वार्षिक प्रतिवेदन
Annual Report
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भाकृअनुप
ICAR

तार्षिक प्रतिवेदन
Annual Report
2008-2009

भाकृअनुप
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PREFACE

It is often said that we are afraid of dreaming considering it as a fancy, hence avoidable. In fact dream we must, otherwise how else we shall think of going ahead, how shall we chalk out the best strategies and devise the implementation plan ? So, we went ahead with our dream which was to take the Academy – which has served National Agricultural Research System over more than three decades rather well and is recognized , to another level which it has not achieved and the path it had not walked. At the Academy, we are happy that it is happening already. We have been able to launch two One Year PG Diploma Courses, one on Information Technology Management and the other on Intellectual Property & Technology Management. We believe that both these courses will be well taken by the prospective employers. Actually more than these courses, the new path has given our Academy a definite launch pad for bigger things to come in future. One of these is the launch of a Two Year PG Diploma in Management (Agriculture) Course in July this year. I am sure this will instill a great amount of self confidence in our faculty which is already known for its multi-tasking skills. Prior to commencement of these courses, a number of brainstorming were organized for eliciting valuable advice and suggestions from the best experts drawn from reputed institutions / organizations in public and private sector regarding curriculum design, internship etc.

Two FOCARS – the flagship course of the Academy were organized and another initiated. This was done to pump in as many bright young scientists into our system as early as possible. Other training courses, both on and off – Campus programmes, were organized by the Academy and its partnering institutions like IIM, Lucknow; MANAGE, Hyderabad and NIRD, Hyderabad especially under L&CB Sub-Project of NAIP. The demand for our off-Campus programmes is large, but as we wish to do them, due to our limited human resource, we could do only few, fully realizing their potential to benefit a large number of participants who all cannot be trained at the Campus. The Academy has six NAIP Sub-Projects in Consortia mode – two as Leader and four as Partner. I must thank NAIP for its considerable financial assistance for these sub-projects which will go a long way in sharpening our training skill, strengthen our research capabilities and further improve already good infrastructure.

In order to develop higher capabilities in teaching, training and research, a number of our faculty were sent for varying periods to USA, especially Cornell University and IFPRI which gave them very valuable exposure, contact with the leading exports, learning resources and also identifying Guest faculty for our courses. This effort has been very useful. More of our faculty will visit USA in next financial year.

The approval of XI Plan SFC was a watershed for us as it allowed us to initiate teaching course, proceed with our long cherished desire to have a Deemed-to be- University status for NAARM. The relentless quest for excellence and moving ahead with the times

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has kept fire in our stomachs burning which I am happy to share. In this Plan , a big boost to our infrastructure is envisaged like PG and Sports Complexes which were badly needed. All necessary work has been undertaken and we hope to lay their Foundation Stones also in July. A Language Lab is under final stages of establishment, it is hoped to provide a valuable support for training in communication and virtually in developing skills in foreign languages.

Besides the training programmes, a number of researches are being conducted here. One such important project is on the rating of AUs – a project which if receives sufficient support from Aus, will come out with scientifically tested parameters which will be immensely helpful in attracting top students both from India and abroad and boost our export of education which we need to do more and more, besides of course getting better resources and funding from donor agencies. Another project which is assessing manpower requirement in agriculture , which is expected to provided valuable information which may become a basis for manpower planning in ICAR institutes and AUs. Other research projects are also expected to provide valuable information on agricultural research management.

In our efforts to do better than before, valuable inspiration, guidance , encouragement and support has been received from Dr. Mangala Rai, Hon'ble Secretary , DARE and Director General , ICAR for which I am highly grateful to him. Dr. S P Tiwari, Dy. Director General (Education) has been our constant source of strength who has always been willing to help, is thanked profusely. The help received from Drs. B S Bisht, G C Tiwari, S D Sharma and R K Mittal, the Asstt. Directors General are duly acknowledged. Other officials of DARE and ICAR have helped us tremendously for which I thank them. My own Colleagues namely Dr. N H Rao, Joint Director; Drs. T Balaguru ; P Manikandan and D Rama Rao, Heads of Division deserve my high praise and thanks for their hard work and support. Dr. G P Reddy, Chief Editor and his Team are highly thanked for bringing out this Report well in time . All the faculty, officials and staff of the Academy, who have worked very hard , are thanked for their help and support.

As we look into future with hope, we require strong support from all corners, all stakeholders and well wishers. May this continue so that the Academy fulfils your expectations in a befitting manner..

(S M Ilyas)

कार्यालयीन पत्रव्यवहार
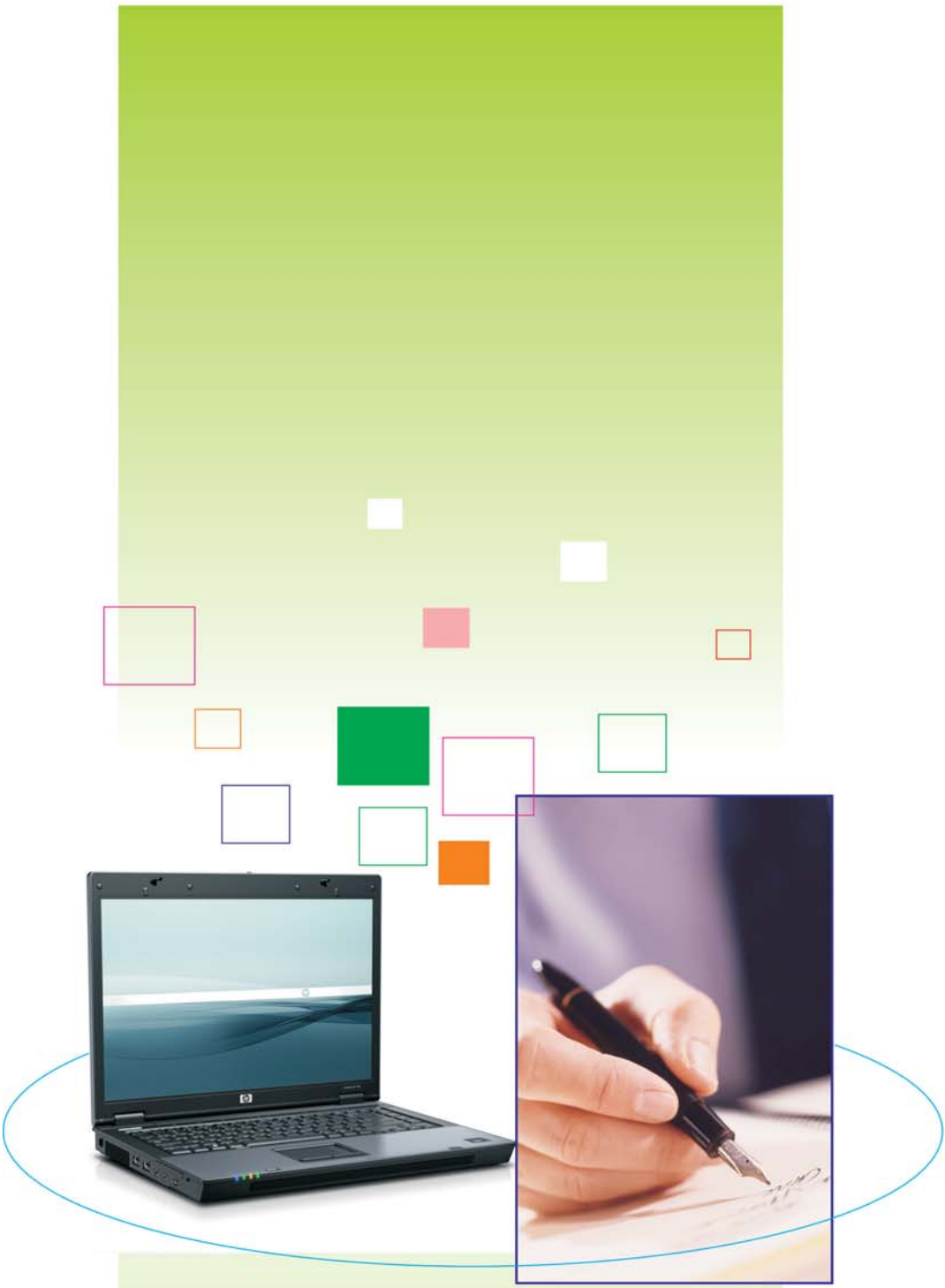
कार्यकारी सारांश

अकादमी के इतिहास में गतिविधियों का सुनिश्चित उत्कृष्ट वर्ष रहा है। रा.कृ.अनु.पद्धति के मानव संसाधन विकास के तीन दशकों की उत्कृष्ट समर्पण सेवा के नियमित कार्य से परे कार्य को सुदीर्घ दिशा मिली है। संकीर्ण से विस्तृत परिलक्ष्य की ओर दृष्टिकोण का, विभिन्न क्षेत्रों तथा विविध से उभरती विश्वीय चुनौतियों का सामना करने प्रशिक्षण से शिक्षण संस्थान के परिवर्तन का सुनहरा समय आ ही गया। इसका यह तात्पर्य नही कि अकादमी द्वारा क्षमता निर्माण के कार्य में कम समर्पण भाव रहा, अपितु इसका दायरा विस्तृत हुआ, ताकि कृषि तथा अन्य क्षेत्रों के प्रबंधन के लिए विचारशील भावी प्रतिनिधियों द्वारा भारतीय कृषि के सेवा में अंतरिक्ष की ऊंचाई अभिनवता से छुई जा सकें। कृषि व्यापार की बढ़ती मांग को देखते हुए हमारे आशय को उचित स्थान प्राप्त हुआ है। हमें हर्ष है कि हमारे प्रयास फलते एवं फुलते रहे हैं। अकादमी की एस.एफ.सी. की XIवीं योजना को अनुमोदन प्राप्त हुआ, जिससे हमारा नूतन मार्ग प्रकाशमय दिखाई दिया। इसी के परिणामवश अकादमी द्वारा कृषि प्रबंधन एवं संबद्ध क्षेत्र में स्नातकोत्तर डिप्लोमा एवं स्नातर स्तर के पाठ्यक्रमों के आरंभ होने की सुनिश्चित दिशा मिली। निश्चित ही हमारा भविष्य विश्वसनीय होगा तथा हमारे प्रयासों को उपयुक्त मान्यता अवश्य मिलेगी।

भारत, अब अपने सूचना प्रौद्योगिकीय कुशाग्रता में, अपने आप पर गौरवान्वित स्थिति की औचित्यता स्थापित कर सकता है तथा सूचना प्रौद्योगिकीय विशालतावाद की भारती की स्थिति को, विश्वभर की मान्यता भी मिल चुकी है। किन्तु सूचना प्रौद्योगिकी का विस्तार प्रमुखतः संप्रेषण/बैंकिंग/व्यापार एवं बाजार इत्यादि क्षेत्र में हुआ है, जब कि कृषि क्षेत्र अब तक पूरी तरह अनुछुआ माना जा सकता है। कृषि में निवेश आपूर्ति एवं फुटकरता इत्यादि के लिए बड़े खिलाडियों की अवनति से, उत्पादकों एवं कार्पोरेट क्षेत्र के प्रयोक्ताओं के बीच अगले एवं पिछले कड़ियों को विकसित एवं सुदृढ़ करने की अनिवार्यता है। जब संस्थानों द्वारा असंख्य सूचना प्रौद्योगिकीय व्यावसायिकों का निर्माण किया जा रहा है, तथा कृषि विश्वविद्यालयों एवं महाविद्यालयों द्वारा कई कृषि स्नातक उर्त्तीण हो रहे हैं, यह देखा जा रहा है कि इन दोनों समूहों के बीच मिलन नही हो पा रहा है। सूचना प्रौद्योगिकीविद् साफ्टवेयर/हार्डवेयर में पारंगत होते हैं तथा उन्हें कृषि का कोई ज्ञान नहीं होता है। यद्यपि कृषि स्नातकविद् में कृषि संबंधी आधारयुक्त ज्ञान निश्चित ही होता है किन्तु साफ्टवेयर कुशलताओं में ज्ञानाभाव होता है। क्या इन दोनों का मिलन होगा।

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प्रथम सूचना प्रौद्योगिकी क्रान्ति ने कृषि को उपमार्ग से पार किया है तथा इसके परिणाम आप सबके समक्ष है। अत्यधिक सफलता प्राप्त हमारा साफ्टवेयर क्षेत्र, जिस पर हमे नाज़ है, केवल हमारी जनसंख्या की परिरेखा को छूता हुआ देखा गया है। कुछ अपवादों के अतिरिक्त, हमारी कृषि का लघु ज्ञान, न्यूनतम प्रौद्योगिकी, कम पूँजी निवेश की गतिविधियों से कम उत्पादकता एवं न्यूनतम लाभदायिकता की ही प्रत्याशा की जा सकती है। इसके संपोषणीयता पर भी मानो प्रश्नचिन्ह लग ही जाता है। क्या हमारी कृषि जीवित रहेगी या क्या हमारा कृषक जीवित रह सकेगा ? यदि इसका उत्तर हाँ है, तो हमें आत्मपरीक्षण करने की आवश्यकता है तथा उपयुक्त प्रणालियों के नीतियो और उनके समयबद्ध कार्यान्वयन योजना बनाने की आवश्यकता है। कृषि समय के विरुद्ध दौड़ रही है, संकेत स्पष्ट है ।

ज्ञान के इस क्रान्ति में, कृषि को केवल बाह्य रूप से ही दुलारा गया है, हाँ उसके अगले एवं पिछले कड़ियों का विवरण अवश्य दिया जाता है किन्तु उन्हें सुदृढ़ करने का प्रयास, आज भी प्रणालीरहित है। यह कैसे संभव होगा ? इसकी मात्रा एवं उत्पादकता के अलावा, इसके उत्पादन की गुणवत्ता को नही दर्शाया जाता। मुझे विश्वास है कि कृषि की लाभदायिकता निश्चित ही उसकी गुणवत्ता से जुड़ी है। यह कदापि नही कहा जा सकता कि इसमें कोई रजत किरण नही है, अब इस क्षेत्र में अत्यधिक आशा किरणें अवश्य निहित हैं। (पिरामिड के शिरोबिन्दु से कमाई के बजाय, उसकी तह को सेवित किया जाए से-सी.के.प्रल्हाद) अब निजी क्षेत्र ने कृषि क्षेत्र में प्रविष्टि अवश्य की है। वे कृषकों से निवेश, तकनीकी एवं वित्तीय समर्थन द्वारा करार किए जा रहे हैं। किन्तु क्या हमारे निजी क्षेत्र, कुशल मानवशक्ति के समर्थन के बिना जीवित रह पायेंगे ? किस प्रकार की मानवशक्ति उन्हें चाहिए ? मुझे विश्वास है कि यह मानवशक्ति, व्यापार एवं उद्योग तथा कृषक एवं उपभोक्ता के बीच सेतु निर्माण का कार्य करने वाले अनुपूरक व्यावसायिक है। हमारे कृषक बंधुओं की अत्यधिक संख्या को देखते हुए, यह केवल सूचना प्रौद्योगिकी द्वारा संभव हो सकता है। इस द्वितीय सूचना प्रौद्योगिकी की क्रान्ति में भारतीय कृषि को सूचना प्रौद्योगिकी में फिर पिछड़ना घातक हो सकता है, क्योंकि इसके माध्यम से नौकरियों के सृजन के अवसर, प्रभावी ढंग से एवं समयानुरूप निवेश आपूर्ति तथा उपभोक्ताओं के लिए लाभदायक बिक्री एवं अधिक मूल्य प्राप्ति में सहायता मिलेगी। इससे गरीबी घटेगी एवं उत्पादन में समृद्धि बढ़ेगी तथा ग्रामीण शहर अंतर भी कम होगा। यद्यपि बहुत से संस्थान साफ्टवेयर कुशलता का प्रशिक्षण प्रदान कर रहे हैं एवं कृषि शिक्षा के संस्थान भी अत्यधिक हैं, किन्तु भारतीय कृषि में उपयोगिता के लिए ये पूर्ण रूप से सशक्त नही दिखाई देते। हमने

अकादमी में इस पर सुनिश्चित रूप से विचार-विमर्श किया है। अकादमी के कृषि एवं अनुसंधान प्रबंधन तथा सूचना प्रौद्योगिकी के प्रशिक्षण क्षेत्र के दीर्घानुभव को देखते हुए, शायद हम इसका समाधान दे सकेंगे, यह प्रत्याक्षा है। कृषि सूचना प्रौद्योगिकी में अनुपूरकता ही इसका एकमेव समाधान है। कृषि में सूचना प्रौद्योगिकी प्रबंधन में एक वर्षीय स्नातकोत्तर डिप्लोमा पाठ्यक्रम 11 नवंबर, 2008 से प्रारंभ किया गया है।

प्रत्येक संस्थानों के लिए इस प्रतिस्पर्धात्मक परिदृश्य में, समय संदर्भयुक्तता एवं अपने अस्तित्व के लिए अब बौद्धिक संपत्ति के सृजन एवं संरक्षण की आवश्यकता बढ़ती जा रही है। साथ ही प्रौद्योगिकियों के विकास एवं विपणन में साझेदारी, एम टी ए, अनुज्ञाप्तिकरण एवं व्यापार-व्यवहार कुशलताओं को विकसित करना अनिवार्य है। अत्यधिक कुशल स्नातकों के मिलने की आकांक्षा से ही अकादमी को एक अन्य स्नातकोत्तर डिप्लोमा पाठ्यक्रम बौद्धिक संपत्ति एवं प्रौद्योगिकी प्रबंधन, (आई.पी.टी.एम.ए) जो एस.एफ.सी. के XIवीं योजना में अनुमोदित है, को आरंभ करने का प्रोत्साहन मिला तथा जिसकी शुरुआत अगले वर्ष होगी। इस पाठ्यक्रम के लिए सुक्षम्य होने तथा विभिन्न पहलुओं में अन्तर्दृष्टि विकसित करने शिक्षाविद्, व्यापार उद्योग, गैर सरकारी संगठन एवं सरकारी संस्थान इत्यादि क्षेत्रों से विशेषज्ञों को नामांकित कर, दो दिवसीय चिंतन सत्र आयोजित किए गये। विभिन्न उद्योगों (बीज, औषधीय इत्यादि) एल.पी.ओ/के.पी.ओ/अटॉर्नी/गैर-सरकारी संगठनों/ शिक्षाविद्/अनुसंधान एवं विकास एवं सरकारी/स्थानिक विकास के विविध क्षेत्रों पर गहन विचार-विमर्श हुआ, जिसमें असंख्य सदस्यों ने भाग लिया। इसमें पाठ्यक्रम, संकाय, शिशिक्षु भत्ता, नौकरी के अवसर इत्यादि संबंधी बहुमूल्य विचार प्राप्त किए गये। आशा है कि यह पाठ्यक्रम अपने आप में अनोखा होगा, जो देश के किसी भी स्थान पर इस तरह का प्रशिक्षण नही दिया जाता होगा। अकादमी के संकाय सदस्य इन पाठ्यक्रमों को बढ़े ही उत्साह से चलाते हैं तथा युवा विद्यार्थी पूर्ण रूप से इसमें व्यस्त है। इन पाठ्यक्रमों के सक्षम सहभागियों द्वारा जो अभिरूचि दिखाई जा रही है वह अत्यंत विश्वसनीय है।

अकादमी में आयोजित कृषि एवं बागबानी मंत्रियों के राष्ट्रीय सम्मेलन का उद्घाटन श्री शरद पवार, माननीय कृषि मंत्री द्वारा हुआ। इसमें डॉ.मंगला राय, सचिव (डेयर) एवं महानिदेशक, भा.कृ.अनु.प; डॉ.पी.के मिश्रा, सचिव डी.ए.सी, भारत सरकार; आचार्य एन.जी.रंगा कृषि विश्वविद्यालय एवं ए.पी.एच.यू. के कुलपति एवं आंध्रप्रदेश तथा अन्य राज्यों के वरिष्ठ अधिकारियों सहित 13 मंत्रियों ने इसमें भाग लिया। एक प्रदर्शनी भी आयोजित की गई, जिसका उद्घाटन माननीय कृषि मंत्री जी ने किया। इस सम्मेलन में

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मोटे अनाज, दलहन एवं तिलहन के उत्पादन एवं उत्पादकता को बढ़ाने की योजनाएँ तथा वातावरण में परिवर्तन के हानिकारक प्रभाव एवं वर्तमान स्थिति, संबंधी विचार-विमर्श किया गया। सभी मदों पर दीर्घ विचार-विमर्श हुआ तथा उपयोगी सिफारिशें उभर आयीं और जब इन्हें कार्यान्वित किया जायेगा, निश्चित ही अपेक्षित परिणाम मिलेंगे एवं देश की कृषि को अत्यधिक लाभ पहुँचेगा।

हमारे प्रशिक्षण कार्यक्रम, प्रशिक्षण कैलेंडर के अनुसार आयोजित किए जाते हैं तथा राष्ट्रीय कृषि अनुसंधान पद्धति (एन.ए.आर.एस) से हमें इन पाठ्यक्रमों संबंधी उत्तम प्रतिक्रिया मिलती रही है। कृषि अनुसंधान सेवा बुनियादी पाठ्यक्रम है, उसे अत्यधिक प्राथमिकता दी जाती है, 83वाँ एवं 84वाँ फोकार्स हाल ही में सफलतापूर्वक समाप्त हुआ तथा 83 सहभागियों से युक्त 85 वाँ फोकार्स पाठ्यक्रम आयोजित किया जा रहा है। हमारा प्रायः यही लक्ष्य होता है कि अपने नव अंकुरित वैज्ञानिकों को प्रदत्त उत्तरदायित्वों को भली-भाँति निभाने हेतु सर्वोत्तम प्रशिक्षण दिया जाए, अतः हम कई अभिवन प्रयास अवश्यक करते हैं। हाल ही में हमारे नवनिर्मित सभागृह का उद्घाटन माननीय महानिदेशक के करकमलों से हुआ तथा आपने अकादमी के कर्मचारी एवं फोकार्स सहभागियों को अपने प्रेरक संबोधन से अभिप्रेरित किया।

विभिन्न स्तरों पर हमारे अन्य पाठ्यक्रम, दोनों जो नियमित पाठ्यक्रम तथा एन.ए.आई.पी. के तहत प्रायोजित हो, भी आयोजित किए गये जिनमें सी.आई.एफ.आर.आई, बैरकपूर तथा के.वी.ए.एफ.एस.यू, बीदर में संपन्न गैर परिसरीय पाठ्यक्रम एवं हमारे एल एवं सीबी परियोजना साझेदार आई.आई.एम, लखनऊ, मैनेज एवं एन.आई.आर.डी, हैदराबाद द्वारा अन्य कार्यक्रम भी सम्मिलित थे। वर्तमान एन.ए.आई.पी. उप परियोजनाओं का मूल्यांकन करने हेतु विश्व बैंक के एम.टी.आर. मिशन ने अकादमी का दौरा किया। मुझे संतोष है कि कई संस्थान, अनुसंधान तथा प्रशिक्षण-शिक्षण दोनों ही गतिविधियों में अकादमी से सहयोग प्राप्त करने की इच्छा व्यक्त कर रहे हैं।

नव संघटित संस्थान प्रबंधन समिति (आई.एम.सी) की बैठक इस प्रतिवेदन के अवधि के दौरान दो बार संपन्न हुई। सभी प्रतिष्ठित सदस्यों ने हमारे भावी अभिनव योजना संबंधी किए गये प्रयासों का समर्थन किया। समिति ने, परिषद द्वारा अकादमी को प्राप्त परिपूर्ण उदान समर्थन की सराहना की तथा XIवीं योजना में स्वीकृत संसाधन का प्रयोग करने की सलाह दी। अकादमी को विश्व स्तर के शिक्षण, प्रशिक्षण एवं अनुसंधान हेतु

संरचना का सृजन करने की राय दी गई तथा उत्कृष्ट स्तर के विशेषज्ञों के प्रयोग से स्तरीय शिक्षण एवं प्रशिक्षण प्रदान कर, अपनी छवि बनायें रखने के लिए कहा गया। आई.एम.सी. ने अकादमी से यह अभिलाषा की कि व्यक्तिगत एवं संगठनों के क्षमता निर्माण संबंधी शोध पर अत्यधिक बल दिया जाए तथा हमारी कृषि के प्रभावी प्रबंधन में अवश्य सहायक होगा।

अकादमी द्वारा इस तिमाही में एन.ए.आई.पी. सहायता संघ (संघटक-2) साझेदारों, प्रस्तावित नेताओं, अनुसंधान शिक्षा प्रबंधकों-शिक्षक एवं विभिन्न स्तर के वैज्ञानिक के लिए कई संकाय विकास कार्यक्रम (एफ.डी.पी) प्रबंधन विकास कार्यक्रम (एम.डी.पी) एवं कार्यकारी विकास कार्यक्रम (ई.डी.पी) कार्यक्रम संपन्न हुए। यद्यपि हमारे परिसरीय कार्यक्रमों के साथ-साथ वैज्ञानिकों, शिक्षकों एवं अन्य कर्मचारियों के लाभार्थ कई गैर परिसरीय कार्यक्रमों के साथ-साथ वैज्ञानिकों, शिक्षकों एवं अन्य कर्मचारियों के लाभार्थ कई गैर परिसरीय कार्यक्रम आयोजित किये गये। परिषद एवं कुलपति के आदेशानुसार अकादमी द्वारा किए जाने वाले अध्ययन के लिए कृषि विश्वविद्यालयों के कार्य निष्पादन श्रेणीकरण के पहलुओं की अभिकल्पना हेतु उनके योगदान के लिए आई.ए.यू.ए एवं कृषि विश्वविद्यालयों के संकायाध्यक्षों एवं निदेशक, कुलपति के सहभागिता से एक मस्तिष्क मंथन कार्यशाला आयोजित की गई।

अकादमी द्वारा कृषि अनुसंधान प्रबंधन पर आयोजित मस्तिष्क चिंतन सत्रों में विशेषत: मूल विषय क्षेत्रों में अन्तर्राष्ट्रीय खाद्यान्न नीति अनुसंधान संस्थान (आई एफ पी आर आई) तथा अन्तर्राष्ट्रीय संस्थानों के साथ संभाव्य सहयोग के बारे में बहुमूल्य सुझाव प्राप्त हुए। दोनों पाठ्यक्रम (लघु अवधि एवं पूर्णकालीन एम.एस सी स्नातक कार्यक्रम) की अभिकल्पना, भारतीय रा.कृ.अनु. पद्धति एवं विकासशील देशों की रा.कृ.अनु.प. को सुदृढ़ करने के विशिष्ट उद्देश्य से साथ भारतीय एवं अन्तर्राष्ट्रीय ग्राहकों की आवश्यकता पूर्ति हेतु की गई, ताकि उन्हें रा.कृ.अनु.प. के प्रबंधन में ऐसे पाठ्यक्रम अत्यधिक आवश्यक होंगे।

अकादमी द्वारा एस आर एफ की परीक्षा प्रथम बार आयोजित की गई। यद्यपि भविष्य में कृषि विश्वविद्यालयों के लिए पी एचडी शोध छात्रों को चयन करने की यह परीक्षा ही अत्यधिक प्रभावी सिद्ध होगी। वर्तमान संदर्भ में, अनुसंधान पर विशेषत: उच्च श्रेणी टाईप, पर अत्यधिक महत्व दिया जा रहा है, ताकि खाद्य, चारा एवं रेशा की गंभीर चुनौतियों का सामना करने में प्रेरणा प्रदान करने की आवश्यकता है। परिषद द्वारा रा.कृ.अनु.पद्धति के अनुसंधान एवं शिक्षा को सुदृढ़ करने हेतु अत्यधिक संसाधन खर्च किया जा रहा है, यह

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एक प्रोत्साहनात्मक कदम है। विस्तार शिक्षा के क्षेत्र को भी बढ़ावा दिये जाने की आवश्यकता है, ताकि प्रौद्योगिकी हस्तांतरण के लिए अभिनव, प्रभावी एवं सक्षम मॉडलों का विकास हो सकें। वास्तव में, देश की कृषि विस्तार पद्धति में को पुन:रूपांकित करने की अनिवार्यता है। शीघ्रे सुशीघ्रे।

भा.कृ.अनु.प एवं राज्य कृषि विश्वविद्यालयों के संस्थानो द्वारा हमारे गैर परिसरीय कार्यक्रमों के लिए निरंतर मांग है, क्योंकि वे कम लागत युक्त तथा अत्यधिक संख्या में कर्मचारियों के लिए लाभप्रद हैं। साथ ही, अकादमी द्वारा समर्थन वर्गों सहित सभी-वर्गों के कर्मचारियों के लिए प्रशिक्षण प्रदान किया जा रहा है, ताकि वे तनाव मुक्त होकर, विवादमुक्त वातावरण में अपना कार्य प्रभावी ढंग से निष्पादित कर सकें। मुझे यह स्पष्ट करना है कि एक संस्थान, भारतीय चरागाह एवं चारा अनुसंधान संस्थान (आई.जी.एफ.आर.आई), झांसी में अकादमी द्वारा कई विशेष रूप से अभिकल्पित पाठ्यक्रमों के माध्यम से कर्मचारियों के विभिन्न वर्गों जैसे वैज्ञानिक, तकनीकी, प्रशासनिक एवं समर्थन सेवा के लिए प्रशिक्षण प्रदान किया गया। यह एक उत्तम प्रवृत्ति है कि संस्थान अपनी आवश्यकता अनुरूप विशेष क्षेत्रों में हमारे प्रशिक्षण कार्यक्रमों हेतु माँग रख रहे हैं। स्वाभाविकत: हमें संतोष है कि हम रा.कृ.अनु.पद्धति के विस्तार में कुछ सीमा तक सहायक हैं, किंतु इसके व्यापक कार्यक्षेत्र को देखते हुए, अभी अत्यधिक करने की आवश्यकता प्रतीत होती है।

Executive Summary

It's an excellent, happening year in the history of the Academy. The work went beyond its regular work of human resource development of NARS which it had been doing with dedication with three decades of excellent record. Its time was perhaps ripe to think ahead, from inward to outward looking, from training to learning institution which could respond to global challenges emerging from different quarters and with varying intensities. It did not mean that the Academy was any less dedicated to its capacity building work, but it yearned to expand, to touch newer horizons, to serve Indian agriculture much more than ever by producing thought leaders who will manage tomorrow's agriculture and allied sectors. When there is increasing acceptance of agriculture as a business, our purported intent was in place. We are happy to record that our efforts are bearing fruit. The XI Plan SFC of the Academy was approved which has opened new vistas for it. It has paved the way for the Academy to initiate PG Diplomas and Degree level courses in agricultural management and related areas. The future seems to be exciting and worth the efforts it entails.

India can justifiably take pride in its IT prowess and its status as IT giant has been acknowledged world over. But the spread and reach of IT has largely been in communication, banking, business and trade sectors etc., with agriculture being still a virgin territory. With the descent of big players in agriculture for input supply and retails, etc., there is a grave need to develop and strengthen backward and forward linkages between the producers and the user corporate sector. While the institutions churn out a large number of IT professional and agricultural universities and colleges a large number of agricultural graduates, there has not been a worthwhile marriage between two groups. The IT professionals are generally into software / hardware and have no knowledge of agriculture, while agriculture graduates have good agriculture knowledge base but are largely deficient in software skills. Will the twain ever meet?

First IT revolution largely bypassed agriculture and the consequences are for every one to see. Without meaning any disregard to our hugely successful software sector, of which we all are proud, the fact remains that it touched only the fringe of our population. Except some notable exceptions, our agriculture remained a low knowledge, low technology, low investment activity from which only low productivity and low profitability could be expected. There is even a question mark on its sustainability. Can our agriculture survive, more pointedly, can our farmers survive? If the answer is a shaky yes, we need to quickly introspect and come out with sound strategies and their time bound implementation plan. Agriculture is in race against time, writing on the wall is very clear and loud.

In the ensuing knowledge revolution, agriculture is again touched only peripherally, it continues to wait. Although the forward and backward linkages are mentioned as routine efforts to strengthen them, they are still devoid of any strategy. How will these happen? Besides quantity and productivity, the quality of produce is hardly ever mentioned. It is believed that profitability of agriculture will be spearheaded by only quality. It is not that there are no silver linings in this sector, there are many now. Obviously spurred by profit motive (making money from base of the huge pyramid rather than serving the small apex - Dr C.K. Prahlad), the corporate sector has entered agriculture in a big way. It is entering into contract with farmers, giving them input, technical and even financial support. But can the private sector flourish and indeed survive without the support of skilled manpower? And what kind of manpower it needs? This manpower has to be such which can act as a bridge between trade & industry and farmers and consumers. And considering the huge number of farmers, it can only be through IT. Indian agriculture can ill afford

to be left behind in the Second IT Revolution since IT will enable its profitability upsurge, job creation, efficient and timely supply of inputs and help in its profitable sale and high value for money to consumers. This can go a long way to reduce poverty and increase prosperity in production catchments thus helping in reducing rural urban divide. While there are any number of institutions imparting software skills and also a large number of agricultural education institutions, their utility for supercharged Indian agriculture does not seem to be so high. At the Academy, this issue was deliberated deeply. Considering the Academy's long experience in the area of training in agricultural research management and IT, etc., it was thought that perhaps the Academy could provide an answer. Bridging agriculture- IT gap was that answer. One year PG Diploma course on Information Technology Management in Agriculture was launched on November 11, 2008.

Creating and protecting intellectual assets has gained much importance for every organization for staying relevant and alive in these fiercely competing scenario, and so is the case with the skills in negotiations, licensing, MTAs, partnerships in developing and marketing of technologies, etc. Meeting the need through highly skilled graduates has encouraged the Academy to initiate another PG Diploma Course in Intellectual Property and Technology Management (PGD-IPTMA). In order to gain more insights into the potential for such course, we organized a two-day brainstorming inviting the leading lights from academia, business & industry, NGOs and government institutions. Experts in the field participated and there was a very intensive discussion on different sectors like industry (seed, pharma etc); LPOs / KPOs / Attorneys/ NGOs; Academia / R&D and Government / Statutory Bodies. Very valuable comments came regarding the curriculum, faculty, internship, placement, etc. PGD-IPTMA was launched on January 28, 2009 which is a unique course not being offered anywhere in the country. The faculty of the Academy is quite enthused at handling these courses and keeping the young students highly engaged. The sustained interest shown by potential partners in the courses was also very reassuring.

The National Conference of Agriculture and Horticulture Ministers was organized at the Academy which was inaugurated by Sh. Sharad Pawar, Hon'ble Agriculture Minister and was attended by 13 ministers, Dr. Mangala Rai, Secretary (DARE)& DG, ICAR, Dr. PK Mishra, Secretary DAC, Government of India, Vice Chancellors of ANGRAU and APHU and senior officials from Andhra Pradesh and other states. An exhibition was also organized which was inaugurated by the Hon'ble AM. The Conference was organized to discuss the current status and formulate strategies for boosting production and productivity of course grains, pulses and oil seeds and responses for combating ill- effects of climate change. All the issues were deliberated thoroughly and useful recommendations emerged which when implemented will help in achieving desired results and country's agriculture will be immensely benefited.

The training programmes are being organized as per our Training Calendar and the courses are attracting good response from NARS as well as others. FOCARS- our flagship courses are given top priority, 83rd and 84th FOCARS were concluded successfully, and 85th FCOARS is under way with 83 participants. We keep on trying many innovations with the aim to provide ever better training to the budding scientists so that they are better prepared to take up their assigned responsibilities well. Recently the Hon'ble DG inaugurated our newly built Auditorium and ignited the minds of FOCARS participants and the Academy staff as well as others present by his inspiring address.

The other courses at different levels, both our regular courses and also those sponsored under NAIP, were organized which also included our off-Campus courses at CIFRI, Barrackpore and KVAFSU,

Bidar and those organized by our L&CB Project partners like IIM, Lucknow, MANAGE and NIRD, Hyderabad. The MTR Mission of World Bank visited the Academy to review on-going NAIP sub-projects. The Academy is happy to report that many institutions are seeking collaboration with the Academy both in research and training-teaching activities.

The meeting of newly-constituted Institute Management Committee (IMC) was held twice during the period under report. The esteemed Members were highly supportive of our endeavours for new road map. The Committee was duly appreciative of generous support of Council to the Academy and asked us to make efforts for utilising resources as approved in the XI Plan. It wanted the Academy to create world class infrastructure for teaching, training and research and also engage the best experts wherever available, since image is created by the quality of education and training imparted. The IMC also desired that the Academy should lay greater stress on researches on issues of capacity building of individuals and organizations and also helping more efficient management of our agriculture.

The Academy conducted a good number of FDPs, MDPs and an EDP for different levels of scientists, teachers and research – education managers as well as for the proposed leaders and partners of NAIP consortia (Component-2) during the period under report. Besides the on-Campus programmes, we organized a number of off-Campus programmes as well, benefiting larger number of scientists, teachers and other staff. A brainstorming workshop was organized with participation of Vice-Chancellors, Deans and Directors of Agricultural Universities and from IAUA for getting their inputs for the design of parameters and weightages for the performance rating of Agricultural universities for the study being conducted by the Academy at the behest of Council and Vice-Chancellors. The response was quite encouraging.

The brainstorming session on agricultural research management organized by the Academy offered many valuable suggestions, especially about our possible collaboration with IFPRI and other international institutions in the basic theme area. The courses(both short term and full fledged M Sc Degree programmes are envisaged) are being designed to cater to both Indian and International clientele with the specific objective of strengthening Indian NARS and NARS of developing countries which are in much need of such course as it will help them in managing their NARS better.

The Academy conducted the SRF Examination for the first time. Perhaps in future this examination could be considered as one of the effective ways of selecting Ph.D. students for the AUs. The Academy was sensitive to the need of faculty strengthening which is so essential for taking up newer responsibilities in the new mode of operation. A few faculty were deputed to US universities for training and study visits and their feedback was quite good. Some more colleagues would be sent in near future. The exposure of the faculty to the institutions abroad is also very rewarding from the point of view of giving them an opportunity of interacting with best experts which will give them much needed vision so as to take innovative teaching, training, etc., back home. They are already using many of innovative techniques learnt there into our programme.

There has been a constant demand from the sister institutes of ICAR and SAUs for our Off-Campus training programmes which are not only cost effective but also offer opportunity to a larger number of people to be benefited. Lately, Academy has also been training all the categories of staff including from supporting category so that they are also sensitized about more efficient methods of doing their work, stress busting practices and amiable resolution of conflicts, if any. It must be mentioned here that there

is one Institute, IGFRI, Jhansi whose all categories of staff viz. scientists, technical, administrative and supporting have been trained by the Academy through a number of especially designed courses conducted there. It is a good trend that the institutions asking for our training programmes are also coming up with their specialized demand giving specific areas.

NAARM – An Overview

Indian NARS is one of the largest systems in agricultural research in the world employing over 25,000 scientists, who work in institutes distributed throughout the entire length and breadth of the country. Judicious and proper management of this vast manpower poses a formidable challenge to the system. Keeping in view this objective, the Government of India has established the National Academy of Agricultural Research Management (NAARM), Hyderabad. Since its inception in 1976, the Academy has expanded its horizon of activities over the years. Through its innovative training and research programmes in the specialized areas of Agricultural Research and Education Management, it has helped the systems in evolving appropriate policies to improve the efficiency and effectiveness of research and education in particular and agriculture at large.

Its scope has been further widened to encompass tailor-made training, especially for the international participants from the developing countries in Asia, Africa and Latin America. Research on management problems has formed another major activity of the Academy. This has provided an input for improvising training and the policy support. The Academy extends a facilitative role to the ICAR in developing policy guidelines on the various issues related to personnel, Organization and Management reforms, human resource development, assessment system, and others, all of which are aimed at improving the overall efficiency and effectiveness of the NARS. NAARM has been developing itself into a resource centre for management needs. On the strength of the experienced and expert faculty, the Academy has started offering specialized consultancy services in the areas of its mandated activities.

The Academy strives to generate a sense of fraternity and inculcate a scientific work culture amongst the agricultural scientists and teachers in the country. Being a unique institution of its kind, the Academy is well poised to augment its usefulness and aims to emerge as an institution *par excellence* to facilitate and support a culture of dynamic management in agricultural research and education.

Vision

"By the year 2025, the Academy will emerge as India's premier Institute of Excellence in the field of Agricultural Management, known and sought nationally and globally for its expertise in management of agricultural education, research, training, consultancy, public policy programmes and agri-business, and will contribute significantly to promote the sustainable growth and development of agriculture".

Mission

"Committed to promote professionalism in the management of agricultural education, research and extension programmes and agri-business, and enhance the efficiency, responsiveness, and performance of the National Agricultural System (NAS)".

Mandate

The Academy is mandated to enhance the efficiency and effectiveness of NARS through:

- Developing learning resources and systems;

- Research in agricultural innovation systems, policies and management;

- Facilitating organizational renewal and management of change;

- Providing techniques, technology and information to facilitate policy support to apex agencies; and

- Enabling development of need-based regional management capabilities in forging effective partnerships and networking at national and global level.

Objectives

Commensurate with the mandate, the following objectives are set for the Academy:

- To *impart* agricultural management education;

- To *enhance* the teaching-learning effectiveness through proper management of agricultural education;

- To *plan* and *organize* need-based, multi-tier, stakeholder-driven and customized on-campus and off-campus training programmes;

- To *facilitate* knowledge and technology dissemination management through innovative use of Information and Communication Technologies (ICTs);

- To *undertake* research on agricultural and technology management, and address emerging concerns in agriculture;

- To *offer* consultancy and *manage* dialogues to backstop training and to provide policy support to NAS;

- To *develop* suitable management tools, practices and processes for facilitating organizational effectiveness;

- To *assemble* quality resource material and function as a resource center of information and knowledge;

- To *promote* facilitative work culture for fostering creativity and innovativeness;

- To *enhance* administrative and financial management in the system;

- To *forge* and *strengthen* partnerships, linkages and networking at regional, national and global levels; and

- To *take up* other related activities for fulfilling the mandate.

Organization and Management

The Director leads the Academy, who is supported by Joint Director. The faculty comprises several principal-level scientists who are supported by a number of technical and administrative personnel. Administration, auxiliary and supporting personnel help in attaining Academy's mandated objectives of training, research, consultancy, and related programmes and activities. Following organogram of NAARM, details the organizational structure of the Academy.

NAARM ORGANOGRAM

Institute Management Committee	DIRECTOR	Research Advisory Committee

Academic Council *		Institute Research Council

Joint Director

Agricultural Research Systems Management And Policies Division	Human Resource Management Division	Information and Communication Management Division	Training Cell	Centralized Services
	✦ OB Lab	✦ Computer Lab ✦ ARIS Lab ✦ GIS Lab ✦ Network Services ✦ Multimedia Lab ✦ Video Lab	✦ Audio-Visual Lab ✦ Photo Lab	✦ Hostel ✦ Health Centre ✦ Farm ✦ Maintenance ✦ Library ✦ Administration ✦ Finance ✦ Production and Publications ✦ Transport

*Under formation

The Academy receives guidance for its effective functioning from the Institute Management Committee (IMC) and Research Advisory Committee (RAC), comprising eminent scientists, management experts, developmental agencies, and administrative personnel from within and outside the Academy. There are also Institute Research Council and Academic Committee to guide the training and research activities of the Academy. To effectively implement its mandated activities, the Academy is organized under three Divisions, supported by various centralized services.

Linkages

NAARM has a rewarding and rich experience of having partnership with many Indian and international institutions. Strong linkages have been developed with:

- ICAR system
- Agricultural Universities in India and foreign countries
- CGIAR institutions including ICRISAT, IFPRI/ISNAR
- Management Institutions like ASCI, ISB, IIMs, MANAGE, NIRD, IPE
- Private sector and NGOs
- World Bank, and Food and Agricultural Organization (FAO)
- South Asian Association for Regional Cooperation (SAARC)
- Department of International Development (DFID, UK)
- Department of Science and Technology (DST)
- NARS of Developing Countries like Sri Lanka, Nigeria, Yemen, Tanzania, Nepal, etc.

Infrastructure and Logistics

The facilities available on the campus include air conditioned lecture halls with modern audio-visual aids, conference halls and auditorium, wi-fi enabled broad band internet service with access both in class rooms and hostels, indoor and outdoor games, excellent hostel facilities to students, in-campus hospital and a well equipped library. NAARM has also a digital library which has many publications in digital format. NAARM has direct access to over 10000 journals from EBSCO including CSIRO, Springer, and Open J-Gate publications as a member of the consortium for e-resources in agriculture.

Excellent laboratory facilities and other facilities are available for:

- Video production
- Computer, ARIS, and Server
- Geographical Information Systems
- Digital multimedia
- Audio-visual aids
- Offset printing
- Patent search and retrieval
- Organizational behaviour

Human and Financial Resources

Human Resources (as on 31.03.2009)

Sl.No	Category	Sanctioned Posts	Filled Strength	Vacant Positions
1.	Research Management Positions	02	02	—
2.	Scientific	40	17	23*
3.	Technical	51	45	06
4.	Administrative	43	40	03
5.	Supporting	39	39	—
	Total	175	143	32

* Requisition sent to ICAR for filling up 10 vacancies

Budget Allocation, Expenditure during the Year 2008-09

Expenditure Statement - Non-Plan

(Rs. in lakhs)

Sl.No	Head of Account	Budget Allocation	Expenditure
1	(a) Estt.Charges including LSP & PF		
	(b) Wages	725.00	724.84
2	OTA	0.60	0.60
3	T.A.	10.00	10.00
4	Other Charges including equipment	192.00	192.00
5	Maintenance of Residential / Non-Residential bldgs including Petty Works	78.00	77.63
	Total	**1005.60**	**1005.07**

Sl.No	Head of Account	Budget Allocation	Expenditure
1	Pension & Retirement Benefits	70.00	69.50
2	Loans & Advances	10.00	5.27

Expenditure Statement – Plan

(Rs. in lakhs)

Sl.No	Head of Account	Budget Allocation	Expenditure
1	(a) Estt. Charges	24.00	24.00
	(b) Wages	—	—
2	T.A.	15.00	15.00
3	Other Charges including equipments	141.00	140.12
4	Furniture & Fixtures	12.00	11.87
5	Library Books & Scientific Journals	35.00	34.96
6	Works	71.00	70.84
7	Other Items - H.R.D.	2.00	1.91
	Total	300.00	298.70

Income Generation

A. Training programmes

S.No	Name of the Programme	Agency	Amount inRs
1.	Training programme for Administrative Staff	CIFRI, Barrack pore, Kolkatta	2,22,473
2.	Training Programme on Enhancing Efficiency and Effectiveness of People at Work	NRC on Seed Spices, Ajmer	2,53,372
3.	Management of Research Projects and Intellectual Property in Agriculture	NAVSARI AgriculturalUniv., NAVSARI, Gujarat	1,62,922
4.	Pedagogy and Curriculum Development	NAVSARI AgriculturalUniv., NAVSARI, Gujarat	1,62,922
5.	Multimedia Content Creation and Web Designing	TANUVAS, Chennai	2,29,000
6.	Training Programme for Administrative and Technical Personnel	DOR, Hyderabad	77,248
7.	Management of Human Resources and Administration in Agriculture	NAVSARI AgriculturalUniv., NAVSARI, Gujarat	2,02,248
8.	Training on "e-Content Creation in Standard Formats"	TANUVAS, Chennai	1,60,400
9.	Educational Methodology and Instructional Technology	PDKV, Akola	1,00,000
10.	Educational Methodology and Instructional Technology at College of Agriculture	PDKV, Akola	1,00,000
11.	Training programme on Enhancing Efficiency of Junior Staff of	IGFRI, Jhansi	87,866

B. Education programmes (as Fees)

S.No	Name of the Programme	Amount (Rs Lakhs)
1.	PGD-ITMA	48.0
2.	PGD-IPTMA	32.0

C. Sponsored research

S.No	Project	Amount released in 2008-09 (Rs Lakhs)
1	Learning and Capacity Building project	445.0
2	Re-designing the farmer-extension-agricultural research /education continuum in India with ICT-mediated knowledge management	50.89
3	Assessments of Development in Nanotechnology for Agricultural R & D.	9.8
4	Agroweb – Digital Dissemination System for Indian Agricultural Research	43.38
5	Assessment of Future Human Capital Requirements in Agriculture	20.50
6.	Strengthening Statistical Computing for NARS	27.71

D. Consultancy and Policy Support Activities

S.No	Total revenue	Amount (Rs.)
		53.39 lakhs

NAARM BUDGET (2008-09): PLAN EXPENDITURE

Other Items - H.R.D
1%

Estt. Charges
8%

T.A.
5%

Works
24%

Library Books &
Scientific Journals
12%

Furniture & Fixtures
4%

Other Charges
including equipments
46%
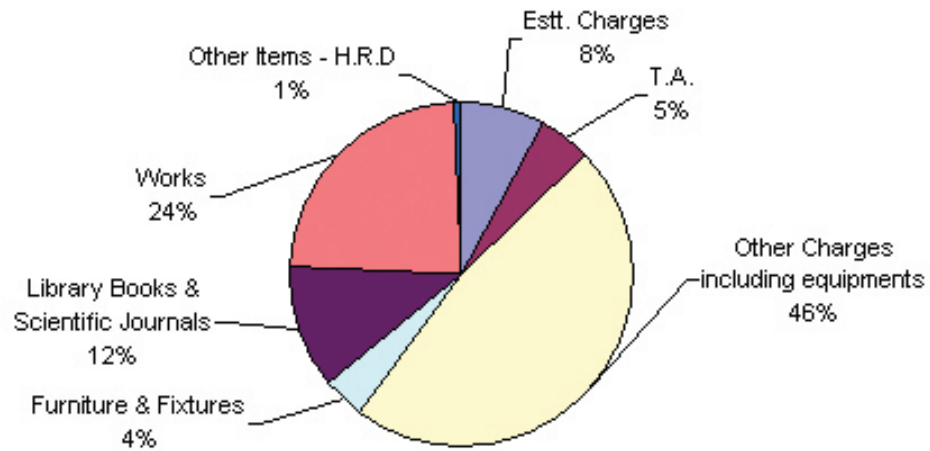
NAARM BUDGET (2008-09): NON-PLAN EXPENDITURE

Pension & Retirement
Benefits
6%

Loans & Advances
0%

Maintainence of
Residential/ Non-
Residential bldgs
including Petty works
7%

Other Charges
including equipment
18%

T.A.
1%

OTA
0%

Wages
68%
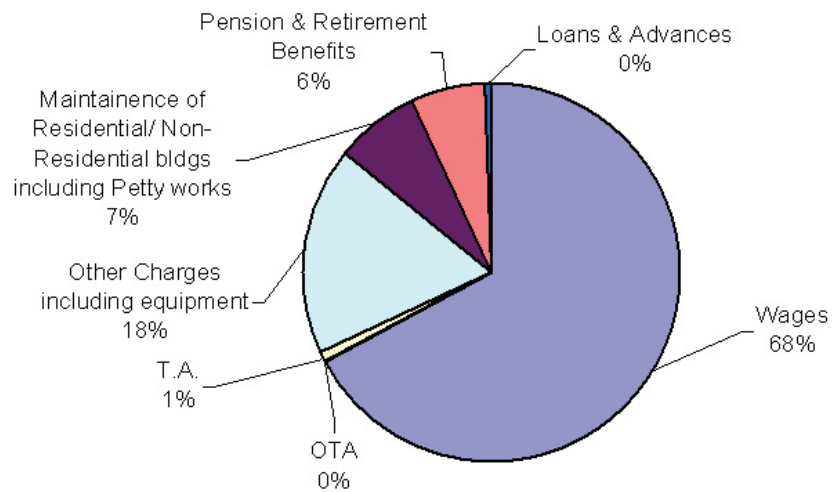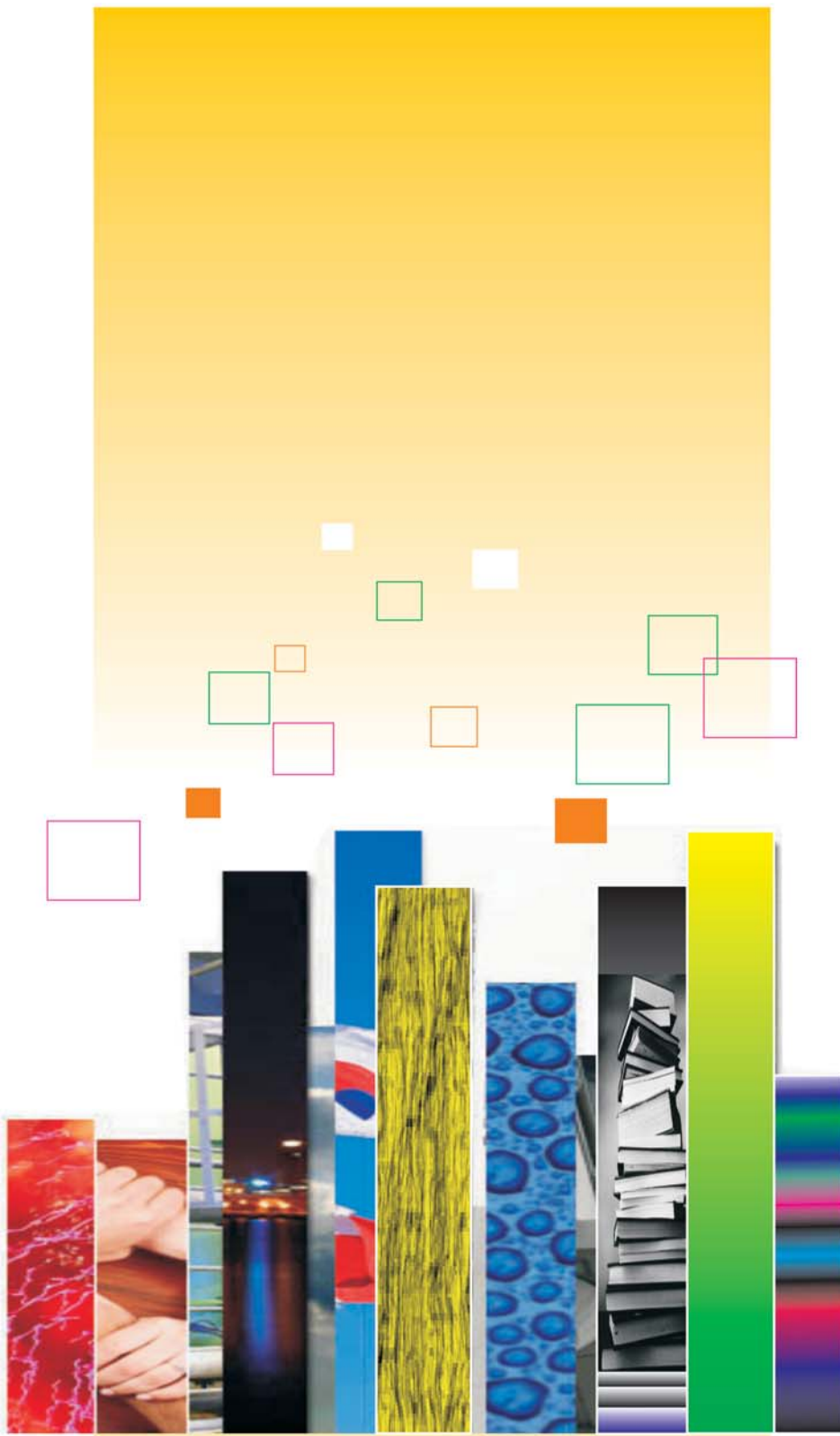
Capacity Building

Capacity building is the primary mandate of the Academy. The Academy imparts training in the areas of research and education management, information and communication technology and administrative and finance management. Its client group includes scientists and faculty, administrative officers, executives, and senior research managers of the ICAR and SAUs, which form major subsystems of the National Agricultural Research System (NARS). During the reported period, a total of 54 such programmes including training programmes, workshops and orientation meetings were organized with 1548 participants. A glimpse of the various types of programmes organized at the Academy is as follows.

Sl. NO.	Type of Programme	No. of Programmes	No. of Participants
1	*FOCARS*	*02*	*111*
2	Education:One year PG Diploma Courses (PGD-ITMA & PGD-IPTMA)	02	40
3	Senior Programmes	22	419
4	Workshops and Conferences	14	482
5	Off-campus programmes	13	485
6	Executive Development Programme	01	11
	Total	54	1548

Foundation Course for Agricultural Research Service (FOCARS)

FOCARS, the flagship programme of the Academy, is designed for the newly recruited entry-level scientists in Agricultural Research Service of the ICAR.

Title	Dates	Number of Participants	Course Director(s)
84th FOCARS	June 26 to Oct. 23, 2008	28	R Kalpana Sastry RVS Rao
85th FOCARS	Feb. 10 to June 9, 2009	83	GP Reddy BS Sontakki

Capacity Building

naarm

The major objective of Foundation Courses was to make the scientists better research workers. The four-month long programme emphasized on important and related areas that are crucial for executing research and other functions more effectively in the organization. The training also provided an exposure on the concepts and principles of project management with special emphasis on project formulation and implementation. The programme emphasized on important areas such as agricultural research systems policies and management, human resource management, and information and communication management.

The FOCARS programmes were organized in three phases. The first phase stressed on aspects such as Indian agricultural research system, issues of WTO and IP management, research project management, communication management, computer based information technology, organizational behavioural issues, administrative and financial rules. During the second phase, the scientists underwent Field Experience Training (FET), which aimed at orienting the scientist - trainees to theme-based participatory rural appraisal. The scientists conducted socio-economic survey in addition to interaction with various stakeholders for an elaborate understanding of agri-input and service systems. They also identified the researchable issues for establishing geographical link, product development, and enhancement of livelihood activities.

The second phase of the training included industrial attachment training. During this industrial part of the FET, the scientist-trainees understood the interplay and linkages among the stakeholders with respect to equity and profit sharing along with probable interactions and modes existing among the players and the value chains in technology commercialization process. As a part of the industrial training, the trainees visited rural ICT projects to collect information in order to understand IT enabled services, adoption of IT based systems by villagers, benefits derived by these services, the overall development benefit due to ICT project, and the potential of IT enabled services for use in agri-services and agri-marketing. The third phase of the programme focused on sharing of experiences by trainees and study visits. The two Foundation Courses had a participation of 111 scientists.

Education

Title	Dates	Number of Participants	Course Director
PG Diploma in IT Management in Agriculture (PGD-ITMA)	Nov. 11, 2008 to Nov. 10, 2009	24	D Rama Rao
PG Diploma in Intellectual Property and Technology Management in Agriculture (PGD-IPTMA)	Jan. 28, 2009 to Jan, 27, 2010	16	R Kalpana Sastry

Post Graduate Diploma in Information Technology Management in Agriculture (PGD-ITMA) – 2008-09

As a part of capacity building exercise in the XI Plan of NAARM, one-year Post Graduate Diploma in Information Technology Management in Agriculture (PGD-ITMA) was inaugurated on November 11, 2008. The admission procedure included selling of on-line applications, on-line submission from anywhere in India by the candidates. This was followed by a written test, group discussion and interviews simultaneously at five locations in India namely, Hyderabad, Bengaluru, New Delhi, Mumbai and Kolkata on September 28 and 29, 2008. The successful candidates were intimated and invited to join the course. This four tri-mester, fully residential course started on November 11, 2008 with twenty-four students.

Post Graduate Diploma in Intellectual Property and Technology Management in Agriculture (PGD-IPTMA) 2008-09

NAARM has initiated its second one-year Post Graduate Diploma course in this current year. This course is titled as one year Post Graduate Diploma in Intellectual Property and Technology Management in Agriculture (PGD-IPTMA). Accordingly, on-line applications to this course were enabled facilitating students to apply from anywhere in India. This was followed by simultaneous written test, Group Discussion & Interviews at four locations in India on December 21 and 22, 2008. This four-trimester, fully residential course was launched on January 28, 2009 with 16 students.

Senior programmes

Title	Duration	Number of Participants	Programme Director(s)
Training Workshop on "Procurement of Goods, Works and Consultant's Services in Accordance with World Bank Guidelines Under NAIP for Consortia Partners"	April 24-25, 2008	45	NH Rao

Training Workshops on Developing Winning Research Proposals	April 28 – 30, 2008 Oct. 14-20, 2008 Mar. 11-16, 2009	41	SK Soam & D Rama Rao; D Rama Rao & SKNanda; J Challa& SK Nanda
Technical and Administrative Support for Consortia-based Research in Agriculture	May 21-27, 2008	21	RVS Rao MM Anwer
ICAR Training-cum-Workshop on "IP and Technology Management" (organized by ICAR, New Delhi)	May 29-31, 2008	49	SK Soam
Decision Support Systems for Geo-spatial Knowledge Management for Sustainable Rural Livelihoods Security	June 4-13, 2008 Jan. 19-29, 2009	2016	NH Rao & MN Reddy MN Reddy & NH Rao
Improving Administrative Efficiency and Financial Management	July 16-23, 2008	27	M Suresh Kumar VS Subramanian
Orientation Training Programme for Zonal Coordinators on "Financial Management"	July 23-26, 2008	8	NH Rao M Suresh Kumar VS Subramanian
IT-based Decision Support Systems for Digital Content Management	Aug. 19-28, 2008	13	GRK Murthy KM Reddy
Technical and Administrative Support for Consortia-based Research in Agriculture	Aug. 20-26, 2008	21	SK Soam R Kalpana Sastry M Suresh Kumar
IT-based Decision Support Systems for Multimedia Development	Sept. 15-24, 2008	22	VKJ Rao KM Reddy
Performance Assessment of Agricultural Research Organizations	Sept. 16-20, 2008	11	T Balaguru R Kalpana Sastry
MDP on Managing Public-Private-Partnerships for Innovation in Agriculture	Oct. 15-21, 2008	13	GP Reddy KH RaoC Sriram
IT-based Decision Support Systems Using Video for Participatory Development	Nov. 18-27, 2008	16	N Sandhya Shenoy VKJ Rao
Training Programme onWeb Standards, Technologies and Standardization under ADDSIAR (AGROWEB)	Dec. 3-12, 2008	20	N Sandhya Shenoy VKJ Rao
MDP on Stress Management Strategies for Enhanced Personal and Organizational Effectiveness	Feb. 18-24, 2009	12	KH Rao P Manikandan
NAARM & FRSF Collaborative Training Programme on MDP on IPR: Protection of Plant Varieties in India-Procedures and Methodologies	Feb. 23-26, 2009	26	SK Soam
IT-based Decision Support Systems using open source systems for e-learning	Mar. 11-20, 2009	15	D Rama Rao GRK Murthy
Use of ICTs in Project Monitoring & Evaluation	March 17-21,2009 March 30 to April 4, 2009	23	D Rama Rao MN Reddy

Procurement of Goods, Works and Consultant's Services in accordance with World Bank Guidelines

A training-cum-workshop programme on Procurement of Goods, Works and Consultant's Services in accordance with World Bank guidelines was organized to create awareness among the stakeholders of NAIP project consortia about the World Bank's guidelines for procurement, GFR & CVC guidelines and consulting services, etc.

Developing Winning Research Proposals

In the light of increasing competition for scarce research funding, it is vital for the scientists of agricultural research organizations to design projects that can attract external funding for specific research efforts. To develop skills through hands-on experience in writing winning research proposals that can win funds from donors focusing on the needs of the stakeholders, and to give practice in writing various components of a research proposal, three such training programmes on Developing Winning Research Proposals were organized at the Academy. These programmes also laid emphasis on the use of *log frame* and Project Evaluation and Review Technique (PERT) in research programme planning and enlightened them on how to develop a good value chain design and budget estimate that is rationally accepted. Project investigators of NAIP and also scientists working in academic and research institutes in both public and private sectors of NARS participated in the training programme.

Technical and Administrative Support for Consortia-based Research in Agriculture

A training programme on Technical and Administrative Support for Consortia-based Research in Agriculture was organized to sensitize and enhance the understanding of the technical and administrative staff of NARS about the consortia mode of research under NAIP. The programme also aimed at developing personality skills and competency in the participants that would help in enhancing their effectiveness in supporting the activities under NAIP. Administrative and Finance & Accounts Officers (AOs and FAOs), and Technical Officers (T-5 and above) from ICAR Institutes underwent the training.

IP and Technology Management

Training-cum-workshop on IP and Technology Management was organized under NAIP, with major emphasis on procedural requirement of patenting. The training areas included basics of IPR and technology management; issues of concern like institutional framework of IP management, national and international framework of IP management; operational

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aspects of patenting, patenting issues and IP forms along with some case studies, etc. Forty-nine senior level scientists associated with Institute Technology Management Units (ITMUs) in various ICAR Institutes and Agricultural Universities participated in the workshop.

Decision Support Systems for Geo-spatial Knowledge Management for Sustainable Rural Livelihoods Security

Geographical Information Systems (GIS) provide an effective framework to integrate diverse spatial data sets into decision support systems to define and resolve the complex issues related to sustainable management of agricultural systems. The Sustainable Rural Livelihoods (SRL) framework provides the base to assess rural livelihood systems. To understand the concepts of spatial database design and management and their applications in agriculture, as well as to integrate the sustainable livelihoods framework and participatory rural GIS for knowledge management and community decision-support, a training programme on IT-based decision support systems for geo-spatial knowledge management in sustainable rural livelihoods security was organized from June 4 to 13, 2008. The programme introduced case studies of GIS based decision support systems for sustainable livelihoods security, and training modules along with hands-on experience of GIS software and hardware. The programme was organized in four modules, namely: Database and GIS concepts and practice; Remote sensing and image processing concepts and practice; Sustainable livelihoods framework concepts and participatory GIS; and Case studies of geo-spatial knowledge management for sustainable livelihoods security. Twenty scientists and Technical Officers of ICAR, Agricultural Universities, Governmental and Non-governmental agricultural research / development / extension organizations took part in the training programme.

Improving Administrative Efficiency and Financial Management

Modern management skills, effective personnel management system, adoption of modern technology for work simplification, and automation have become essential components for providing constructive services by the Administrative and Accounts Officers. To strengthen the existing administrative / financial management processes in ICAR / AU institutions through continuous training programmes on modern management techniques to the administrative and finance officials, as recommended by the Dr A.L. Chaudhary Committee, the training programme on Improving Administrative Efficiency and Financial Management was organized to improve skills and efficiency of the personnel in discharging their functions and providing constructive administrative support to their superiors and scientists in meeting the organizational priorities and needs. The programme broadly covered Modified General Financial Rules *mutatis mutandis* applicable to ICAR / AUs; Pay fixation – Retirement benefits; NAIP Procedures; Financial management; Legal matters & Disciplinary

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proceedings; HRD & Computer networks; and Development administration. Administrative Officers, Finance & Accounts Officers, Assistant Admn. Officers, Assistant Finance & Accounts Officers, Junior Accounts Officers of ICAR Institutes and Section Officers of ICAR Headquarters, and Comptrollers / Deputy Comptrollers / Registrars / Asst. Registrars underwent training.

Programme on Financial Management

An Orientation-Training Programme on Financial Management was organized for Zonal Coordinators to develop skills and to promote efficiency in discharging functions and responsibilities in a systematic manner in the Coordinating Units. The programme also provided overall exposure to the financial management. All the eight Zonal Coordinators attended this training programme.

IIT-based Decision Support Systems for Digital Content Management

Increasing global competition in the agriculture sector, especially agri-business makes it imperative that the knowledge-sharing process has to be rapid, updated, highly dynamic and tailor-made to the global needs. ICTs have devised new ways of managing and sharing the digital content. Open source software have got wider acceptance because of its affordability and scope to mould the software to suit one's requirements. Hence, a senior-level programme on IT-based Decision Support Systems for Digital Content Management was organized to familiarize with open source software for content management and content management software in the web environment, and also to develop case studies on content management in project mode with relevance to agri-business. Personnel from NAIP Consortia partners, faculty members and scientists from ICAR Institutes and Agricultural Universities who are actively involved in distance education, technology dissemination, and transfer of technology through ICTs underwent training.

Technical and Administrative Support for Consortia-based Research in Agriculture

A training programme on Technical and Administrative Support for Consortia-based Research in Agriculture was organized to sensitize and enhance the understanding of the technical and administrative staff of NARS about the consortia mode of research under NAIP. The programme also aimed at developing personality skills and competency in the participants that would help them in enhancing their effectiveness towards supporting the activities under NAIP. Administrative and Finance & Accounts Officers (AOs and FAOs) and Technical Officers (T5 and above) from ICAR Institutes underwent training.

IT-based Decision Support Systems for Multimedia Development

Information technology-based Decision Support Systems (DSS) form the backbone of National Agricultural Innovation System (NAIS). ICTs and Multimedia technologies are the building blocks in the process of developing DSS. These technologies support and accelerate the innovation process through appropriate content creation, management and delivery. Digital Media Resources Centres (DMRC) would serve as strategic knowledge repositories addressing agricultural concerns of the country. To introduce the concepts of multimedia authoring to develop learning objects and to introduce concepts of knowledge sharing / Innovation management across NAIS through DMRC, the programme on IT-based Decision Support Systems: Multimedia Development was organized. The programme covered Digital Multimedia authoring: audio / image / video processing, content capture and authoring; content analysis, content development and management; network protocols for web casting, operating system support for digital audio and video media synchronization, and distance learning strategies for distribution across the virtual environments. The pedagogy included blend of lectures, interactive discussions in a participative mode, hands-on experience leading to a real-time project by each participant and study visits. Scientists/ Faculty of ICAR/AUs and NAIP consortia took part in the training programme.

Performance Assessment of Agricultural Research Organizations

The sixth Management Development Programme on Performance Assessment of Agricultural Research Organizations was organized with an objective to acquaint the participants with the identification and measurement of suitable research output and outcome indicators, and the methodology for assessing the performance of agricultural research organizations, and also to equip the participants with the techniques to identify and measure key management domains having a bearing on the performance of research organizations. The programme covered performance-oriented evaluation system; measurement of research output; measurement of research outcome; Assessment of research management process and Action plan development. Scientists and faculty at senior-level from ICAR Institutes and Agricultural Universities, who were associated with PME and Technical Cells, and Member Secretaries of QRT, IMC, and SRC, took part in the programme.

Managing Public Private Partnerships (PPPs) for Innovation in Agriculture

To discuss on how the role of public private partnerships in food and agriculture can be expanded and sustained to improve the reach, effectiveness, and efficiency of research and innovation for agricultural growth and development, and also to deliberate on various critical issues for effectively managing PPP with a win-win mindset by broadly addressing role and relevance of PPPs in agricultural research and development; develop criteria for identifying PPP opportunities in agricultural research; and prioritize key issues in effectively negotiating and managing PPP projects, a Management Development Programme on Public Private Partnerships (PPPs) for Innovation in Agriculture under L&CB Project of NAIP was organized. Senior-level scientists involved in PME activities of approved NAIP projects and In-charges of PME Cells of ICAR Institutes and AUs attended the programme.

IT-based Decision Support Systems Using Video for Participatory Development

National Agricultural Research System (NARS) is very fast employing participatory video for information communication and dissemination to all its stakeholders. To orient participants on participatory video production for development and to build capacity in design and development of participatory video module and video incorporation in presentations and web, a training programme on IT-based Decision Support Systems Using Video for Participatory Development was organized. The hands-on training of the programme stressed on the participatory techniques and their application in video for development, video applications for information and knowledge management, script writing, digital video and file compressions, incorporating video in multimedia presentations and web, web publishing-concepts in video integration and hands-on practice for video module production. Scientists/Faculty of AUs, NAIP Consortia partners and associates, and Rubber Board attended the training programme.

Web Standards, Technologies and Standardization

To provide exposure on new generation web technologies and to build capacity in design, development and management of websites, a training programme on Web Standards, Technologies and Standardization was organized under L&CB Project of NAIP Component 1. The programme broadly covered new generation web technologies, commercial/open source/ freeware/ shareware web management systems, content management and learning management systems (CMS&LMS) along with hands-on practice for development of websites and hosting web-based contents. Consortia partners and associates of the AGROWEB Project got benefited through this training programme.

Stress Management Strategies for Enhanced Personal and Organizational Effectiveness

Stress can be used as a positive and forceful mechanism for achieving success in one's life by providing the right level of motivation and a drive to win through any block on the way. An MDP on Stress Management Strategies for Enhanced Personal and Organizational Effectiveness was organized to orient the participants to the concept of stress, stress process and stress-related disorders. The programme also intended to examine the personality and organizational variables that moderate stress, as well as to develop coping techniques and strategies for effective management of stress. Senior-level scientists and teachers working in ICAR Institutes, Agricultural/Veterinary Universities, Rubber Board and Central Sericulture Research and Training Institute participated in this programme.

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IPR-Protection of Plant Varieties in India – Procedures and Methodologies

A Management Development Programme on IPR- Protection of Plant Varieties in India – Procedures and Methodologies was organized in collaboration with Farm and Rural Science Foundation (FRSF) sponsored by the Protection of Plant Varieties and Farmers Rights (PPV&FR) Authority, Govt. of India, New Delhi. The main objectives of the programme are to sensitize and update scientists on plant variety protection, to familiarize them with procedures and methodologies of plant variety protection, and to foster an environment on IPR policy in institutions of NARS. Senior scientists and faculty members from ICAR institutes and Agricultural Universities took part in the training programme.

IT-based Decision Support Systems using open source systems for e-learning

Increasing global competition in the agriculture sector, especially agri-business makes it imperative that the knowledge-sharing process has to be rapid, updated, highly dynamic and tailor-made to the global needs. ICTs have devised new ways of managing and sharing the digital content. Open source softwares have got wider acceptance because of its affordability and scope to mould the software to suit one's requirements. Hence, a senior-level programme on IT-based Decision Support Systems using Open Source Systems for E-learning was organized to familiarize with open source software for content development and management in the context of e-learning; to acquaint the participants with content management software in the web environment; and also to develop case studies on content management in project mode with relevance to agri-business. Faculty members, Scientists, Technical Officers, and Educational Administrators from ICAR Institutes, Agricultural Universities and other related organizations underwent the training.

Use of Information and Communication Technologies (ICTs) for Prioritization, Monitoring and Evaluation (PME) of consortia-based Research in Agriculture

Project Monitoring and Evaluation (PME) is an integral part of any scientific or development project. With the onset of new advances in information technology, especially in computing and communications, the project monitoring has now become more efficient and effective with simple and accurate PME software tools. In order to sensitize the participants on the concept of PME, expose the participants to the latest ICT based Project Management tools like MS-Project, and enhance their skills in making appropriate use such tools in PME, as well as to sensitize the participants on use of web-based tools for PME in NAIP projects, which could enhance their efficiency, analytical and presentation skills, two training programmes on Use of ICT in Project Monitoring and Evaluation were organized at NAARM. Scientists and personnel managing projects from National Agricultural Research System including ICAR, SAUs and NAIP Consortia underwent the training.

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Workshops and Conferences

Title	Duration Participants	Number of Director(s)	Programme Director(s)
3rd Monitoring & Evaluation Workshop of NAIP	May 9-10, 2008	33	D Rama Rao
Sensitization Workshops under NAIP	May 15, 16 and 24, 2008	26	D. Rama Rao
National Conference of Ministers of Agriculture and Horticulture	May 26, 2008	63	Director
MDP Workshop onPolicy and Prioritization, Monitoring and Evaluation (PME) Support to consortia-based Research Projects in Agriculture	June 17-21, 2008	26	BS Sontakki SK Soam
Brainstorming Workshop on Performance Assessment of Agricultural Universities	Sept. 5 & 6, 2008	28	Jagannadham Challa T Balaguru
Brainstorming Workshop on One Year PG Diploma in Information Technology Management in Agriculture	Sept 6&7, 2008	44	Dr D Rama Rao
Workshop onWeb Design Methodologies, Protocols and Content Management Strategies under ADDSIAR (AGROWEB)	Sept. 9-10, 2008	48	GRK Murthy
Interactive Workshop on Developing Winning Research Proposal (under NAIP)	Sept. 10-12, 2008	50	Dr SK Nanda Dr D Rama Rao
Training Workshop on Developing Winning Research Proposal (under NAIP)	Sept. 25-27, 2008	34	KH Rao Jagannadham Challa
Policy and Prioritization, Monitoring and Evaluation (PME) Support to consortia-based Research Projects in Agriculture	Oct. 21-25, 2008	19	SK Nanda R Kalpana Sastry
Workshop on Adoption of Official Language Policy in ICAR	Dec. 2-3, 2008	18	A Gopalam SK Soam
Brainstorming Meet onPG Diploma in Intellectual Property and Technology Management in Agriculture (PGD-IPTMA)	Dec. 6-7, 2008	46	R Kalpana Sastry
Brainstorming Meet on Diploma in Agricultural Research Management	Jan. 10, 2009	37	T Balaguru
MDP Workshop onPolicy and Prioritization, Monitoring and Evaluation (PME) Support to consortia-based Research Projects in Agriculture	Feb. 3-7, 2009	10	GP Reddy T Balaguru

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Monitoring and Evaluation Workshop

The 3rd Monitoring & Evaluation Workshop was conducted to discuss the issues pertaining to technical, operational and management activities of ongoing consortia projects under NAIP with special focus on M&E. The M&E consultants made a presentation of the online project monitoring system. The participants discussed various issues pertaining to M&E formats, and issues on management and operational aspects of the projects. The Officials including investigators of ongoing consortia projects, M&E consultants, senior officials from PIU (the National Director, National Coordinators, Director-Finance), and NAARM faculty participated in the workshop.

Sensitization Workshops under NAIP

To encourage the potential public and private sector partners to form consortia in the listed thrust areas of NAIP through focus group workshops with stakeholders on the selected value chains for third call of proposals, focus group sensitization workshops under NAIP were organized thrice on May 15, 16 and 24, 2008 as focus group meetings. After the NAIP Help Desk consultants gave a brief overview of the requirements for NAIP under Component-2, the group developed an outline of concept note in the proposed theme area. Twenty-six participants from public and private sector partners of NAIP took part in all the three workshops.

National Conference of Ministers of Agriculture and Horticulture

A National Conference of Ministers of Agriculture and Horticulture was organized at the Academy on May 26, 2008. On the occasion, Hon'ble Union Minister for Agriculture, Sh. Sharad Pawar who was chief guest also inaugurated the exhibition. The conference was attended by 13 ministers from Different States. Dr Mangala Rai, Secretary, DARE and Director General, ICAR and Dr P.K. Mishra, Secretary, Department of Agriculture and Cooperation made opening remarks during the inauguration of the Conference while Dr S. M. Ilyas, Director, NAARM welcomed the gathering. The Technical Sessions of the conference included Advances in Pulses, Oilseeds and Coarse Cereals Production and Impact of Climate Change on Indian Agriculture.

Policy and Prioritization, Monitoring and Evaluation (PME) Support to Consortia-based Research in Agriculture

An MDP workshop on policy and prioritization, monitoring and evaluation (PME) support to consortia-based research in agriculture was organized to sensitize the participants to the O&M reforms for consortia-based research policy, priority setting, monitoring and

evaluation, with special reference to Component – 2 (Production to Consumption Systems/ Value Chain) as envisaged in NAIP. The workshop oriented the participants to the concepts and description of PME of agricultural R&D and equipped them with major techniques of PME in different areas of agricultural research and development. Apart from discussions on empirical studies, the workshop brought together the viewpoints of researchers, administrators and donors to make PME effective and rewarding. Scientists from ICAR Institutes and Agricultural Universities took part in the workshop.

Performance Assessment of Agricultural Universities

NAARM has undertaken a project with an aim to initiate a pilot study on performance assessment of Agricultural Universities. The outcome of this project will lead to rationalize the Sardar Patel Award for the Outstanding Agricultural University. This 'National Brainstorming' Workshop was organized with the following objectives.

- To brainstorm on various key issues of performance assessment of Agricultural Universities in India.
- To develop consensus for evolving a methodology for benchmark assessment of quality agricultural education and research.
- To discuss and explore various sources of data and information, and mechanism for generation of relevant data.

This National Brainstorming Workshop was conducted in three sessions on three questions, namely: What are the benchmark indicators/parameters for quality performance assessment of Agricultural Universities?; and What are the various tools and methodologies for generation of relevant data for their rating? What is the required framework for generation of requisite data? This was aimed at generating a variety of ideas and develop consensus on key issues on the methodology to be followed for measurement of identified indicators and parameters with their relative scales and weightages for arriving at qualitative assessment score. Facilitating the workshop proceedings, the most efficient participatory method, namely, Mobile Visualization Technique was utilized to strengthen the efforts of the investigators. The two-day Workshop concluded with a plenary session summarizing the recommendations and resolutions that emerged during the deliberations. The Vice-Chancellors, Directors of Research, and Deans of Agricultural Universities took active part in the Workshop.

Brain Storming Session for Curriculum Finalization of Post Graduate Diploma in Information Technology Management in Agriculture (PGD-ITMA) - 2008-09

The Academy, as a part of capacity building exercise in the XI plan, has decided to initiate Post Graduate Diploma courses in this current year. The first course identified is 'one year post graduate diploma in information technology management in agriculture' (PGD-ITMA). Accordingly, several activities were planned including successful conduction of Brain Storming Session for Curriculum Finalization for this course with experts from across the spectrum of agriculture industry sector from India.

A brainstorming session was organized to discuss the various employment sector needs pertaining to the "PG Diploma on IT Management in Agriculture" with a focus on the need for the bridge professionals required in various employment sectors and skill sets required thereof. Based on the workshop proceedings, given below is a synthesis of the profile of the IT bridge professional will be:

(i) an agricultural information systems analyst;
(i) sensitized to rural development and inclusive growth concerns, globalization issues, food
    safety & standards, regulations and cyber laws;
(iii) with a skill set comprising of:
    - analytical skills to process information for decision support
    - quantitative analysis
    - financial management and accounting
    - local language computing
(iv) having the required social skills/HRM; and
(v) specialized skill in one/two or more of the following:
    - retail
    - food processing
    - microfinance
    - supply chain management
    - e-governance
    - trade and export (commodities, horticulture, fish)
    - entrepreneur

The learning models would include: term papers, e-learning/self learning, formal and informal interactions with experts & HR managers, hands-on skill development in relevant areas. Officials from various public, private and NGO sectors and NAARM faculty participated in this programme. Mr. D.S.K. Rao, IT specialist was the expert consultant to NAARM for initiating this course.

Web design methodologies, protocols and content management strategies

A Workshop on Web Design Methodologies, Protocols and Content Management Strategies was held during September 9-10, 2008 under ADDSIAR (AGROWEB) project. The consortia partners of the project representing 9 ICAR Institutes and participants from 19 Associate Institutes attended the workshop. Website related issues pertaining to the ICAR Institutes were discussed in a brainstorming mode to achieve uniformity and standardized websites. Uniformity issues like Home page, Domain name, Information flow and Overall appearance of the Web site and Web technologies to be used like PHP, ASP, JavaScript, and Web 2.0 technologies were discussed during the workshop.

Developing Winning Research Proposals

At the request of PIU, NAIP, the Academy organized two Interactive Workshops on Developing Winning Research Proposals under L&CB project for Component 4 of NAIP for the accepted Concept Notes against call three. A total of 16 projects in the broad area of Horticulture were invited in the first Workshop, whereas nine projects in the area of high value extracts, functional foods, grains, etc. were invited in the second Workshop. In both the cases, PIU-NAIP has invited about four experts each to assists the PIs in developing the full proposals. The Academy Faculty in association with Help Desk Consultants provided the conceptual frameworks and various templates to develop full proposals. Each expert assisted three to four sub-projects and assisted them in handholding mode in evolving full proposal as per NAIP requirements. In all, eighty-four participants from NAIP Consortia attended the workshop.

Policy and Prioritization, Monitoring and Evaluation

An MDP Workshop on Policy and Prioritization, Monitoring and Evaluation (PME) support to Consortia-based Research Projects in Agriculture was organized under NAIP-L&CB component to sensitize the participants to the O&M reforms for consortia-based research policy, priority setting, monitoring and evaluation, as envisaged in NAIP. The programme oriented the participants to the concepts and description of PME in Agricultural R&D, and equipped them with major techniques of PME in different areas of agricultural research and development. In the workshop empirical studies were discussed and experiences in application of PME techniques were synthesized. Nineteen senior-level scientists involved in PME activities of approved NAIP Consortia and in-charges of PME Cells of ICAR Institutes and AUs took part in the workshop.

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Adoption of Official Language (OL) Policy in ICAR system

To correlate language with science, workshop on Adoption of Official Language Policy in ICAR System was organized. Brainstorming sessions were conducted on various important issues like OL implementation relating to agricultural sciences; establishment of scientific terminology for ease in understanding scientific achievements more specifically to the stakeholders who are Official Language functionaries and others instrumental in practical implementation of OL rules and regulations in ICAR. Dr J. Renuka was the key facilitator for the workshop. Eighteen Senior Officer Incharges (OL), Assistant Directors (OL) and other Senior Officers responsible for Official Language implementation in ICAR Institutes attended the workshop.

Brainstorming meet on PG Diploma in Intellectual Property and Technology Management in Agriculture

A brainstorming session for PG Diploma in Intellectual Property and Technology Management in Agriculture (PGD-IPTMA) was organized to prepare the curriculum for optimized transfer of benefits to the target entrepreneurs and also agro-based industries with a goal to enhance the employment opportunities for the suitably trained graduates. Valuable inputs, from 46 stakeholders in seed sector, pharma and biotech industries; attorneys, academicians, experts from R&D institutions; personnel from government and statutory offices, and NAARM faculty, were received for curriculum development and finalization of the PG Diploma Course. Drs Gopakumar G. Nair and V.C. Vivekanandan were consultants to NAARM for this course.

Brainstorming Meet on Diploma in Agricultural Research Management

Unlike in business and industrial sectors, the agricultural scientists are often handicapped in discharging their managerial functions more efficiently and effectively due to lack of exposure to formal education or training in management. Realizing the importance of developing such manpower for Indian as well as for other developing country NARS in Africa and Asia, the International Food Policy Research Institute (IFPRI) joined with NAARM in developing a suitable Diploma Course in Agricultural Research Management for the national and international participants.

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In order to sensitize the delegates to the need for a Diploma Course in Agricultural Research Management to benefit the Indian and developing country NARS, as well as to deliberate both on the technical and operational aspects of the Course to make it more meaningful, a Brainstorming Workshop Meet on Diploma in Agricultural Research Management was organized on January 10, 2009 at NAARM, Hyderabad. Directors of ICAR Institutes, Professors from Agricultural Universities along with NAARM Faculty Members, numbering 36, took part in the deliberations. The outcome of the workshop is as follows:

❖ *Organizers:* The Course would be organized jointly by NAARM and IFPRI by complementing the strengths of both these institutions.
❖ *Need:* Driven by the global exigencies of change, there is a need for research management systems that understands and responds to such change. Hence, there is a need for the Course.
❖ *Curriculum:* There is broad consensus on the relevance of topics included, but there is every possibility for adding specific titles to strengthen the Course. Flexibility in the curriculum could be realized by having core and elective topics.
❖ *Potential participants:* There is broad agreement for admitting those scientists involved in research management process to the Course. Regarding international participants, the diversity of qualifications to be carefully considered. Appropriate screening procedure needs to be followed to select the participants with aptitude for management.
❖ *Resource persons:* The focus of selection for resource persons need not be on knowledge delivery alone but also on sharing the know-how. They may be involved in the identification and development of content for the Course, which could be facilitated by providing them with the profile of participants.
❖ *Sustainability:* Building credibility and initiating action for wider publicity could ensure the sustainability of the Course.

Based on the overall outcome of the Brainstorming Meet, the Academy was enthused to initiate action for starting a two-year, full-time M.Sc. Course in Agricultural Research Management to bring visibility to Academy at the international arena as well as to meet the needs of developing country NARS in Africa and Asia. This long-term Course will be the main course in addition to the short-term course agreed upon in the meeting.

Policy and Prioritization, Monitoring and Evaluation (PME) Support to Consortia-based Research Projects in Agriculture

An MDP Workshop on Policy and Prioritization, Monitoring and Evaluation (PME) Support to Consortia-based Research Projects in Agriculture was organized under NAIP-L&CB component to sensitize the participants to the O&M reforms for consortia-based research policy, priority setting, monitoring and evaluation, as envisaged in NAIP. The programme oriented the participants to the concepts and description of PME of Agricultural R&D, and equipped them with major techniques of PME in different areas of agricultural research and development. Senior-level scientists involved in PME activities of approved NAIP consortia projects and in-charges of PME cells of ICAR Institutes and SAUs took part in the Workshop.

Off-campus Programmes

Name of the Programme	Duration	Name of the Institute	No. of participants	Programme Director(s)
Programme for Administrative, Finance and Accounts Manpower	April 25 to 30, 2008	CIFRI, Barrackpore	35	M. Suresh Kumar V.S. Subramanian
FDP on Educational Methodology and Instructional Technology	May 28 to June 2, 2008	Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar	23	A. Gopalam K.H. Rao
FDP on Educational Methodology and Instructional Technology	July 4 to 9, 2008	IVRI, Izatnagar	26	A. Gopalam K.H. Rao
Enhancing Efficiency and Effectiveness of People at Work	September 17 to 27, 2008	National Research Centre for Seed Spices, Ajmer	25	P. Manikandan R.V.S. Rao
Management of Research Projects and Intellectual Property	September 22 to 26, 2008	Navsari Agricultural University, Navsari, Gujarat	60	T. Balaguru R. Kalpana Sastry
Pedagogy and Curriculum Development	October 14 to 18, 2008	Navsari Agricultural University, Navsari, Gujarat	62	A. Gopalam K.H. Rao
Multimedia Content Creation and Web Designing	October 14 to 25, 2008	TANUVAS, Chennai	28	K.M. Reddy V.K.J. Rao
Improving Efficiency of Administrative Staff	October 29 to 31, 2008	Directorate of Oilseeds Research, Hyderabad	25	M. Suresh Kumar B.S. Sontakki
Management of Human Resources and Administration in Agriculture	Nov. 11-15, 2008	Navsari Agricultural University, Navsari, Gujarat	63	RVS Rao M Suresh Kumar
Training on E-content Creation in Standard Formats	Jan. 8-12, 2009	TANUVAS Chennai	28	KM Reddy GRK Murthy
FDP on Educational Methodology and Instructional Technology	Feb. 25 to March 1, 2009 & March 12 to 16, 2009	Dr. Punjabrao Deshmukh Krishi Vidyapeeth, Akola & College of Agriculture, Nagpur	85	A. Gopalam K.H. Rao
Improving efficiency of Junior staff	March 23 to 26, 2009	IGFRI, Jhansi	25	P. Manikandan R.V.S. Rao

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Programme for Administrative, Finance and Accounts Manpower

An off-campus training programme for administrative, finance and accounts manpower was organized to improve the skills and efficiency of the administrative and finance personnel in discharging their functions and in providing constructive administrative support to their superiors in meeting the organizational priorities and needs. Accounts and administrative personnel of the Institute underwent the training.

FDP on Educational Methodology and Instructional Technology

An off-campus Faculty Development Programme on Educational Methodology and Instructional Technology was organized at Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar under the Project titled "Niche Area of Excellence on Educational Technology for Global Competitiveness in Agricultural Education". The programme included an overview of educational methodology and instructional technology, curriculum development, effective teaching attitudes, administration and education management as main focus of interaction supplemented by learning styles and strategies. The faculty was given an exposure on attitude and motivation to bring about the complementarity in the behavioural aspects of learning and teaching. Instructional evaluation and online evaluation systems were providing information on learning assessment technology apart from entrepreneurship development. Twenty-three Assistant and Associate Professors benefited from the training programme.

Educational Methodology and Instructional Technology

An Off-Campus Training Programme on Educational Methodology and Instructional Technology was organized at IVRI, Izatnagar, under the Niche Area of Excellence on Educational Technology for Global Competitiveness. The programme was conducted to expose the faculty members with advances in teaching methodologies and instructional technologies and also to sensitize them on behavioral modifications required to become effective teachers. Twenty-six faculty members of the Institute got benefited through this programme.

Enhancing Efficiency and Effectiveness of People at Work

The efficiency and effectiveness of people in the organization depends to a large extent on their ability to utilize a variety of soft skills that are essential for performing various activities. There is a need to sensitize this important group of technical personnel to the various soft skills that are required in performing their roles and responsibilities efficiently and effectively. Keeping this in view and based on the request received from National Research Centre for Seed Spices, Ajmer, a specialized short-term course on Enhancing Efficiency and Effectiveness of People at Work was organized. The programme oriented the participants to the important issues of organizational behaviour and human resource management, which have a great bearing on improving their efficiency. Some of the areas covered in the programme included importance of human relations management in the organization, personality development, motivation, interpersonal relationship, teamwork,

conflict management, trust building, and orientation to resources utilization and super ordinate goal attainment. The participants were sensitized to these various issues through structured experiences, which helped them understand their shortcomings in terms of their knowledge and skills.

Management of Research Projects and Intellectual Property

An Off-Campus Programme on Management of Research Projects and Intellectual Property in Agriculture was organized at Navsari Agricultural University, Navsari, Gujarat to expose the participants to national and international agriculture and various facets of research project management, and also to create awareness on the importance and process of protecting intellectual property in agriculture. The programme was built around the following major modules: Agricultural Research System and Scenario Analysis; Research Project Management; and Intellectual Property Management. Sixty newly-recruited Assistant Professors from Colleges, Assistant Research Scientists from Research Stations and Subject Matter Specialists from KVKs of the Navsari Agricultural University in Gujarat attended the programme.

Pedagogy and Curriculum Development

This training programme was organized at Navsari Agricultural University, Navsari, Gujarat to introduce the pedagogical system of instruction and to develop awareness on the processes and mechanics on curriculum design and development and also describe the methodology for assessing the curriculum performance learning and instructional objectives. The broad areas covered were management of agricultural education, concepts of leaning and teaching besides assessment and effectiveness, testing and evaluation criteria. Sixty-two faculty members of the University underwent this training programme.

Multimedia Content Creation and Web Designing

This sponsored training programme was organized to create awareness about the multimedia softwares and content creation, and also to provide an understanding about the basics of web designing. The programme enabled the participants to develop e-content with rich multimedia for the Undergraduate Course in Veterinary Education. Twenty-eight faculty members of the TANUVAS, Chennai, got benefited through this programme.

Improving Efficiency of Administrative Staff

Modern management skills, effective personnel management system, adoption of modern technology for work simplification, automation have become essential components for providing constructive services by the administrative and accounts personnel. Under this context, an off-campus training programme on Improving Efficiency of Administrative Staff was organized at the Directorate of Oilseeds Research to improve the skills and efficiency of administrative staff.

Management of Human Resources and Administration in Agriculture

There is a need to sensitize personnel to the various soft skills that are required in performing their roles and responsibilities efficiently and effectively. In view of this, a specialized short-term course on Management of Human Resources and Administration in Agriculture was organized to orient the participants to the important issues of human resource management and organizational behaviour, which have a great bearing on improving their efficiency. Some of the areas covered in the programme included importance of human relations management in the organization, personality development, motivation, interpersonal relationship, teamwork, conflict management, trust building, and orientation to resources utilization and super ordinate goal attainment. The participants were sensitized to these various issues through structured experiences, which helped them to understand their shortcomings in terms of their knowledge and skills.

E-content Creation in Standard Formats

This sponsored training programme was organized to create awareness about the content creation softwares, and also to provide an understanding about the basics of web designing. The programme enabled the participants to develop e-content with rich multimedia for the Undergraduate Courses. Twenty-eight faculty members of the TANUVAS, Chennai, got benefited through this programme.

Educational Methodology and Instructional Technology

Two Off-campus Faculty Development Programmes on Educational Methodology and Instructional Technology were organized at Dr. Punjabrao Deshmukh Krishi Vidyapeeth, Akola and at College of Agriculture, Nagpur. These programmes aimed at enhancing the need-based knowledge, skills and competencies in educational technology among the teachers and to facilitate them systematically apply the principles of instructional design and development in the planning and preparation of teaching modules and aids. These programmes covered an overview of educational methodology and instructional technology, curriculum development, effective teaching attitudes, administration and education management as main focus of interaction supplemented by learning styles and strategies. The faculty was given an exposure to attitude and motivation to bring about the complementarity in the behavioural aspects of learning and teaching. Instructional evaluation and online evaluation systems were covered for providing information on learning assessment technology apart from entrepreneurship development. A total of eighty-five Assistant and Associate Professors got benefited from these training programmes.

Improving efficiency of Junior staff

An off-campus specialized short training programme on Improving efficiency of Junior staff at IGFRI, Jhansi was organized from March 23 to 26, 2009 as a part of the human resource development activity undertaken by the Institute. The junior staff were provided training to bring about a changed mindset among them for enhancing their effectiveness. The participants were provided opportunities to enhance their human relations skills and also to develop skills in effectively working with people.

D. Executive Development Programme

Name of the Programme	Duration	No. of participants	Programme Director(s)
Agricultural Research Management	Sept. 23-27, 2008	11	Jagannadham Challa C. Sriram

Executive Development Programme on Agricultural Research Management

As a part of the Academy's endeavour towards promoting learning and capacity building of the NARS, an Executive Development Programme in Agricultural Research Management, the 10th in series, was organized from September 23 to 27, 2008, for the benefit of senior personnel in Research Management Position such as Directors and Joint Directors of ICAR Institutes and Deans and Directors of Agricultural Universities. The Programme was designed for conceptual awareness and competency building in the theme areas of scientific endeavours and institute management, administration and finance functions, institution building, and legislative acts. The programme aided the delegates to develop a visionary approach towards perspective planning for their research institutes. The programme was structured into interactive sessions by in-house and guest faculty, case analysis, and presentations. Directors of ICAR institutes, Assistant Directors General of ICAR, Deans and Directors of Aus, numbering 11, took part in the programme.

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Research

Institute-funded Research Projects during 2008-09:

S.No	Project Title	Project Team
1	Organizational stress and stressors among scientists and teachers of NARS	P. Manikandan, K.H.Rao, M.M.Anwer, R.V.S.Rao
2	Impact assessment of fisheries research in India-APCESS	G.P.Reddy, B.S.Sontakki, M.N.Reddy
3	Assessment of Open Source Software tools for MIS in agricultural research	M.N.Reddy, N.Sandhya Shenoy, K.V.Kumar, B.S.Kulkarni, (ANGRAU)
4	Evaluation of e-learning methodologies in open source environment	G.R.K.Murthy, K.M.Reddy
5	Simulation model for quality assessment of agricultural colleges	S.K.Nanda, D.Rama Rao, Jagannadham Challa
6	Performance assessment of AUs	Jagannadham Challa, T.Balaguru
7	Leadership styles in ICAR institutes	M.M. Anwer, P. Manikandan, K.H. Rao, and R.V.S. Rao
8	Organizational change for promoting innovation through research consortia – Change Management	P. Manikandan, R.V.S. Rao, K.H. Rao, B.S. Sontakki and G.P. Reddy
9	Promotion of inter-disciplinary orientation and inter-institutional collaboration in NARS	T. Balaguru, P. Manikandan, and S.K. Nanda

1. Organizational Stress and Stressors among the Scientists and Teachers of NARS

Objectives:

- To identify the major stressors for scientists and teachers
- To assess the organizational stress among the scientists and teachers

Achievements

Questionnaire survey was done to collect information on the stressors and organization stress among the scientists and teachers. The three sources of stress covered in the study include personal factors, work factors, and environmental factors. In the personal factors personality, assertiveness, self-image, resilience, time management, and loneliness of individuals are focused. Work, job strain, and role stress are considered in the work-related factors. Family, social, and environment factors that cause stress for individuals are included in the study under environment factors. Information was collected through questionnaires from 347 respondents, which included 147 scientists from 31 ICAR institutes and 190 faculty members from 26 Agricultural Universities.

The analysis indicated that scientists and teachers have moderate to high stress. Deprivational stress, which results from lack of stimulation and challenge, was moderate to high among 48 per cent of the scientists, whereas it is only 38 per cent in case of teachers. Stress overload was obvious in nearly 64 to 71 per cent of the respondent scientists and teachers. The moderate to high levels of stress toughness (nearly 100%) prevalent among the scientists and teachers indicate that in spite of the fairly high levels of stress experienced by the stress over-load existing among them, the scientists and teachers have a great ability to cope with the stress. It is observed that majority of the responded scientists and teachers do have reasonable strength in their stress balancing strategies.

The respondents do have inadequacies in their personal factors, which cause them stress. Among the major personal factors, personality, assertiveness, loneliness, resilience, and time management contribute in a larger measure for the stress of scientists and teachers. Though a large proportion of scientists and teachers indicated moderate to high work stress (94 to 97%), it is satisfying to note that majority of them feel that they have high job control and a fairly high social support, in terms of matching demand and support for the job. About 69 per cent of the respondents have indicated some or the other form of role stress. The major role stressors for the scientists of the ICAR institutes are in the following order: Role erosion, Resource Inadequacy, Role Isolation, and Role Stagnation. The trend in the Agricultural Universities is somewhat similar, where the major role stressors are in the order of Role erosion, Role isolation, Resource Inadequacy, and Role Overload.

2. Impact Assessment of Fisheries Research in India

Objectives:

- To analyze investments in capture and culture fisheries research in India;
- To evaluate return to investment of research in capture and culture fisheries; and
- To assess the socio-economic and environmental impacts of fisheries technologies in different systems.

Achievements

- Developed Data bank and Computer based information system
- Conducted Methodological Workshop for Assessing the Impact of Fisheries Research in India from 21-22 April 2006
- Identified sector wise Technologies for Impact Assessment of Fisheries Research in India
- Published A technical bulletin on Overview of Fisheries Research in India
- Date from secondary sources regarding production, yield and investments are collected from available published secondary sources

3. Assessment of Open Source Software (OSS) Tools for MIS in Agricultural Research

Objectives:

- To assess current software use through benchmark survey and assess future software needs in NARS
- To assess and identify the effective OSS for data analysis and database management in agricultural research management
- To assess and identify the effective OSS for web design and web-based content development

Achievements

A survey questionnaire was developed and data was collected on the current use and software requirements in area of a) data analysis, b) database management and c) Web design and development from 145 respondents from state agricultural universities and ICAR institutes. The survey results indicate that, the statistical software SPSS for data analysis, MS Access for database management and MS Front Page for Web design are being used by majority.

- After evaluating various Open Source Software products. The following open source software is identified as a potential alternative for the commercial software

Purpose	Commercial Software	Identifies Open Source Software
Data Analysis	SPSS	OPEN STAT
Data Base Management	MS Access	Open Base

Learning resources in the form hands- on -practice exercises were developed in all the above three areas and are available on NAARM Web under virtual learning.

The effectiveness of this software through the developed learning resources were tested in the training programmes organized at NAARM. Satisfactory feedback was received from the participants.

The open source software "NVU" is identified as a potential alternative for the commonly used commercial software MS Front page. Learning resources were developed and tested in the training programs organized at NAARM. The feed back received is satisfactory.

Output

Training Modules on:
1) Data analysis using Open Stat
2) Web designing using OSS NVU
3) Data base Management using Open base

4. Evaluation of E-learning Methodologies in Open Source Environment

Objectives:

- To evolve a method to develop content and its management in the context of e-learning and knowledge management
- To identify suitable e-learning methodologies with emphasis on open source environment and suitability to the domain of agriculture
- To identify the existing open source content development (CDR) and management resources (CMR)
- To evaluate and identify suitable CDR and CMR
- To test run the identified CDR and CMR with suitable knowledge/information resources for their feasibility

Achievements

Following CDRs were identified as potential tools for content development amenable to eLearning

- Audacity for sound editing
- Audiograbber for sound capturing
- Media encoder (It is freeware with Windows) for content capturing

MOODLE is identified as the suitable CMR in open source for implementing e-Learning

5. Simulation Model for Quality Assessment of Agricultural colleges

Objectives:

- To conceptualize the quality dimensions in agricultural education
- To develop a simulation model for dynamic quality assessment

- To develop a tool for self-assessment of quality

Achievements

From the literature survey 49 parameters were identified for developing simulation model. With these parameters a conceptual model, casual diagram and flow diagrams were developed.

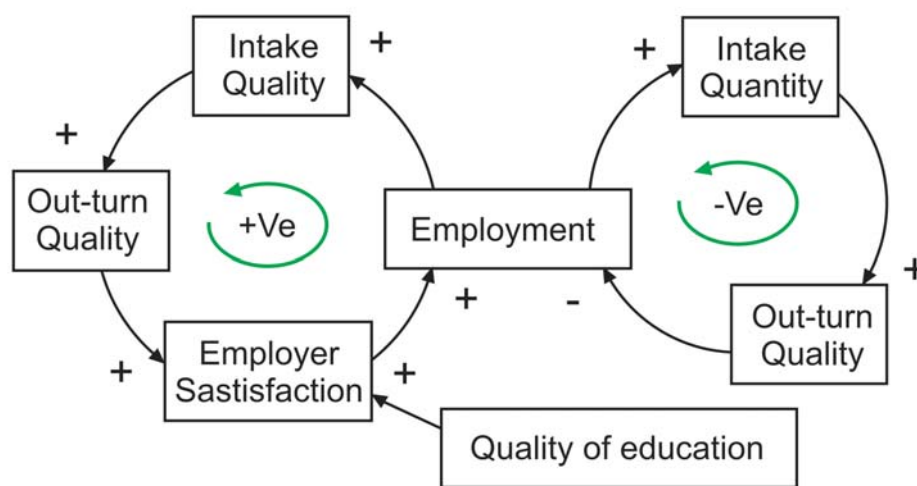The following conceptual model was developed for the study.

Figure 1: Conceptual model

From the literature survey 49 parameters were identified for developing simulation model in STELLA environment. With these parameters, casual diagram were developed for the sub-models.
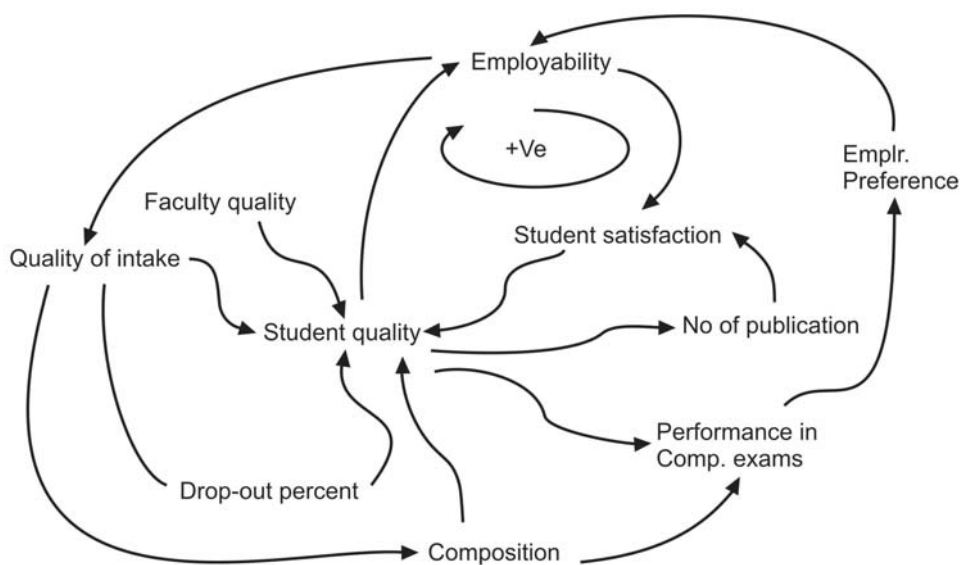

Figure 2: Causal diagram of student sub-model

6. Performance Assessment of Agricultural Universities

Objectives:

- Development of appropriate methodology and mechanism for performance assessment of agricultural universities
- To help in standardization and rationalization of Sardar Patel ICAR Institution Award for outstanding agricultural university
- To enhance global competitiveness of agricultural universities
- To improve SAUs to attract performance-based funding

Achievements

- Brainstorming workshop was conducted to identify Benchmark indicators and parameters in September 2008, workshop paper on the theme prepared and presented. Proceedings of the Brainstorming workshop prepared, printed and communicated to the Council and all SAUs.

All the 6 projects have been completed and the final reports submitted. The projects are now closed.

7. Leadership styles in ICAR Institutes

Objectives

- To identify leadership styles of research leaders of ICAR
- To measure the leadership effectiveness of these leaders
- To collect information through self-assessment on basic leadership qualities of research leaders.

Achievements

Twenty seven characteristics of leadership were studied using as many instruments to explore (1) leader characteristics and traits, (2) leader behaviour and style, (3) group member characteristics and (4) internal and external environment. All these four components determine the leadership effectiveness. In order for an organization to have effective and dynamic leadership, its leaders should be able to score high on these characteristics as tested through relevant instruments. It is seen from the study that only seven characters have the largest number of people in the most desirable characteristic. This is communication ability, task orientation, empowering manager, relationship with co-workers, charisma of boss, flexibility, and team work. In 15 other characteristics, the highest number of people is in the moderate or average class. These are the readiness of respondents to assume leadership role, presence of achievement motive in them, leadership effectiveness, tendency to play organizational politics, impression making with the boss, creativity, developing climate for innovation, strategic thinker, effectiveness as coach, valuing diversity, attitude towards technology, charisma of self, situational

perspective, influence tactics, and type of leadership. In the characteristic of leadership effectiveness, as studied by the situational leadership instrument, the highest percentage of people were found in the category of 'fair' which is the lowest among the four positive characteristics, the other three being good, very good, and excellent.

Research leaders, numbering 432, were studied for different characteristics of leadership as the dependent variable. The characteristics studied were Readiness to take up leadership role, Assertiveness, Strength of achievement motive, Charismatic tendencies, Leadership effectiveness, Risk taking, Situational leadership both main style and backup style, Situational leadership effectiveness score, Political behaviour, Impression making with boss, Personal creativity, Creating an effective climate for innovation, Attitude towards technology, Becoming an empowering manager, Team work, Effectiveness as a coach, Valuing diversity, Leadership style, Flexibility, Task oriented attitude and behaviour, Communication effectiveness, and Strategic thinking. Correlation studies with different independent variables like Discipline, Position category, Age group, gender, highest educational qualification, total experience in years, time spent on different activities, technical and management trainings undergone indicated that there is no correlation with risk taking, impression making, creating an effective climate for innovation, communication ability, situational leadership, charisma, and valuing diversity. However, there is either positive or negative correlation with some of these independent variables with other leadership characteristics.

8. Organizational change for promoting innovation through research consortia – Change Management

Objectives

• To synthesize the experiences on change management and to identify issues for change management

Achievements

Literature survey was taken up to collect the relevant and needed information pertaining to the major areas of focus. Based on the information collected, Four base papers were prepared. These were: 1. Management of change for promoting innovation in agricultural research organizations; 2. Leadership effectiveness; 3. Enhancing performance; and 4. Organizational citizenship behaviour – antecedents and consequences.

9. Promotion of inter-disciplinary orientation and inter-institutional collaboration in NARS

Objectives

• To build inter-disciplinary perspectives in the researchers through capacity building activities
• To evolve suitable mechanism for effective inter-institutional collaboration through policy interventions

Achievements

Detailed analysis of the information gathered from the scientists at various levels in ICAR institutes (56 numbers) and Agricultural Universities (96 numbers), as well as from senior-level functionaries in ICAR institutes (43 numbers), Agricultural Universities (19 numbers), other R&D Institutes (4 numbers), and retired persons (7 numbers) indicated the following.

A. Inter-disciplinary Orientation

- This is required because of the inadequacy of disciplinary orientation to solve complex agricultural problems.
- Realization of synergism is viewed as the major benefit.
- Farming/Cropping systems development is considered as the programme most amenable.
- Clearly defined role for team members and participatory planning are the key elements for promoting the orientation.
- Encouraging development of projects across the disciplines is the most important facilitating factor.
- Excessive disciplinary orientation of scientists and lack of motivation are the most important constraints.
- The desired disciplinary mix depends upon the problem to be solved.
- Development of appropriate HRD strategies for sensitization through discussion meetings and skill development through formal training and experiential learning are essential.
- Policy intervention through institutionalization of appropriate programme/project appraisal systems is required.

B. Inter-institutional Collaboration

- All the public and private sector R&D institutions engaged in research related to agriculture and allied areas are the potential stakeholders.
- Efficient utilization of facilities, avoiding duplication of R&D efforts, and building beneficial partnership are considered as the intended benefits.
- Ensuring well-set goals in the beginning and entering into proper MoU for sharing responsibility, benefits, and risks are the pre-requisites.
- Depending on the problem, all types of research are considered as amenable.
- Strategic and collegial are the potential modes for public-private partnership (PPP) building.
- Purpose and commitment, and extent of power and resource sharing are the two important factors mapping the common interest space in PPP.
- Agri-business, value chain, and post-harvest technology are the potential areas for PPP.

- Relevant policy interventions to institutionalize the entire process are important to build effective PPP.
- Procedural weakness (incompatibility), perception of competition, and differing work environment are the threats for building collaboration.
- Procedural simplification (administrative and financial) and evolving suitable benefit and risk sharing are potential policy interventions for effective collaboration.

National Agricultural Innovation Project (NAIP)

Project Title: Learning and Capacity Building (L&CB) under Component – 1 of NAIP

Lead Institute - NAARM
Objectives of the Sub-Project:

(i)   To carry out an appropriately designed assessment of L&CB needs (both domestic and international) and current L&CB initiatives in NARS for designing HRD strategies and identifying faculty resources and learning models, so as to facilitate the successful transition to NAIS.

(ii)   To develop skills in research proposal writing to attract funding, and reporting and synthesizing results to meet the expectations of funding agencies and other stakeholders, keeping in view the consortia-based approach to research partnerships envisaged in NAIP.

(iii)   To design capacity building activities for providing support to policy, and priority setting, monitoring and evaluation (PME) activities of NAIP.

(iv)   To enhance the skills of stakeholders associated with PME in the use of ICTs for efficient implementation of consortia-based projects.

(v)   To enhance the skills of professionals in NARS in information technology-based decision support systems for market and agri-business orientation of research, and sustaining rural livelihoods to accelerate the NARS transition to NAIS.

(vi)   To enhance the skills of professionals in NARS in managing public-private research partnerships including governance, intellectual property management, legal and regulatory arrangements, commercialization, biosafety, and assessing social impacts.

(vii)   To enhance the understanding and appreciation of technical and para-scientific staff of NARS to support agricultural activities under NAIP.

(viii) To build capacity for creating a new pool of leadership in NARS for leading change and institutionalizing a learning organization mode to sustain the transition to NAIS in the long run.

(ix)   To carry out both pro-active and follow-up research case studies in aspects relevant to all components NAIP to enable design of learning resources and for efficient

management and capture of the learning from NAIP, for future sustenance of consortia-based research in NAIS.

- **Consortium Leader**: Dr SM Ilyas, Director, National Academy of Agricultural Research Management (NAARM), Hyderabad

- **Consortium PI**: Prof NH Rao, Joint Director, NAARM, Hyderabad.

- **Consortium Partner Institutions:**

o Indian Institute of Management, Lucknow
o National Institute of Agricultural Extension Management (MANAGE), Hyderabad
o National Institute of Rural Development (NIRD), Hyderabad

- **Consortium Co-PIs:**

(i) Prof T Balaguru, NAARM, Hyderabad
(ii) Prof. M.K. Awasthi, Centre for Food and Agribusiness Management Indian Institute of Management (IIM), Prabandh Nagar, Off Sitapur Road, Lucknow - 226013, Uttar Pradesh
(iii) Prof Vikram Singh, National Institute for Training in Extension Management (MANAGE), Rajendranagar, Hyderabad, 500 407
(iv) Prof BK Thapliyal, National Institute of Rural Development (NIRD) Rajendranagar, Hyderabad, 500 407

Under this project, capacity building programmes were undertaken along with research activities. During the period under report, Forty Eight Management Development/Training Programmes were Organized (22 by NAARM, 12 by MANAGE, 11 by IIML and 3 by NIRD) for 890 participants, of whom 298 were from NAIP consortia. Post-programme Feedback indicated impressive immediate impact of L&CB programs conducted by all partners in terms of reaction and learning. Several Training Manuals and learning resources have been developed by each of the partner institutions.

Summary of programmes organized in the L&CB project

No	Training Area/Programme Title	No. of programes	No. of participants	Institutions	Type of Programme
I. Research proposal writing					
1.	Developing winning research proposals (for PIs/Co-PIs for consortia projects concept notes of which were approved by NAIP)	5	163	NAARM (5)	Training
II. Leadership development					
2.	Leadership for Innovation in Agriculture	6	114	1. IIM L (3) 2. MANAGE (3)	MDP
III Policy and PME					
3.	Policy, Prioritization, and Monitoring and Evaluation of consortia based research projects	6	100	1. NAARM (3) 2. IIM L (1) 3. NIRD (2)	MDP
IV. Managing Public-Private partnerships					
4.	Managing public private partnerships in agricultural research	2	30	1. IIML (1) 2. NAARM (1)	MDP & Training
V. ICTs in PME					
5.	ICTs in PME of NAIP Projects	3	30	1. NAARM (2) 2. MANAGE (1)	Training
VI. IT Based decision support systems					
6.	Decision support systems for geospatial knowledge management for sustainable livelihoods security	2	37	NAARM (2)	Training
7.	Data mining and GIS for decision support in agriculture	2	43	IIM L (2)	MDP
8.	IT based decision support systems for digital content management/ multimedia development/e-learning	4	66	NAARM (4)	Training
9.	IT based DSS for market and agri-business orientation of research and sustainable rural livelihoods	4	65	MANAGE (4)	Training
10.	GIS for rural livelihoods assessment	1	20	NIRD (1)	Training
VII. Training for Technical and administrative staff					
11.	Technical and administrative staff support for consortia based research in agriculture	6	99	1. NAARM (2) 2. MANAGE (4)	Training
	Total	41	767 (*272 from NAIP Consortia*)	1.NAARM (19) 2.IIML (7) 3.MANAGE (12) 4.NIRD (3)	

Objective-wise achievements of the Project

Objective 1

To carry out an assessment of L&CB needs for designing HRD strategies to facilitate the successful transition of NARS to NAIS, and assess impact of L&CB activities (NAARM and IIML)

(a) Training needs assessment:
The study employed a combination of survey, brainstorming workshops, focused group discussions, observation and desk research to generate training needs assessment protocols. Based on these core competencies, their priorities and corresponding knowledge, skill and attitude classes were identified for three levels of professionals in NARS – Research Managers, Scientists and Technical and administrative staff.

(b) Training impact assessment:
This is proposed to be done at three time scales: i) end of the program, ii) one to three months after the program and iii) more than one year after the program. (i) has been completed for all programs. The following broad Training impact indicators were identified: a) Design indicators, b) Content indicators, c) Delivery indicators d) Assimilation indicators, e) Learning Process indicators, f) Behavioural change indicators and g) Economic indicators. More specific impact indicators would be designed within the broad categories listed above based on a specially designed instrument for surveys and subsequent brainstorming sessions.

(c) On-line training impact assessment:
An on line training evaluation template and software was developed and implemented for all training programmes organized at NAARM in 2008-09. All L&CB programmes organized in the year by all partners indicated impressive gains in reaction and learning by participants as well as overall satisfaction with the indicators studied.

Objective 2

To develop skills in research proposal writing to attract funding, to meet the expectations of funding agencies and other stakeholders, keeping in view the consortia-based approach to research partnerships (NAARM, PIU, Help Desk)

a) Developed learning resources and organized Five training programmes (in place of the proposed 4 programmes). 3 of the five programmes were organized at the specific request of NAIP to train participants whose concept notes were approved and the PIs needed to develop them into full proposals in a short time.
b) A total of 163 participants were trained from public, private and NGO sectors of NARS.
c) Content: Probable focus research areas (commodity chains/livelihood systems/ new technologies); Public private partnerships; Formation of consortia; Preparing

effective concept notes; Preparing project proposals, including budgets, in prescribed formats; Benchmark assessments; Project management techniques; Logical framework; Preparation of project reports; Funding agency perspectives (DST, DBT, ICAR, international); consortia research project case studies in agricultural supply chains; participant presentations of research proposals and their analysis.

d) The majority of NAIP and other project proposals subsequently accepted for funding had the benefit of this training.

e) A comprehensive database of private sector organizations that can be potential partners of public research institutions has been developed.

f) 2 e-learning modules on research proposal development were developed by the help desk to facilitate distance learning

Objective 3

To design capacity building activities for providing support to policy, and priority setting, monitoring and evaluation (PME) activities of NAIP
(Institutions: NAARM, IIM L and NIRD; Association of PME Consultant of NAIP)

- Developed learning resources and organized 6 Management Development Workshops of five days duration: 3 by NAARM, 2 by NIRD, and one by IIM Lucknow.
- Total of 100 participants were trained
- Content:

NAARM: Research planning and priority sitting; Project management; Logical framework analysis; PME tools and techniques; M&E Manual of NAIP; Base line survey and data collection; PME experience sharing with consortia of components 2 & 3 of NAIP currently in operation in Hyderabad.

IIM Lucknow: Overview of PME in Agricultural R & D; Introduction to consortium based agricultural research model; Basic PME techniques used in Agricultural Research & Development; Suitability of different M & E models for different agricultural research situations; Key issues in PME in agricultural research.

NIRD: Project Planning and management System; Prioritization of agricultural research projects; Project management; Logical framework analysis in project planning and management; PRA in PME; Monitoring of NRM based projects; M&E manual of NAIP

Objective 4

To enhance the skills of stakeholders associated with PME in the use of ICTs for efficient implementation of consortia-based projects.
(Institutions: NAARM, and MANAGE; Association of PME Consultant of NAIP)

- Developed learning resources and organized three training programmes of five days duration : 2 by NAARM, one by MANAGE
- Total of 30 participants were trained.
- Content (NAARM and MANAGE): Project management with MS Project, PME in NAIP, M&E Manual of NAIP, use of web based Project Monitoring and Tracking System of NAIP.

Objective 5

To enhance the skills of professionals in NARS in information technology-based decision support systems for market and agri-business orientation of research, and sustaining rural livelihoods to accelerate the NARS transition to NAIS
(Institutions: NAARM, IIM Lucknow; MANAGE; NIRD)

- Thirteen training programmes of 10 days duration were organized: 6 by NAARM, 2 by IIM Lucknow, 4 by MANAGE. And 1 by NIRD
- Total of 231 participants were trained
- Content:

(a) NAARM: Training programmes were organized in 4 areas:

(i) Geospatial knowledge management for sustainable livelihoods security (2 programmes): Relational database and GIS concepts and practice in project mode with ArcGIS and ArcView; remote sensing and image processing concepts and practice in project mode with IDRISI; application of sustainable livelihoods framework and PRA tools with GIS for village level geospatial knowledge management; micro level planning of crop livestock production systems; introduction to webGIS; case studies.

(ii) Digital content management: content management standards; open source software and philosophy for content management; content development tools, web design with open source software; introduction to PHP; Learning management system using Moodle; content management with Moodle, D-Space and Joomla; digital repository management; case studies.

(iii) Multimedia development (2 programmes): introduction to multimedia; digital multimedia authoring with Flash, Adobe, macromedia and Director; content development, analysis and management; network protocols for web casting; digital, audio, video multimedia synchronization; web based content evaluation

(iv) Participatory video (1 programme): application of participatory techniques in video development; script writing; digital video and file compressions; incorporating video in presentations and web publishing

(b) IIM Lucknow : Data mining and GIS applications in agricultural decision support: Introduction to Data Mining and Knowledge Discovery; DSS and Applications of Data

Mining in Agriculture; Data Mining, Process and Methodology; Decision Making Under Uncertainty; Multi-Criteria Decision Making; Fuzzy Logic; Data Analysis for Agricultural Research with SPSS; Decision Trees with SAS Enterprise Miner; Introduction to Data Warehousing; Data Warehouse Enabled Personalized Agricultural Advisory System; Image Based Automatic Decision Support System for Agriculture; farmer DSS eSagu; Introduction to GIS concepts and practice; GIS application in large scale Land reclamation;

(c) MANAGE: Introduction to MS Office, SPSS, MS-Project ; introduction to applications of remote sensing and GIS in weather forecasting, agro-advisory service, soil health and degradation assessment; Exposure to GIS software: Gram ++ - ; Introduction to Expert Systems

(d) NIRD: Introduction to GIS, remote sensing and GPS; Spatial decision support systems for livelihoods assessment; Practice with GRAM ++ GIS and ArcGIS; Location based services; IT based DSS for watershed management, drought monitoring, soil management; precision agriculture concepts; farmer DSS e-sagu

Objective 6

To enhance the skills of professionals in NARS in managing public-private research partnerships including governance, intellectual property management, legal and regulatory arrangements, commercialization, biosafety, and assessing social impacts.
(Institutions: NAARM and IIM Lucknow)

- 2 programmes were organized - One MDP of five days duration by IIM Lucknow, and One training programme of 7 days duration by NAARM.
- Total of 30 participants were trained
- Content:

(a) IIM Lucknow: PPP in agribusiness (US experiences); PPP concept and evolution; partnering in agricultural management; PPP in NAIP; decision process in PPP; PPP in agricultural insurance, agricultural services, seed research and micro finance, contract farming; negotiations and conflict management in PPP; experience sharing

(b) NAARM: Global agricultural research scenario; PPP in NAIP; PPP in agribusiness: Indian experiences; Opportunities for PPP in agricultural research; partnering across the agricultural supply chain; PPP in research for innovations in agriculture; PPP in food processing, seed research, fisheries and aquaculture; increasing private sector role in agricultural input and output marketing; leadership development for PPP; negotiations and conflict management.

Objective 7

To enhance the understanding and appreciation of technical and para-scientific staff of NARS to support agricultural activities under NAIP (Institutions: NAARM and MANAGE)

- 6 training programmes of 10 days duration were organized: 2 by NAARM, 4 by MANAGE.
- Total of 231 participants were trained
- Content: Overview of NAIP and role of technical and administrative staff; overview of human relations management; interpersonal relationships and teamwork; role perception; self-motivation; conflict management; RTI; financial procedures in NAIP; procurement procedures in NAIP project management; IPR issues; communication skills; computer applications and data analysis.

Objective 8

To build capacity for creating a new pool of leadership in NARS for leading change and institutionalizing a learning organization mode to sustain the transition to NAIS in the long run.

- 6 programmes were organized; 3 by IIM Lucknow and 3 by MANAGE
- a total of 114 participants were trained
- Content

(a) IIM Lucknow: Leadership as per Indian ethos; emerging trends in food and agribusiness and need for innovative leadership; leadership traits and supervision styles; effective communication and presentation; emerging avenues for leadership in agribusiness; negotiations and conflict resolution; climate change and carbon markets; developing effective organizational culture; project work and presentations

(b) MANAGE: Motivational Skills for Leadership; Teambuilding Skills for Leadership; Leadership Profile and Man Management; Role, Perception and Motivational Levels of Scientists in NARS; Decision Making and Negotiation Skills; Leadership vis-à-vis Organizational Development; Logical Framework Approach for Project Leaders; Strategic Leadership for R&D; Organizational Politics, Power and Influence; Emotional Intelligence for Leadership and Personality Development; Leader as a Coach and Mentor; Leadership for Development

Objective 9

To carry out both pro-active and follow-up research case studies in aspects relevant to all components NAIP to enable design of learning resources and for efficient management and capture of the learning from NAIP, for future sustenance of consortia-based research in NAIS.

A. NAARM

Subproject 1: Training Needs and Impact Assessment of L&CB under NAIP(B.S. Sontakki, T. Balaguru, J. Challa)

- Training needs assessment protocols generated based on a combination of survey, brainstorming workshops, focused group discussions, observation and desk research. Knowledge, skill and attitude classes were identified for three levels of professionals in NARS – Research Managers, Scientists and Technical and administrative staff.

- Carried out extensive literature survey on training evaluation and training impact assessment to develop a conceptual model for impact assessment and identify appropriate indicators.

Subproject 2: Organizational change for Promoting Innovation through research consortia(P. Manikandan, M.M. Anwer (up to May 2008), R.V.S. Rao, K.H. Rao, B.S. Sontakki, G.P. Reddy)

Developed Base Papers and questionnaire instruments for surveys in four areas, with focus on NARS transformation to NAIS:

- Management of Change
- Leadership Effectiveness
- Enhancing Performance
- Development and assessment of Organizational Citizenship Behaviour

Subproject 3: Policy studies for promoting research and innovation in agricultural value chains(G.P. Reddy, T. Balaguru, R. Kalpana Sastry, S.K. Soam, P. Manikandan)

Promotion of Inter-disciplinary Orientation and Inter-institutional Collaboration in PPP	Questionnaires developed to elicit information on various tenets of inter-disciplinary orientation and inter-institutional collaboration towards developing a comprehensive methodological framework for two types of respondents: scientists and research managers. 160 responses received so far; data analysis is in progress
Intellectual Property Management in PPP– Patents, PVP & Copyrights	Questionnaires developed for evaluating existing mechanisms in developing and transfer of Patents/ PVPs as IPs in NARS; developed two case studies on IP management in PPP - one each in crop, animal science institutes - two more (from Fishery and Agric. Engg institutes) are in progress.
Intellectual property management in PPP- biodiversity, GI & TK	300 agriculturally important GIs in Northern and North-Eastern and Southern India were identified; two case studies for two GI products one from North India and another from South India are in progress.
Policy Support for Strengthening the agricultural value Chain	Base paper to identify, the changing consumption pattern of major foodgrains in India was prepared and presented at National Conference on Agri business; Developed Questionnaire to trace the Supply Chains; pretesting in progress

Subproject 4: Policy studies for promoting research on sustainable rural livelihoods (N.H. Rao, M.N. Reddy; B.S. Sontakki; C. Sriram (up to Nov 2008); S.K. Nanda; T. Balaguru, G.P. Reddy, K.H. Rao, S.K. Soam)

Application of spatial knowledge discovery & management tools to livelihoods vulnerability assessment	Reviewed spatial data mining and knowledge discovery tools for application in agriculture; Open source data mining software WEKA identified and evaluated for application in knowledge discovery; data mining tool for cluster analysis applied to assess vulnerability of livelihood systems using data of variables identified from the Sustainable Rural Livelihoods framework
Assessment and map-ing of vulnerability of livelihoods systems in disadvantaged regions	Developed generic spatial framework based methodology for assessing and mapping vulnerability of rural livelihoods based on the sustainable rural livelihoods framework of DFID; Key indicators of vulnerability for five types of capital (Natural, human, physical, financial, social)have been mapped for the Nalgonda district of AP.
Technology delivery models for less favoured areas	Desk study of less favoured districts to document technology delivery models vis-à-vis their relevance and usefulness in less favoured areas to assess: (i) Technology delivery approaches and processes, (ii) Problems and prospects in existing technology delivery systems, (iii) Innovations in technology delivery ATICs, Agri-Clinics and Agri-Business Centres, ATMA Model, Cyber extension (e-Choupal Model)
Total quality management (TQM) in agricultural research projects	61 variables pertaining to organizational and product quality were identified from the list of 95 variables compiled from literature review. They were grouped in 6 clusters for further analysis

Subproject 5: ICTs for promoting agricultural innovation (M.N. Reddy, D. Rama Rao, K.M. Reddy, N. Sandhya Shenoy, V.K.J. Rao, G.R.K. Murthy, Jagannadham Challa, A. Gopalam)

ICTs in consortia based research in agriculture	Assessed of rural ICT projects in terms of technology, cost, partnerships and services provided to farmers; one case studyon ICTs in grape value chain completed
Empowering rural women through ICTs	Developed database on professional women in agriculture; developed data collection instrument for pre-testing using participatory methodology for assessing and prioritizing ICT needs of rural women

Digital Multimedia for Agri-Innovation Transfer tested	Developed a framework for digital media resources content management system on Plone 2.05, to host a web site for interactive access; content on sustainable rural livelihoods by FOCARS trainees in FET training
Digitally Enabled Customization of Information for Decision and Empowerment (DECIDE)	(i) A PRA based framework to customise the content of DMAT for a village knowledge centre has been developed.(ii) the process has been field tested by conducting PRA studies in a village in Nalgonda district of AP
Decision Support Sys-tems for Effective Knowledge and Technology Transfer	Evaluated available open source software tools for content management for both LMS and CMS; Moodle has been selected for LMS; LMS user manual prepared for use by trainees
Effecting Delivery of Content through Distance Education Technology	Interactive distance learning modules for Open Office tools (Calc and Base) for spreadsheets and database management have been developed and uploaded on the NAARM virtual learning centre; user friendly, interactive software product for online feedback and evaluation of training programmes has been developed using MS Access as the backend database

B. IIM, Lucknow

Efficiency and effectiveness of various collection and service	Conceptualization of research problem; Literature review and design of research framework; Initial documentation of agricultural services agricultural service provisions; Data documentation of videos on selected agricultural provisions
Public Private Partnership models in agribusiness value chain	Conceptualization of research problem; Literature review and design of research framework
Agricultural research – market linkage	Conceptualization of research problem; Literature review and design of research framework

C. NIRD

Public Private Partnership in Land based livelihoods	Review of literature nearly complete; Selection of indicators and collection of data on indicators to be studied is under process.

Project Title: Agricultural Digital Dissemination System for Indian Agriculture (ADDSIAR) under NAIP

Overall Objectives:

1. To identify standards, develop uniform guidelines, content management strategies and a model template for websites of ICAR institutes
2. To develop model websites of all consortium partners to meet requirements of stakeholders.
3. To design and develop ICAR portal and integrated the websites of consortium partners.
4. To build capacity of personnel in ICAR institutes in design, development and management of websites.

Achievements

- To build the capacity of ICAR institutes in designing web pages, one workshop and one training programme were conducted as mentioned below.

S.No.	Title	Period	
		From	To
1.	Web design methodologies, protocols and content management strategies	September 9, 2008	September 10, 2008
2.	Web standards, Technologies and Standardization	December 3, 2008	December 12, 2008

- Some web templates for designing home pages were developed and provided to consortia partners of the project for refinement.

- As a part of web based online activities, online hall ticket download module was developed and successfully integrated into the website. This utility was used in SRF Examinations.

Consultancy and Policy Support Activities

• CAPART, under Govt of AP., requested the Academy to undertake an assignment to give a Pre-funding appraisal report of Nava Bharath Socio-economic Development Society, AP., with an objective to verify organizational, financial and project information of the VO under study on selected criteria for pre-funding appraisal and to examine the strategy for the sustainability and maintenance of the programme during the project duration and beyond, for recommending grant of funds for the project activities. Dr N. Sandhya Shenoy, Principal Scientist was the consultant for this project. The report detailed the scope for innovativeness and integration in the project and chance of success in achievement of the project goals by the concerned VO based on previous experience and record, to recommend sanction of funds to the viable and innovative project for gender empowerment. The efforts also helped to determine the relevance of the project to the local situation as an alternate and remunerative livelihood option for self employed production activity by trained women with a multiplier effect for poverty reduction and enhancement of gender equity.

• A research study on socio-economic implications of GI registration for agricultural and non-agricultural commodities/ products" was awarded to the Academy by UNCTAD-DFID project. The study of 75 products included 33 agricultural products and 42 non-agricultural products. The detailed socio-economic survey was done for 70 products that include 32 agricultural and 38 non-agricultural products. Five products were studied through case study method. These five products are: Coimbatore wet grinder, Mysore silk, Solapur chaddar, Chanderi saree and Kangra tea. Dr S.K. Soam was Principal Investigator and Dr R. Kalpana Sastry was the Co-Investigator. Revenue generated from this consultancy was about Rs 20.46 lakhs.

• Dr S.K. Soam, Principal Scientist, was granted a consultancy assignment as a Member Research Advisory Group of GI project for the University of Warwick, UK. The major objectives of the assignment includes to guide the project team with socio-economic aspects and to help project team in formulating club rules. This assignment is for duration of one year and is honorary consultancy. Dr Soam attended the first meeting of the group at Goa in April 2008 and has been invited to attend the second meeting at Coventry, UK on 29 May 2009.

• The Academy was granted a project as case study by National Partners Initiative (NPI) of CGIAR/CAS-IP, Rome on 'Intellectual property management regime in the Indian National Agricultural Research Systems'. This case study presents an overview of the changing environment for public research organizations in the Indian Agricultural Research System with respect to intellectual property management. The implementation of guidelines now in place were studied in detail from the IP policy perspective for two constituent institutes Project Directorate of Poultry (PDP) and Directorate of Rice Research (DRR), animal- based and crop-based institutes respectively, the study highlights the implementation of guidelines, structural adjustments in decision making activities in IP management at institutes and at understanding the specific issues of IP management relevant to the research mandate of these institutes. The study forms a part of a compilation of 4 working papers entitled: "Institutionalization of Intellectual Property Management:

Consultancy and Policy Support

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Case Studies from four Agricultural Research Institutions in Developing Countries". These case studies aim to share country experiences from developing countries in the areas surrounding IP policy making, policy implementation and use of IPRs by researchers for leveraging more benefits to the stakeholders, people, institutions and countries. Dr R. Kalpana Sastry was the consultant for this project. The project resulted in revenue generation of $7500 for the Academy.

• Consultancy, in the form of an international training programme, was organized for two senior officers from the Nigerian Institute for Oil Palm Research. The major objectives of the programme were to orient the research Directors to various aspects and dimensions of project management in agriculture and to expose them to different management tools and techniques towards realizing enhanced efficiency and effectiveness of agriculture research system. The programme was aimed at exposing the two senior officers to the various principles and practices of research project management in agriculture with a

view to facilitating them apply the learning in the back-home institute management. Two Senior Officers from the Oil Palm institute participated in this two-week programme organized from April 20 to May 2, 2009. Dr T. Balaguru was the Programme Director. The programme resulted in a revenue generation of US $ 4730 for the Academy.

Other Events

Vanamahostava in the campus

To commemorate 62nd Independence Day, all the faculty and staff members participated in *Vanamahostava* on Aug. 15, 2008 in the Campus. They enthusiastically planted trees in the block developed for the purpose.

NAARM Foundation Day Celebrations

Marking the 33rd year of its foundation, the Academy organized its Foundation Day on September 1, 2008 and invited Dr Veer Singh, Vice Chancellor, NALSAR University of Law, Hyderabad to give Foundation Day Lecture on "Law and Technology with Special Reference to Agriculture". Speaking on the occasion, Dr Singh gave macro view of the human values with the technology intervention and stressed the need for law and technology interface. Technological advancement is a must adding value to human life but it is not resulting in human happiness as it is double–edged sword, he said. Hence, the use and application of science is to be regulated by lawmakers, he added. While addressing the global food deficiency, he stressed that the age has come for genetically modified food products and also designer foods owing to nanotechnology advancements. The technologies provided should be safer, simpler, and accessible to the end users in order to avoid social imbalances. The impact of research should be changed by moulding public opinion, he suggested. Dr D.M. Hegde, Project Director, Directorate of Oilseeds Research, Hyderabad who graced the occasion as Special Guest anticipated and wished that NAARM would build the brand image in future in view of its changing role into a Deemed University.

Dr S.M. Ilyas, Director, speaking on the occasion, expressed that there would be collaboration with institutions not only in Hyderabad but also abroad for organizing academic programmes in the near future. He anticipated that the Academy would produce thought-leaders who would change the shape of not only Indian agriculture but also serve at international-level. In the process, he advocated the scientists to work further harder and beyond their capabilities to rise up to the occasion with more social responsibility. The Chief Guest distributed Best Worker awards under different categories announced on the

occasion. Earlier Dr N.H. Rao, Jt. Director, NAARM welcomed the gathering and introduced the chief guest and the special guest. Dr T. Balaguru, Head, ARSMP Division proposed a vote of thanks. The scientists and employees of ICAR sister institutions participated in the celebrations.

Hindi Fortnight Celebrations

The Hindi Fortnight Celebrations were organized at the Academy from September 2 to 15, 2008. To mark the celebrations, various competitions were held which included noting and drafting, elocution, essay writing, dictation, translation, words making, just a minute, general knowledge, memory, and singing. Various categories of employees of the Academy participated in these competitions with enthusiasm and interest.   Delivering the valedictory address on the last day of the celebrations, Mr Gokula Nand Dash, Director, State Bank of India, ICM, enlightened on the fact that every national is recognized by its National Language and therefore, every citizen should try to spread our National Language i.e., Hindi, he added. He distributed prizes to the winners of various competitions. Dr S.M. Ilyas while addressing the gathering underlined the necessity of practical implementation of the Official Language. Besides it being our obligation, it is the internal motivation which works in effecting implementation, he reiterated. Dr A. Gopalam, in his brief report about the activities of the Hindi Cell of the Academy indicated the successful installation of Hindi website on NAARM Website and its complete interactive functioning.

ICAR-SRF (PGS) Examination

The ICAR-SRF (PGS) Examination, which was hitherto conducted by the Education Division, was transferred to NAARM from 2008-09 onwards. In order to plan and execute various activities related to this important activity, an SRF- Committee was constituted with Dr P. Manikandan as Chairman and with Dr R.V.S. Rao, Dr G.R.K. Murthy, and Mr P.P. Brahmaji, as Members. The examination was planned and organized successfully in 12 centres on January 25, 2009. Through this All-India competitive ICAR-Senior Research Fellow (SRF) examination (2008-09), 171 candidates were selected for Fellowship for pursuing their Ph. D. degree programme and 436 candidates were qualified for admission to Ph. D. programme without Fellowship.   Dr P. Manikandan was the Controller of Examination.

Republic Day Celebrations

Dr S.M. Ilyas, Director hoisted the National Flag on the eve of Republic Day celebrations on January 26, 2009 at the Director's Office and addressed the gathering. All faculty, officers, staff, students of PGD-ITMA and PGD-IPTMA and temporary status workers attended these celebrations. On the occasion, a *Vanamahotsava* was organized and all enthusiastic employees of NAARM planted mango saplings in the area near the Directors' Office.

Women's Day Celebrations

The Women's Cell of the Academy celebrated the International Women's Day on March 7, 2009. The women employees utilized this special occasion to extend help to the poor peple by visiting the Orphanage Centre and the Old Age Home at Aaramghar in Shivrampally and distributed fruits, other needy consumer products and groceries. For this noble endeavour, generous contributions were made by the members of the NAARM family, FOCARS probationers and other trainees of the Academy. The Women's Cell President Dr N. Sandhya Shenoy coordinated this activity.

Inauguration of Auditorium

Dr Mangala Rai, Secretary, DARE and DG, ICAR inaugurated the state-of-the-art 250 capacity Auditorium of the Academy on March 9, 2009. While addressing the gathering on the occasion, he exhorted the agricultural scientists to be crystal clear about their research approaches as the available natural resources like land, water and environment are under pressure in our country. The sectors like fisheries and livestock should be given special attention in order to boost them as more productive systems, he stressed. Agricultural byproducts can be reinforced as main products to accelerate the growth benefiting both the consumer and the producer, Dr Rai added. In the coming decades, the scientists should have to work under pressure to meet the emerging challenges in agriculture and the demands from the people, as well as competition from other countries. Therefore, transgenics, bio-prospecting, gene deployment and gene mining will play a key role in transforming Indian agriculture, he reiterated.

Dr S.P. Tiwari, DDG (Edn), ICAR appreciated the contributions made by the Academy in capacity building of NAIS. Dr S.M. Ilyas, Director made introductory remarks and specially thanked Director General for the support extended in all the endeavours of the Academy. Earlier, Dr N.H. Rao, Joint Director welcomed the gathering.

In this inaugural ceremony, all faculty, officers, staff, students of PGD-ITMA and PGD-IPTMA and temporary status workers participated. This conference hall can be utilized by all ICAR Institutes located in and around Hyderabad.

Awards and Recognitions

Best Paper Award

Mrs G. Aneeja, Technical Officer, got the Best Paper Award in the professional category, co-authored by Dr G. Sridhar, Scientist, NRCMAP (ICAR), Anand, to the paper entitled "Prospects of Open Access to Indian Agricultural Research: A case study of ICAR" which was presented in the 8th Indian Science Communication Congress (ISCC-2008) on "Media Convergence & Knowledge Revolution" during December 10-14, 2008 at Chennai.

ICAR Inter-Zonal Sports Meet

ICAR Inter-Zonal Sports Meet was organized by the Academy at the Railway Recreation Grounds, Secunderabad, from November 17 to 20, 2008 in which around 450 employees from 49 ICAR Institutes took part. CRRI, Cuttack and NDRI, Karnal emerged as Joint Team Champions. Dr S.M. Ilyas, Director, NAARM inaugurated the tournament. On the closing ceremony, Dr B.K. Sinha, DG, NIRD was the Chief Guest and gave away the trophies to Mr Pramod Kumar Parida from CRRI, Cuttack and to Mrs Valsala from CMFRI, Cochin who were adjudged as Individual (men) and Individual (women) champions respectively. NAARM team, lead by Dr A. Debnath, Medical Officer, stood third in overall championship by winning several prizes, which are as follows:

Mrs K.K. Rukmini Ammal	Shotput, Discuss and Shuttle Badminton Overall champion (Women)	1st prize
Mrs G. Aneeja	Javelin Shotput and Discuss	1st prize 2nd prize
Mrs N. Vijayalakshmi Mr M.K. Samson	Chess Shotput and Carroms Discuss	1st prize 2nd prize 3rd prize

NAARM Sports Contingent Runners-up

NAARM sports team comprising of 38 persons, including four women participants, bagged Dr Anantha Rao Rolling runners-up trophy for the overall team championship in ICAR Inter-institutional South Zone Sports Meet held at Coimbatore from January 20 to 24, 2009 and organized by the Sugarcane Breeding Institute. The winners of the team are as follows:

Awards and Recognitions

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Event	I st prize	2nd Prize
NAARM team	—	Volleyball (Smashing)
K.K. Rukmini Ammal	Shotput, Shuttle Badminton	Discuss, Javelin
Sham Bahadur	Carrom	—
M.K. Samson	—	Shotput, Carrom
Dr A. Debnath	—	Javelin
G. Aneeja	Javelin, Discuss	Shotput

NAARM Volleyball team comprised of M.K. Samson (Captain), Shambahadur, Dr A. Debnath, K. Shivaiah, Laxman Ahire, M. Srinvasa Rao, C. Chandramouli, P. Swamy and P. Venkatesh.

Congratulations to all the winners!

Rose Show Awards

The Academy won four first prizes and four second prizes in the XXXIII Annual Rose Show conducted by the Hyderabad Rose Society on December 13 and 14, 2008 at Hyderabad under different categories. In the XXIII Annual Rose Show organized by the Horticultural Society, Secunderabad, on December 20 and 21, 2008, NAARM bagged five rolling trophies including King, Queen and Prince of the show along with eight first prizes, ten second prizes under different sections.

Publications

Papers published in Journals

Title of the Paper	Journal	Author(s)
Studies on performance of rice as influenced by drainage in Eastern India	Archives of Agronomy and Soil Science (Taylor & Francis), Germany: 55(1) In Press. 2009.	Brahmanand, P.S., Gosh, S., Dinesh Chandra, Singandhupe, R.B., Roy Chowdhury, S., Sahoo, N., Reddy, G.P. and Khan, A.R.
Measurement of efficiency of shrimp farmers in Andhra Pradesh	Indian Journal of Agricultural Economics, Vol 3. No4, Oct-Dec 2008.	Reddy, G.P., Reddy, M, N,, Sontakki, B. S. and Bala Prakash, D.
Mechanisms of Protection of Agricultural Innovations in India	DESIDOC Bulletin of Information Technology 27(6): 3-11. 2008	Kalpana Sastry, R.
Assessment of management training needs of agricultural research managers	The Icfaian Journal of Management Research, VII (4), 21-31, 2008.	Manikandan, P. and Anwer, M.M.
Combination of Image Analysis Techniques for Rice Area Estimation	Environment and Ecology 26(1): 219-227. 2008	Sailaja, B., Rao, P.S., Nathawat, M.S. and Rao, N.H.
Application of Sensors for Quality Evaluation of Meat and Meat Products	Beverage and Food World 36(3): 26-28. 2009	Kandeepan, G., Rao, K.H., Rao, V.K. and Pal, U.K.
Identification and prioritization of problems faced by women SHG members through participatory methods in Karimnagar district of A.P.	International Journal of Family and Home Science, Vol.5. 2009	Karunasree,E. and Sandhya Shenoy, N.
Integrating geo-spatial information technologies and participatory methods in agricultural development	Current Science Vol. 96, No.1 January 2009.	M.N. Reddy and N.H. Rao
Management of human resources in an agricultural research farm – A case study	The Icfaian Journal of Management Research, VIII (2), 7-14, 2009.	Manikandan, P. and Kalpana Sastry, R
Quality Management in the Production of Livestock Products for Global Trade	Beverage and Food World 36(2): 49-50. 2009	Rao, K.H and Reddy, G.P

Agripreneurs and theirOpinion on Agri-Clinics and Agri-Business Centres Scheme	Journal ofAgricultural Extension Management. 9 (1): 23 – 35. 2008	Ahire, L. M., Sontakki, B. S. and Punna Rao, P.
Infrastructural Facilities and Modes of Technology Dissemination by ATICs	Journal of Communication Studies. Vol. 26 (2) August, 2008	Ahire, L. M.
Performance Profile of Selected Agricultural Technology Information Centres (ATICs)	Kurukshetra - A journal of rural development Vol. 57 No.1(19-22) November, 2008	Ahire, L. M., Sontakki, B. S. and Punna Rao, P.
IT in Agricultural Research, Extension and Education Management	Journal of Communication Studies. Vol. 26 (3) December, 2008	Ahire, L.M., and Sontakki, B.S.
Perception of Agripreneurs on Centrally Sponsored Scheme of Agri-Clinics and Agri-Business Centres	Journal of Research ANGRAU 36(2&3) 49-58, 2008	L. M. Ahire, Dr. B. S. Sontakki and M. A. Basith

Book/ Book Chapters/Reports/Technical bulletins

Title	Publisher / Journal	Author (s)
Educational Technology for Agricultural Sciences	NAARM. 2008	Challa, J. and Reddy, M.N.
Agro Biodiversity - Volume I.Crop Genetic and Resources Conservation	Associated Publishing Company, 22 Model Basti, New Delhi - 110 005. 2008	Kannaiyan,S. and Gopalam, A.
Agro Biodiversity - Volume III.Diversity in Pests and Pathogens	Associated Publishing Company, 22 Model Basti, New Delhi - 110 005. 2008	Kannaiyan,S. and Gopalam, A.
Agro Biodiversity - Volume II. Soil Resources and Microbial Diversity	Associated Publishing Company, 22 Model Basti, New Delhi - 110 005. 2008	Kannaiyan,S. and Gopalam, A.
Forest Biodiversity (Volume 1)	Associated Publishing Company, 22 Model Basti, New Delhi – 110005. 2008	Muthuchelian, S Kannaiyan., Gopalam, A., and Dutta, S.K.
Forest Biodiversity (Volume 2)	Associated Publishing Company, 22 Model Basti, New Delhi - 110005. 2008	Muthuchelian, S Kannaiyan, Gopalam, A. and Dutta, S.K.

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Intellectual Property Management Regime in the Indian National Agricultural Research Systems. In: CAS-IP NPI. 2009. Institutionalization of Intellectual Property Management: Case Studies from four Agricultural Research Institutions in Developing Countries"	CAS-IP, Rome, Italy. At: http://www.cas-ip.org/public/uploads/2009/04/compilation_of_4_working_papers_npi_2008.pdf 2009	Kalpana Sastry. R
Human (Interpersonal) relationship – A vital ingredient at the work place for enhancing organization's efficiency and effectiveness. In: Change Management for Academic and Research Excellence in Agriculture	Editors: J. Devi Prasad, T. Ramesh Babu and B. Bucha Reddy. First Edition, Page 47-52. Acharya N.G.Ranga Agricultural University Press, Hyderabad. 2009	Rao, K.H.
Human Resources Management in Indian National Agricultural Research Systems – An overview. In: Change Management for Academic and Research Excellence in Agriculture	Editors: J. Devi Prasad, T. Ramesh Babu and B. Bucha Reddy. First Edition, Page 35-46. Acharya N.G. Ranga Agricultural University Press, Hyderabad. 2009	Rao, K.H.
Organizational Commitment of Employees at Workplace: Concepts and Strategies In: New Orientations in Workplace Environment	Editors: N. Nagamani Nagaraj and Anitha Arunsimha. First Edition, Page 118-131. The ICFAI University Press, Hyderabad. 2009	Rao, K.H. and Unnava, H.R.
Natural Resources in State of Indian Agriculture	National Academy of Agricultural Sciences (*in press*). 2009	Sarda, V.N., Vittal, K.P.R., Rao, N.H., Sharma, R.K., Ramakrishna, Y.S.

Research Reports

- Challa, J., Reddy, M.N., Sandhya Shenoy, N., Rama Rao, D., Murthy, G.R.K. and Kalyani, B. (2008-09): NAIP Research Project report on Information and Communication Technologies for agricultural education and empowering rural women

- Kalpana Sastry, R. and Soam, S.K. (2008). Socio-economic implications of GI registration for agricultural and non-agricultural commodities/ products in India: Volume-2: Annexures and product profile analysis based on stakeholders' opinion and literature surveys of 75 products. NAARM, Hyderabad, 311 pp

- Kalpana Sastry, R., Rao N.H., Ilyas, S.M. and Rashmi, H.B. (2009). Assessing interrelationships between developments in nanotechnology and agriculture, Research Report of NAIP, 87 pp

- Kalpana Sastry R., Soam, S.K. and Hussain, M. (2009). Intellectual Property Management in Public Private Partnerships – Patents, PVP & Copyrights. Research Report of NAIP, 57 pp

- Murthy, G.R.K., Rao, K.H., Rama Rao, D. and Bhasker Rao, E. (2009). E-Learning Management in MOODLE. Research Report of NAIP, 41 pp

- Murthy, G.R.K., Reddy, K.M., Nanda, S.K., Rama Rao, D. and Bhasker Rao, E. (2009). Identification and Integration of Decision Support Tools through Content Management Models for Effective Knowledge Transfer. Research Report of NAIP, 33 pp

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- Rao, N.H., Reddy, M.N., Kumar, K.V. and Murthy, G.R.K. (2009). Vulnerability and adaptive capacity of livelihood systems: A GIS based framework, Research Report of NAIP, 34 pp

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- Reddy, M.N., Rao, N.H., Kumar, K.V. and Reddy, K.V. (2009). Knowledge discovery for assessing sustainability of livelihoods using data mining tools, Research Report of NAIP, 61 pp

- Reddy, M.N., Rao, N.H., Kumar, K.V., Madhusudan, P. and Reddy, K.V. (2009). Knowledge Management through Geo-Spatial Library and Rural GIS II. Rural GIS, Research Report of NAIP, 43 pp

- Reddy, M.N., Sandhya Shenoy, N., Kulkarni, B.S. and Kumar, K.V. (2009) Assessment of Open Source Software (OSS) Tools for Management Information Systems (MIS) in Agricultural Research

- Sandhya Shenoy, N., Rao, V.K.J. and Kalyani, B. (2009). Empowering Rural Women in Agriculture through ICTs. Research Report of NAIP, 37 pp

- Soam, S.K., R. Kalpana Sastry and M. Husain (2009). Intellectual Property Management in Public – Private Partnerships – Agro-biodiversity, Geographical Indication, and Traditional Knowledge. Research Report of NAIP, 33 pp.

- Soam, S.K. and Kalpana Sastry, R. (2008). Socio-economic implications of GI registration for agricultural and non-agricultural commodities/ products in India: Volume-1: Analysis of country-wide survey results of 75 product*s.* NAARM, Hyderabad, 503 pp

- Sontakki, B.S., T. Balaguru, K.H. Rao, G.P. Reddy, J. Challa and M. Sneha Latha (2009) Training Needs & Impact Assessment of L & CB under NAIP. Research Report of NAIP, 30 pp

Others

- Balaguru, T. (2008). Proceedings of the National Brainstorming Workshop on Performance Assessment of Agricultural Universities held at NAARM on September 5 & 6, 2008.

- Balaguru, T. (2008). National Development Plans and Rural Development. National Academy of Agricultural Research Management, Hyderabad, mimeo, pp 1-6, 2008.

- Balaguru, T. (2009). Proceedings of the Brainstorming Meet on Diploma in Agricultural research management held at NAARM on January 10, 2009.

- Balaguru, T. (2009). Proceedings of the Brainstorming Meet on Diploma in Agricultural research management held at NAARM on January 10, 2009.

- Balaguru, T. and S.K. Nanda (2009). Bases paper on Diploma in Agricultural Research Management in the Brainstorming held at NAARM, Hyderabad on January 10, 2009.

- Balaguru, T. National Agricultural Policy. National Academy of Agricultural Research Management, Hyderabad, mimeo, pp 1-5, 2009.

- Challa, J. and Balaguru, T. (2008). Performance Assessment of Agricultural Universities, Working paper presented in the National Brainstorming Workshop September 5-6, 2008 at NAARM, Hyderabad.

- Challa, J. and Balaguru, T. (2008). Performance Assessment of Agricultural Universities. Proceedings of the National Brainstorming Workshop held at NAARM from September 5-6, 2008.

- Narayana Reddy, M., Kulkarni, B.S. and Kumar, K.V. (2008). "Statistical Software for Agricultural Research and Education" Souvenier, Published by Department of Statistics and Mathematics, ANGRAU, 62nd Annual conference of ISAS, November 24-26, 2008.

- Sontakki B. S. and Rao, K. H. (2008). Sustainable Livestock Development. Course Material in IV Blocks for the PG Diploma Course on Agricultural Extension Management. MANAGE, Hyderabad.

Awards and Recognitions

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Base Papers

- Manikandan, P. and Padmaja, P.2009. Management of change for promoting innovation in agricultural research organizations. (L&CB, NAIP). NAARM. Hyderabad. p. 32

- Rao, K.H. and Debasmita Misra, P 2009. Organizational Citizenship Behavior – Antecedents and Consequences. (L & CB, NAIP) NAARM, Hyderabad p.26

- Rao, R.V.S. and Debasmita Misra, P. 2009. Enhancing Performance. (L & CB, NAIP) NAARM, Hyderabad p. 42.

- Rao, R.V.S. and Debasmita Misra, P. 2009. Leadership Effectiveness. (L & CB, NAIP) NAARM, Hyderabad p. 65.

Faculty News

Paper presented and published in proceedings of Seminars /Conferences / Workshops / Symposia, etc., by faculty members during the period under report.

- Aneeja, G. and Sridhar Gutam (2008). Prospects of Open Access to Indian agricultural Research. 8th Indian Science Communication Congress. (ISCC-2008) on 'Media Convergence & Knowledge Revolution' December 10 - 14, 2008 Chennai. Organized by NCSTC/DST, TNSTC, ISWA and M.T.S. Academy, Chennai.

- Challa, J. (2008). Performance Assessment of Agricultural Universities. Lead paper presented in the Vice Chancellors' Convention held under IAUA at AAU, Anand, Gujarat, December 4-5, 2008.

- Gopalam, A. (2009). Application of communication and information technology for optimizing educational achievement in veterinary, dairy and fisheries sciences, paper presented at the Indian Science Congress , North East Hill University , Shillong, January 3-7, 2009.

- Kalpana Sastry R., Rashmi, H.B., Rao, N.H. and Ilyas, S.M. (2008). An Assessment of Nanotechnology for Agriculture and Food Systems in India, Bangalore, Second International Conference, Bangalore in December, 2008.

- Kalpana Sastry R., Rashmi, H.B., Rao, N.H. and Ilyas SM (2008). Nanotechnology in Rice Production Systems-A Perspective. Paper presented in Workshop on "Forecasting Future Technological Needs for Rice in India". Under NAIP Project V-Page: sub programme II – Technology Forecasting at CRRI, Cuttack, Orissa on July 29, 2008.

- Kalpana Sastry, R., Principal Scientist, participated and presented a paper at the National Conference on Traditional Knowledge Systems, Intellectual Property Rights and their Relevance for Sustainable Development organized by NISCAIR, New Delhi from November 24 to 26, 2008 at National Agricultural Science Complex, New Delhi.

- Kalpana Sastry, R. (2009). Nanotechnology as a Tool for Enhancing Agri-productivity in India. Paper presented in: Nanotechnology Business; "The Giant in Dwarfs", Nanotechnology Conclave, 2009. April 14 -15, 2009.

- Rama Rao, D. (2008). Public-Private partnerships required in rural ICT projects in India covering case-experiences of ten ICT projects in India in the World Conference on Agricultural Information and IT organized at Atsugi campus of Tokyo University of Agriculture, from August 24 to 28, 2008.

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- Reddy, G.P. (2008). Partnering across agricultural supply chain in changing consumption pattern of food grains in India in First Annual Conference on "Emerging trends in agri-business management" organized by The Indian Society of Agri-business Management from Sept. 25 to 27, 2008 at USA, GKVK, Bangalore.

- Reddy, G.P., Principal Scientist, participated and presented a paper in 8th Indian Fisheries Forum organized by the Asian Fisheries Society, IFSC & CIFRI from November 22 to 26, 2008 at Eastern Zonal Cultural Centre, Kolkata.

- Reddy, G. P., Reddy, M. N., Sontakki, B. S. and Balaprakash (2009) Economic efficiency of freshwater prawn culture in East Godavari district of AP. Paper presented by the first author to the Eighth Indian Fisheries Forum held at CIFRI, Barrackpore from January 20 – 23, 2009.

- Sailaja, B., Voleti, S.R., Nathawat, M.S. and Rao, N.H. (2009) Rice Yield Estimation by Integration of Crop models, GIS and Remote sensing, Paper accepted for presentation in International Symposium on Plant Growth Modeling, Simulation, Visualization and their Applications, Beijing, China, Nov 9-13, 2009.

- Shenoy, N.S. (2008). 'ICT based development interventions and women empowerment" Paper presented international workshop on "Sustainable Livelihoods and Empowerment of Rural Women organized from August 4 to 31, 2008 by National Institute for Rural Development (NIRD), Rajendranagar, Hyderabad.

Academic Guidance

- R. Kalpana Sastry and D. Rama Rao guided B.Tech. Students from the ICFAI Institute of Science and Technology, Hyderabad, who worked on two projects covering various applications of Nano & biotechnology in agriculture and food systems.

Participation in Training Programmes / Seminars / Conferences / Workshop / Symposium / Meeting

Name of the Programme	Organized by / at	Attended / presented by
Workshop for Translators and Validators	C-DAC, Hyderabad on August 30, 2008.	Mrs G. Aneeja, Asst Editor
Developing and Managing Virtual Resource Centre and Portal using Open Source Tools	Centre for Science and Environment, New Delhi from Dec. 9 to 12, 2008.	Dr K.M. Reddy, Principal Scientist and Dr V.K.J. Rao, Senior Scientist
96th Indian Science Congress 2009	NEHU, Shillong from January 3 to 7, 2009	Dr A. Gopalam, Principal Scientist
Workshop on Leadership Issues	Workshop by Dr Stephen Covey at Hyderabad January 29, 2009.	Dr A. Gopalam, Principal Scientist
International Workshop on Emerging Frameworks and Issues for S & T Recruitments	Society for Reliability Engineering Quality and Operations Management (SREQOM), New Delhi from September 17 to 20, 2008.	Dr N.H. Rao, Jt. Director
Training-cum-workshop on "Intellectual property and technology management in ICAR and Chaired the technical session on Geographical indications-prospects, experiences and challenges	NBFGRI, Lucknow on Dec. 19, 2009.	Dr S.M. Ilyas, Director
Chaired the Session on Processing and Value Addition	Directorate of Oilseeds Research at ANGRAU on Jan. 30, 2009.	Dr S.M. Ilyas, Director

Foreign Visits

- Dr R. Kalpana Sastry, Principal Scientist, ARSMP Division was awarded the Fulbright Senior Research Fellowships (2007-08) by the US Dept of State/ Bureau of Education and Cultural Affairs/ Foreign Fulbright Scholarship Board. She worked on research project "Policy and strategy options in nanotechnology in agriculture and food systems" at Cornell University, Ithaca, NY from September 15, 2007 to May 15, 2008. The objective of the project was to understand the scope of nanotechnology as a tool for enhancing returns from Indian agri-food systems and assess the current levels of on-going work in this area.

- Dr B. S. Sontakki attended a training programme on "Teaching and Learning Excellence: A Capacity Building Model" conducted by Department of Human and Community Resources (DHCR), College of Food, Agriculture and Environmental Sciences (CFAES), Ohio State University, Columbus, USA from March 28 to April 16, 2008 under the Indo-US Agriculture Knowledge Initiative 2008. Keeping in view the need to re-conceptualize and re-orient the agricultural education curriculum, implement research based teaching methods with increased emphasis on student centered learning and to promote internship experiences for agriculture students.

- Dr Soam, Senior Scientist, ARSMP Division, attended the 2nd Annual Meeting of National Partners Initiative (NPI) of Center for Advisory Service in Intellectual Property (CAS-IP), which is a system office unit of the CGIAR, from July 2 to 5, 2008 at Rome. Bioversity International, Rome, hosts the CAS-IP. Based on the comparative advantage proposal from NAARM-ICRISAT for Strengthening and institutionalization of a common IP approach in some South Asian countries. NAARM has taken a responsibility of preparing a "Compendium of Current Status of IP Protection Systems in Developing Nations" in which IP issues related to Patents, Plant Variety, Copyright, Geographical Indications and Trademark will be covered. Milestone responsibilities of NAARM would be Identification/ documentation/ finalization of parameters/ checklist; Conceptualization of design, format and content and prepare a template for India; and Compilation and preliminary editing of the written chapters. The meeting was attended by 34 participants from 16 countries.

■ Drs R. Kalpana Sastry and S.K. Soam, Principal Scientists participated in the CGIAR Central Advisory Service on Intellectual Property (CAS-IP) Building Communication Skills Workshop and Interim National Partners Initiative (NPI) meeting organized by the International Livestock Research Institute (ILRI), Nairobi at Mombasa, Kenya, from January 12 to 17, 2009. Dr Soam presented a proposal titled Resource Pooling Proposal for Enhancing Livelihoods through Protection and Development of GIs in Developing Countries. Thirty-two participants from 17 countries attended the meeting.

■ Dr A. Gopalam visited Cornell University, Ithaca, USA to study on curriculum development teaching methodologies and innovation in agricultural education from February 5 to 19, 2009.

■ Mr M. Suresh Kumar, Chief Administrative Officer visited Cornell University, Ithaca, USA for studying Aspects of Public Private Partnership in Agricultural Education from February 9 to 20, 2009.

■ Dr G.P. Reddy, Principal Scientist underwent training on Agribusiness Management with specialization in several sectors viz., retail marketing, food and micro-finance, etc., at Cornell University, Ithaca, USA from February 16 to March 15, 2009.

■ Dr S.K. Nanda, Principal Scientist underwent training in Agricultural Research Management at International Food Policy Research Institute (IFPRI), Washington, DC, USA under L&CB Component-1 of NAIP from March 29 to April 28, 2009.

Visitors

World Bank Team Visit

The WB Team visited NAARM for Mid-Term-Review of the progress of the NAIP projects under Component-1, on June 5, 2008. The Team comprised of Mr Grahame Dixie and Dr Mohinder Mudahar from the World Bank and Drs J.P. Mittal and N.T. Yaduraju from PIU-NAIP.

The progress of the following three projects was presented:
- Learning and Capacity Building
- Visioning Policy and Gender Analysis
- Re-designing the Farmer-Extension-Agricultural Research/Education Continuum in India with ICT-Mediated Knowledge Management

In addition to the Consortium Leader Dr S.M. Ilyas, Director and Co-PIs Drs N.H. Rao, T. Balaguru, P. Manikandan and D. Rama Rao from NAARM, Co-PIs of the L&CB Project from MANAGE (Dr Vikram Singh) and NIRD (Dr B.K. Thapliyal) also participated.

Delegation from Ohio State University

A three-member delegation from Ohio State University, Columbus, USA consisting of Drs. Robert Birkenholz, Prof. & Chair; Susie Whittington, Assoc. Prof., HCRD, CFAES, and Pat Whittington, Asst. Dean visited the Academy during August 13 – 16, 2008 under the Indo-US AKI Project on Excellence in Teaching Learning: A Capacity Building Model. During this visit, the delegation conducted workshops on "Student-Centered Teaching and Learning" at NAARM and ANGRAU, Hyderabad.

Study Visit by Afghanistan Delegation

A six-member delegation from Afghanistan led by Mr Zabihullah Sawayz, Director General, Secretariat of Independent Administrative Reform and Civil Service Commission (IARCSC), Government of Afghanistan visited the Academy on January 27, 2009 at the request from the Department of Personnel and Training, Government of India. The purpose of their visit was to gain insights into planning and establishing training institutions, developing a training policy and designing civil service training programme in Afghanistan.

Visitors

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Committees

Institute Research Council Meeting

The Institute Research Council meeting was organized at the Academy on March 7, 2009 under the chairmanship of Dr S.M. Ilyas, Director. All the Principal Investigators and Co-Principal Investigators of the Research Projects under NAIP and other sponsored projects have presented the progress and achievement of their respective Project. Based on the presentations, next year's activities were discussed and approved for each Research Project.

Institute Management Committee meeting

The 42nd meeting of NAARM Institute Management Committee was held on May 3, 2008 under the Chairmanship of Dr S.M. Ilyas, Director. The meeting was attended by distinguished members, which included Dr P. Raghava Reddy, Vice Chancellor, ANGRAU, Hyderabad; Dr D.M. Hegde, Director, DOR, Hyderabad; Dr P.K. Joshi, Director, NCAP, New Delhi; Dr M.M. Pandey, Director, CIAE, Bhopal; Dr B.S. Bisht, ADG (HRD), Education Division, ICAR, New Delhi; and Mr B.D. Sati, FAO, CRIDA, Hyderabad. Dr T. Balaguru, Head, ARSMP Division, Dr P. Manikandan, Head, HRM Division, Dr D. Rama Rao, Head, ICM Division, Mr M. Suresh Kumar, CAO and Mr V.S. Subramanian of NAARM also participated in the meeting. The Committee deliberated on various issues like budget allocation, training programmes, NAIP activities and manpower position at the Academy, and provided guidance and meaningful recommendations for the effective functioning of the Academy.

Personnel

Research Management Positions

Dr S.M. Ilyas, **Director**

Dr N. Hanumantha Rao, Joint Director

Scientific Positions

Dr T. Balaguru, Head, ARSMP division

Dr P. Manikandan, Head, HRD division

Dr D. Rama Rao, Head, ICM division

Dr C. Sriram, Principal Scientist (upto Nov. 30, 2008)

Dr A. Gopalam, Principal Scientist

Dr Jagannadham Challa, Principal Scientist

Dr K.M. Reddy, Principal Scientist

Dr M.M. Anwer, Principal Scientist (upto July 8, 2008)

Dr M. Narayana Reddy, Principal Scientist

Dr (Mrs.) R. Kalpana Sastry, Principal Scientist

Dr. (Mrs.) N. Sandhya Shenoy, Principal Scientist

Dr Santosh Kumar Nanda, Principal Scientist

Dr G.P. Reddy, Principal Scientist

Dr R.V.S. Rao, Principal Scientist

Dr K.H. Rao, Principal Scientist

Dr S.K. Soam, Principal Scientist

Dr Bharat S. Sontakki, Principal Scientist

Dr V.K. Jayaraghavendra Rao, Senior Scientist

Dr G.R.K. Murthy, Senior Scientist

Technical positions

Grade T-9

V. Murali, Garden Superintendent

Grade T (7-8)

Dr A. Debnath, Medical Officer

Zameer Ahmed, Manager (HS)

M.A. Basith

Grade T-6

P.V. Nirmala

K.V. Kumar

Ch. Janardhan Rao

P. Vijender Reddy

P. Namdev

Grade T-5

N.R. Nageswara Rao

Sohail Ahmed Khan

Bansidhar Nayak

G. Aneeja

P. Mohan Singh

L. Ramesh

M. Shekhar Reddy

B. Veeraiah

Ahire Laxman

N. Naresh Kumar

M. Ravi

Administration and Finance

M. Suresh Kumar, CAO

V.S. Subramanian, F&AO (up to Sept. 30, 2008)

Y. Sankara Rao, AAO

P.P. Brahmaji, AAO

C. Bagaiah, Junior Accounts Officer

J. Renuka, Asst Director (Hindi)

B.Ch. Satyanarayana, Security Officer

Private Secretaries

L. Jhansi Lakshmi

Sarada Samanta

N. Raghunath

Personalia

Dr N.H. Rao, assumed charge as Joint Director, NAARM on May 1, 2008. Dr Rao, holds Ph.D. in Water Resources Engineering from IIT, New Delhi and has wide experience in teaching, training, as well as in research. He has various awards and recognitions to his credit, which include the Elected Fellow of the National Academy of Agricultural Sciences, Young Scientist

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Medal of INSA, National Hydrology Award of Ministry of Water Resources, and Central Board of Irrigation and Power Medal. He underwent advanced training at Ohio State University and Harvard University, USA. Prior to this, he worked as Principal Scientist in the ARSMP Division at NAARM. The Academy wishes him all the best in his future endeavours.

Promotions

Name of the employee	Previous Position	Promoted to
Dr S.K. Soam	Senior Scientist	Principal Scientist wef May 1, 2008
Dr K.H. Rao	Senior Scientist	Principal Scientist wef Mar. 24, 2008.
Dr B.S. Sontakki	Senior Scientist	Principal Scientist wef May 22, 2008
Ms Savithri Murali	T-4 (Catering Incharge)	T-5 wef June 29, 2006
Mr Shambahadur	T-4 (Catering Incharge)	T-5 wef June 29, 2006
Mr S. Sunder Raj	T-2 (Media Operator)	T-3 wef Feb. 19, 2006
Mr T. Laxman	T-2 (Driver)	T-3 wef June 29, 2006

Deputation

Dr M.M. Anwer, Principal Scientist, HRM Division was selected as Director, National Research Centre for Seed Spices, Ajmer, Rajasthan. He served the Academy for three decades in different capacities as Senior Scientist, Head of HRD Unit and Principal Scientist. The Academy wishes him success in all his future endeavours.

Retirement

Mr V.S. Subramanian, Finance and Account Officer was superannuated on September 30, 2008 after serving the Academy for three and a half years. Around forty years he served the ICAR system in different capacities. NAARM family wishes him a happy and peaceful retired life.

Dr C. Sriram, Principal Scientist, was superannuated on November 30, 2008 after serving the Academy from September 2, 2002. He joined the ICAR system in 1980 at CIAE, Bhopal as Scientist S-3. After that he was transferred to CRIDA, Hyderabad and served there till 1996 as Principal Scientist. Later he became Zonal Coordinator in 1996 for ZC Unit for TOT Zone-V, Hyderabad. NAARM family wishes him a happy and peaceful retired life.