Horticulture & Forestry, Solan, Himachal Pradesh.

4. How to address the problem of shortage of faculty?

To overcome this problem it is felt necessary that the adjunct and guest faculty from other universities & colleges where expertise is available may be utilized.

The discipline of Horticulture may be included in the syllabus of ASRB.

FISHERIES SCIENCES

In all nine participated in the discussion moderated by, Dr S.R. Koteswara Rao and the following recommendation emerged:

1. To improve the quality of education, a committee may be constituted to examine current status in the country and suggest measures to produce professionals who will be globally competent and locally relevant.
2. For minimum benchmark setting for the colleges and performance evaluation, a regulatory body should ascertain the criterion.
3. One-time grant for infrastructure development may be directly earmarked to the respective colleges.
4. Movement of faculty from one institute to other is desirable to build excellence by providing incentives.

5. For students exchange between the colleges, funding may be provided by ICAR.
6. Give freedom to JRF holders to choose colleges for P.G. education, Fellowship may be given to the colleges for the P.G. admission as in ICAR System.
7. While drafting course curriculum at national level, a committee comprising of experts from various agro-climatic zones of the country may be included.

HOME SCIENCE

Facilitators : Dr Neelam Grewal, PAU, Ludhiana

Rapporteur : Dr G.P. Sunandini, ANGRAU, Hyderabad

Following were the recommendations:

1. Faculty training is required in ergonomics assessment and designing, product designing using CAD, furniture designing, space designing, social marketing, multimedia development, fashion merchandising and retailing, advanced development of instructional media, advanced consumer product testing and evaluation, green strategies for interior designing for housing, advanced instrumental faculty training, fashion illustration advanced dietetics and hospital, use of nano technology in foods and textiles, technical and smart textiles.
2. Long term strategies: Introduction of degree granting programmes like B.Sc. Nutrition and dietetics and B.Sc. Fashion Designing.

Short term strategies identifying the experts in each discipline and the experts may be entrusted with the work of the designing the training programmes for interactive sessions through video conference. E-learning: in ANGRAU will be ready within one year and it would be introduced, in PAU from 1st September 2010.

3. Funding required for creating facilities like video conferencing, development of experiential learning units and their maintenance for three years, modernization of class rooms, laboratories, libraries and establishment of Home Science Techno Parks.
4. Areas for entrepreneurship development: Foods and Nutrition, processing and value addition, TAD &FRM Areas for patenting: Processes and Products in Foods and Nutrition, Textiles, FRM.

5. Students exchange programmes at national level. Strengths of various colleges identified for the purpose are:

University	Strengths
PAU	Community Nutrition, Therapeutic Nutrition, Knitting, Management of learning disabilities
UAS Dharwad	Food Processing and value addition, and Health Nutrition, Weaving
ANGRAU	Apparel production, draping, CAD, Designing and printing, Quality Control
MAU	HDFC, Counseling services

6. UAS Dharwad prepared revised course curricula for 3+1 level and it will be circulated among the universities for suggestions
7. To meet the challenge of shortage in faculties, emoluments for contractual services are to be increased and Ph.D students services are to be utilized.

AGRICULTURAL ENGINEERING

Rapporteur : Dr Bhaskar Rao, ANGRAU, Hyderabad

A total of 15 Deans from different States participated.

The following resolutions were made:

1. Almost all the colleges face more than 50% shortage of teaching staff.
2. To improve excellence among the students, the admissions into B.Tech (Agri. Engineering) should be made through the entrance examination conducted by respective States for engineering courses. This is not being followed in some States.
3. Placement cells of all colleges should be strengthened by placing one regular person in the cadre of Professor in each College and allotting some budget on recurring contingencies.
4. The ICAR should address all State Governments to include a paper on Agricultural Engineering subject in the Group Services or the Public Service Commission of respective States.
5. The State Governments should also be addressed to employ agricultural engineering graduates in the Departments of Irrigation and Agriculture.

6. All colleges will set up Experiential Learning Units in the areas of their strengths which will be shared for hands-on-training by the students of other colleges.
7. The critical areas for ICAR grants are identified as (1) Experiential Learning Units Establishment (2) Students Training on Personality Development, Soft and Communication Skills.
8. Some colleges do not have girls hostels and buses for students transport.
9. Modernization of all class rooms, examination hall, library and old buildings of colleges need funding from ICAR.

VETERINARY SCIENCE

Rapporteur : Dr P. Narayan Reddy, ANGRAU, Hyderabad

No suggestion other than seeking more funds from ICAR was given.

DAIRY TECHNOLOGY

Facilitators : Dr Ramesh Chandra, Allahabad

Rapporteur : Dr M. Sreedhar, ANGRAU, Hyderabad

Following were the recommendations:

1. The faculty position and training period are detailed below:

	Faculty	Training Period (Months)
1. AAU, Anand	34	12
2. UAS, Bangalore	22	12
3. SKDAU, S.K. Dantiwada	7	12
4. Pusa, Maharashtra	16	12
5. SVVU, Tirupati	19	12
6. NDRI, Karnal	36	12
7. SHIATS, Allahabad	11	12

2. Rural Dairy Work Experience Programme for a duration of 10 days with farmers is to be organized by all colleges as per the convenience of the college.
3. Under Technology Business Incubator System, interested students may be sent for 14 days training to Karnal and ICAR may provide funds to NDRI Karnal accordingly.

4. The shortage of faculty can be addressed by engaging qualified teachers on contractual basis @ Rs 16,500 per month.
5. To attract more number of students for Dairy technology the selection of the eligible students may be carried out through GUJCET/CET & also by sensitizing the people through media regarding the merit of the Dairy course.

FOOD SCIENCE & TECHNOLOGY

The following delegates attended:

Dr P.S. Kadam
Dean, Faculty of Food Technology
Marathwada Agricultural University, Parbhani

Dr M. Mallikarjun Reddy
Officer-in-charge
College of Food Science & Technology
Acharya N.G. Ranga Agricultural University
Pulivendula, Kadapa, A.P.

Rapporteur : Dr N. Manohar Reddy
Principal Scientist (Res.)
Administrative Office
ANGRAU, Rajendranagar, Hyderabad

1. Introduction of new curricula MAU, Parbhani
 - (a) Application of Nano-technology
 - (b) Introduction of functional and health foods

2. Creation of centre of excellence

Since the College of Food Science & Technology, MAU, Parbhani was established in 1976 and has the facilities for teaching UG & PG Programmes and also has other facilities for food testing, food processing, food hygiene, nutritional labeling, the college may be identified as Centre of Excellence.

3. Infrastructure required for MAU, Parbhani
 - (a) modernization of class rooms

- (b) construction of girls hostel
- (c) hands-on-training module for grain processing

4. Faculty training in the areas

- Extrusion technology
- Bakery & Confectionery
- Fish & Marine Meet processing

5. Addressing the problem of shortage of faculty

- Qualified teachers may be recruited
- The shortage of staff may be handled by utilizing the services of reputed institutions by paying proper honorarium
- Qualified part-time faculty need to be recruited to bridge the gap in the departments wherever necessary as per ICAR norms

6. Guest faculty maybe invited with appropriate remuneration from other State Universities & Food Industries

- MOU with industries is required for in-plant training to the students. The needs and problems of food for the betterment and refinements of the course may be addressed.
- Central and State Agencies related to food beverages processing and quality assurance may give opportunities to the food science & technology graduates.
- Graduates need to be encouraged to establish food certification agencies.

FORESTRY

Rapporteur : 1. Dr T. Ramesh, ANGRAU, Hyderabad

Deans/Associate Deans of 7 Universities participated:

The discussion highlighted the following areas:

- Forest product utilization
- Forestry Biology and Tree Improvement
- Silvi Culture and Agro-Forestry

- NRM
 - Basic Sciences
1. Long term strategies included 5 areas of discussion which are as follows
 - (a) Climate change
 - (b) Carbon sequestration
 - (c) Tree improvement with special reference to Biotechnology
 - (d) Management of natural resources
 - (e) Environment impact assessment
 2. Short term plans which need attention are as follows
 - (a) Disaster management
 - (b) Risk assessment
 - (c) Wild life conservation
 - (d) Biodiversity
 - (e) Ecosystem productivity
 3. Sharing of Human Resources
 - (a) Each University to identify his strength and which could be shared
 - (b) Faculty sharing can be done.
 4. Updating and Upgrading teaching for e-learning and video conference
 - (a) e-learning modules are to be prepared
 5. Critical areas of ICAR support
 - (a) Experiential learning units are to be started based on the expertise available
 - (b) Faculty to be strengthened by sending faculty to national and international institutions for training
 - (c) Few specialized posts may be sanctioned by ICAR on the line of AICRP.
 - (d) New forestry colleges may be sanctioned where these are not existing subject to the condition where such facility exist.

6. Efforts needed for attracting better brains and more students to education and their counselling/placements.

- (a) Increase job opportunities
- (b) ICAR may strongly recommend for appointments of B.Sc (Forestry) students in state forest departments through reservations for the posts of ACF/RFO.
- (c) In UPSC examinations, forestry may be included as one of the optional subjects
- (d) More avenues may be opened for higher education leading to M.Sc and Ph.D programmes.