

Developing Winning Research Proposals

Status and Impacts of an Innovative Training Initiative

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Foreword

The scientists and faculty members in National Agricultural Research and Education System (NARES) need to have funded research projects. I am happy to note that ICAR-National Academy of Agricultural Research Academy (NAARM), Hyderabad has taken innovative initiative in this Direction. Since 2004, the Academy has conducted more than 70 capacity building programmes on 'Developing Winning Research Proposals (DWRP)' and has trained around 3300 scientists and faculty members from NARES. Later the impact is studied and brought this book titled "Developing Winning Research Proposal: *Status and Impacts of an Innovative Training Initiative*", which is an excellent source of information.

Design and development of innovative training programmes for agriculture research & education is crucial in reinforcing the concept of research proposal writing in NARES. I appreciate the contribution of NAARM in boosting the proficiency of agricultural scientists through this cutting-edge capacity building initiative. I also notice that DWRP programme upgraded the innovative outcomes and logical thinking of scientists of NARES, enhanced the research proposals writing, and also improved the ability of scientist to get grants from reputed funding agencies.

It's a worth mentioning that theoretical concepts of research projects prioritization, conceptual planning, and logical frame work approach methodologies are transformed into three different web based application i.e. AHP Analyser, Research Concept Writer and Project Logframe Writer, and being used for effective training. As presented in the book, it's extremely satisfying that AHP Analyser is being used by more than 1500 researchers of 37 countries. Further around 500 researchers of 6 countries accessing 'Research Concept Writer' and about 400 researchers and professionals in 4 countries are accessing 'Project Logframe Writer'.

I congratulate Dr D. Rama Rao, Former Director, NAARM; Dr Ch. Srinivasa Rao, Director, NAARM, Dr S.M. Virmani and Dr S.K. Soam for their innovative initiative and hope that the book will be the best source to upgrade the skills of research proposal writing, and also to identify challenging issues in research project development.


(N.S. Rathore)

20th June 2018, New Delhi

Preface

In the current global scenario, research project management plays an influential role in Research and Development. Therefore, in the year 2004, ICAR- NAARM designed and implemented Developing Winning Research Proposals (DWRP) capacity building program. The main purpose was to enhance the skills of agricultural scientists in the area of project proposal writing and further implementation, and to enrich the quality of research outputs and outcomes from the National Agricultural Research System (NARS). Since inception of the programme around 3300 scientists have been trained through 72 capacity building programmes, which include 34 in-house and off campus training programmes, the rest were project workshops and short term modules.

After significant number of capacity building programmes, it was thought to analyse the impact of DWRP, therefore a questionnaire survey was done by sending email questionnaire to more than 700 training participants, besides other instruments of the impact study were also used. Afterwards, the present book entitled “Developing Winning Research Proposals: Status and Impacts of an Innovative Training Initiative” has been prepared with the purpose of multiplier effect of this initiative.

The analysed data reveals that, after implementation of this programme, the trained scientists also upgraded themselves on research project prioritization, conceptual planning, clarifying research objectives, innovative outcomes and logical thinking. For further learning support to trainees, in 2017, the theoretical concept of research project prioritization, conceptual planning, logical frame approach methodologies were transformed into innovative online software applications. The results of learning-teaching model through online software were highly satisfying in terms of group working and individual learning. The operational aspects about software packages are briefly presented in the chapters.

The book contains four chapters and seven annexures. The chapters provide the brief description of training program and short modules on DWRP and software packages

enriching the quality training. The last chapter deals with survey methodology, evaluation and impacts analysis. The seven annexures contain additional and complimentary data.

The Authors acknowledge the help and cooperation received from resource persons of the DWRP trainings, workshops and modules, the faculty and staff of NAARM, and also the coordinators and staff from those organizations, wherever the off campus programmes are conducted. We hope that the book will be instrumental in creating awareness among the large number of scientists about strategic thinking in writing the research proposals.

Authors

Date: 7th May 2018

Hyderabad

Executive Summary

Most of the scientists are willing to prepare and propose the projects for funding but there are some limitations such as lack of skills of writing good research proposals. The Academy has taken up this area of training with highest sincerity and a specific module was developed after thorough research in the subject by utilizing indigenous case examples. A five-day training programme on “Developing Winning Research Proposals (DWRP)” was initiated as part of World Bank supported National Agricultural Technology Project (NATP) in August 2004, which continued until April 2008. Since September 2008, it then continued under National Agricultural Innovation Project (NAIP), a project also supported by the World Bank. Looking to expanding requirements, a three-day module was introduced in 90th Foundation Course for Agricultural Research Service (FOCARS) in 2010 and continued up to 106th FOCARS held in 2016. Thereafter modules were developed for refresher courses. Therefore, in summary the delivery of DWRP has been in the following manner;

- Five-day middle and senior level training programme at NAARM
- Three-day training module in foundation and refresher courses at NAARM
- Two-day module in Foundation Course for Faculty of Agricultural Universities, a one- month training at NAARM
- Four-day off campus training programme for young scientists at SAU and ICAR institutes
- One-day off campus exposure module for senior level scientists at ICAR institutes, SAU and other universities

Until 2017, the Academy has conducted about 72 such programs for ICAR institutes, SAUs, general universities and NBSFARA and 3258 scientists have been trained, out of these 36 programmes have been done as scheduled 5-day training or workshop either at NAARM or off campus. Amongst the trainees, 68% from ICAR and 12% from SAUs, as

per gender profile 81% were male, as per category 75% were Scientists or Assistant Professors.

The complete module runs on these elements in a step-by-step manner. Theory follows the case analysis and culminates with group work where the trainees learn by doing. After the contextual understanding, the participants are exposed to various situations and they learn the essential components of the research project. Following are the learning steps;

- Theory classes for comprehensive understanding
- Relevance and prioritization of research option
- Clarifying research objectives at conceptual level
- Contextual understanding and stakeholder analysis
- Preparation of concept notes
- Peer group review

To make learning more effective, the Academy has developed following online software applications;

- **AHP Analyser:** Around 1500 persons from 50 countries are registered, and on an average users are spending 13 minutes.
- **Research Concept Writer:** Around 500 persons from 6 countries are registered, and on an average users are spending 22 minutes.
- **Project Logframe Writer:** More than 400 persons from 5 countries are registered, and on an average users are spending 28 minutes.

The trainees use the software as learning tool, which they can use as teaching tool in their own classes later back home. They can use the software for storing their concepts and project logframes.

The assessment of 500 trainees from 20 training programmes on various parameters on 1-5 scale reveals the following encouraging results;

Evaluation Parameter	Average Value on 1-5 Ranking
Course content	4.45
Relevance to your needs	4.78
Overall learning from the course	4.53
Course in general	4.65
Use of the learning and skills acquired	4.86
I will recommend this programme to others	4.67

The institute 'Research Advisory Committee' has suggested to measure the impact of this training programmes. For measuring the impact of the DWRP a questionnaire was developed, the important indicators were included in the questionnaire. During March 2017, the questionnaire was administered to the faculty of NAARM. The questionnaire was modified after a pilot testing with NAARM faculty. Thereafter during May-June 2017, the questionnaire was administered to 700 scientists, who had participated in DWRP full module training programmes up to 2015. Out of 700 respondents, 150 responded to the questionnaire. The data so collected through online survey from 150 respondents was analysed by using standard statistical methods. More than 60% respondents were either scientist or senior scientists or equivalent, but 75% of total respondents were male. The subject profile was fairly well distributed among crop and animal sciences, 47% were less than 44 years of age. Some of the important are presented in next paragraphs.

The pre-training difficulty level has been measured on 12 parameters, the post-training enhancement level also measured on same parameters, and remarkable enhancement was observed. In their opinion, the lack of clarity on outputs/outcomes, objectives and targets are the major challenges in getting funds. Infrastructural constraints are not important at all. Almost all the respondents believe that DWRP enhanced understanding at problem articulation, conceptual level or implementation planning level; and majority strongly agree to that. Majority of respondents also strongly agree that training boosted their confidence in writing the research proposals. After training, as institutional project, 72% of respondents submitted at least 1 research proposal, 29% have submitted >2 also. For outside funding 78% submitted at least 1 proposal, and 27% did so for >2 proposals. About 48% got donors funding, about 64% got approval to run as an institute project. Approval rate is quite high. The detailed results have been given in the concerned chapter and relevant annexures.

As per impact analysis, following are the major advantages of using online project management software.

Teaching-learning

- Bring innovation in teaching-learning through enabling 'thinking differently' and changing perception
- Influence large number of scientists and academicians remotely through internet based self learning
- Change in attitude and behaviour by removing immunity cover of negative aspects
- Bring high level of interaction and discussion, even in least learning phase of the day i.e. post lunch training sessions
- Enhanced contribution from introverts and shy people
- Inculcate creativity with the benefit of hindsight

Decision making and research prioritization

- Web platform for good governance in decision making through a transparent process with greater wisdom involving experienced peer group
- Enhancement in relevance and reverence to the context in decision making coupled with sufficient front end planning

Conceptualization and project planning

- Opportunity of ideation i.e. idea generation, otherwise in the busy professional life not enough time is available for that
- Realistic project plan by breaking task down to 'bite sized chunks'
- Breaking the general tendency of 'not making an effort', and convenience does not take the edge. Therefore, more scientific rigour through analytical bit-by-bit process
- Work as platform for sufficient importance to the control systems (monitoring indicators, means of verification, critical assumptions) and customer management change through involvement of key stakeholders in decision making and project conceptualization and planning process
- Waste minimization through activity related cost efficiency and removing least value added activities

Seven annexures contain the additional and complimentary information and data. A 102 pages document related to complete information about programme dates and name of trainees for 1-36 programmes is available at <http://eprints.naarm.org.in/id/eprint/249>

Chapter-1

A Brief Description of Training Programme and Short Modules on Developing Winning Research Proposals (DWRP)

Introduction

The National Academy of Agricultural Research Management (Academy) conducts foundation training, refresher courses and middle level management training programs. These programmes are aimed to encourage scientists to prepare and submit the research proposals for competitive grants from a variety of donors in the country or abroad. The training policy of funded research projects is to supplement funds because of numerous benefits which are available only when scientists have funded research projects. The most prominent is liberty of work independently on the defined broad areas as per needs of the sectoral / national policy. Such funded projects provide reputation to the scientists and focused contribution towards achieving a broader goals, for enhancing quality of scientific outputs.

Most of the scientists are willing to prepare and propose the projects for funding but there

From 2004 to 2017 around 3300 scientific personnel have been trained through 72 various programmes/ modules. One person passed out from first batch of DWRP training is now Director, NAARM, and another is ADG (Fisheries) in ICAR

are some limitations such as lack of skills of writing good research proposals. The Academy has taken up this area of training with highest sincerity and a specific module was developed after thorough research in the subject by utilizing indigenous case examples. A five-day training programme on “Developing Winning Research Proposals (DWRP)” was initiated as part of World Bank supported National Agricultural Technology Project (NATP) in August 2004, which

continued until April 2008. Since September 2008, it than continued under National Agricultural Innovation Project (NAIP), a project also supported by the World Bank.

Looking to expanding requirements, a three-day module was introduced in 90th Foundation Course for Agricultural Research Service (FOCARS) in 2010 and continued up to 106th FOCARS held in 2016. During the period 2011 to 2016, 11 two-day modules have been given to the middle and senior level in the format of refresher courses. In 2012 - 2014, several three-day modules and training workshops were conducted to those scientists, whose concept notes were selected by the National Fund of Basic and Strategic Research in Frontier Areas in Agriculture (NBSFARA) of ICAR for consideration for funding, the main purpose was to streamline the screened projects in terms of implementation objectives. During 2014 - 2016, a two-day exposure module was also introduced in Foundation course for Faculty of Agricultural Universities, a one-month foundation course held at the Academy. Till 2016, three such foundation courses were organized for the teachers of agricultural universities.

Looking at the prospective role of private academic organizations, this module has been administered in few universities of repute also, e.g. Amity University- NOIDA, Amity University- Gurgaon, SHIATS (earlier Allahabad Agricultural Institute), and others. As per demand, the four-day training module was also imparted as off-campus programme in select SAUs such as, three programmes for Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), one programme for Sri Venkateswara Veterinary University (SVVU), Tirupati, and the ICAR research institutes such as National Dairy Research Institute, Karnal. On a specific demand from UP Council of Agricultural Research (UPCAR), Lucknow, a three-day module was administered to the faculty members from all the SAUs in Uttar Pradesh. One-day module as off campus programme was administered to State Agricultural University, Parbhani; National Bureau of Fish Genetic Resources (NBFGR), Lucknow, and National Institute of Abiotic Stress Management, Baramati.

In 2017, a decision was taken that short modules in FOCARS, other foundation courses and refresher courses will not be held anymore, so that the scientists are exposed to a complete module of 4-5 day duration either at NAARM or in the off campus mode.

Therefore, in summary the delivery of DWRP has been as following;

- Five-day middle and senior level training programme at NAARM
- Three-day training module in foundation and refresher courses at NAARM
- Two-day module in Foundation Course for Faculty of Agricultural Universities, a one- month training at NAARM
- Four-day off campus training programme for young scientists at SAU and ICAR institutes
- One-day off campus exposure module for senior level scientists at SAU and ICAR institutes

As explained in **Annexure-I**, until 2017, the Academy has conducted about 72 such programs for ICAR institutes, SAUs, general universities and NBSFARA and 3258 scientists have been trained. These are:

- 4 and 5-day training programmes/workshops conducted at NAARM- #36
- 3 to 4-day modules administered at NAARM- #25
- 4-day off campus training programmes conducted- #06
- one-day off campus exposure modules administered- #05
- Total scientists trained till 2017- #3258

Profile of Trainees

Out of total 3258 trainees, more than 50% are entry level Scientists and Assistant

About 50% programmes were short modules in foundation courses, 37% were DWRP full training programs/workshops

About 85% trainees were scientist or assistant professors. About 68% from ICAR institutes. About 20% are female

Professors, who have been sensitized through 2 or 3-day short modules. More than 37% participants attended the formal and complete programme on DWRP. It was introduced in reference courses also, where about 10% of trainees are from this group (Fig 1.1). The participation of women was somewhat less, the number of men participants was 81% of the total (Fig 1.2). Further majority of trainees were

from ICAR (68%). Because there was an urgent need to increase the number from the SAUs, therefore off-campus programmes were taken up (Fig 1.3). Further, the priority was given to train the younger scientists first, therefore >75% trainees were either scientist or assistant professors, followed by senior scientists or equivalent in SAU, some 10% were either principal scientists or professors (Fig 1.4).

A detailed list of the trainees, is given at [**Annexure-VII**: The Detailed List of DWRP Training Programmes & Trainees (2004-2017), and Short Modules (2010- 2016)]; available at following link

<http://eprints.naarm.org.in/id/eprint/249>

The detailed graphical analysis has also been done as presented in Fig 1.1 to Fig 1.4.

Fig. 1.1. Programme-wise profile of participants (n=3258)

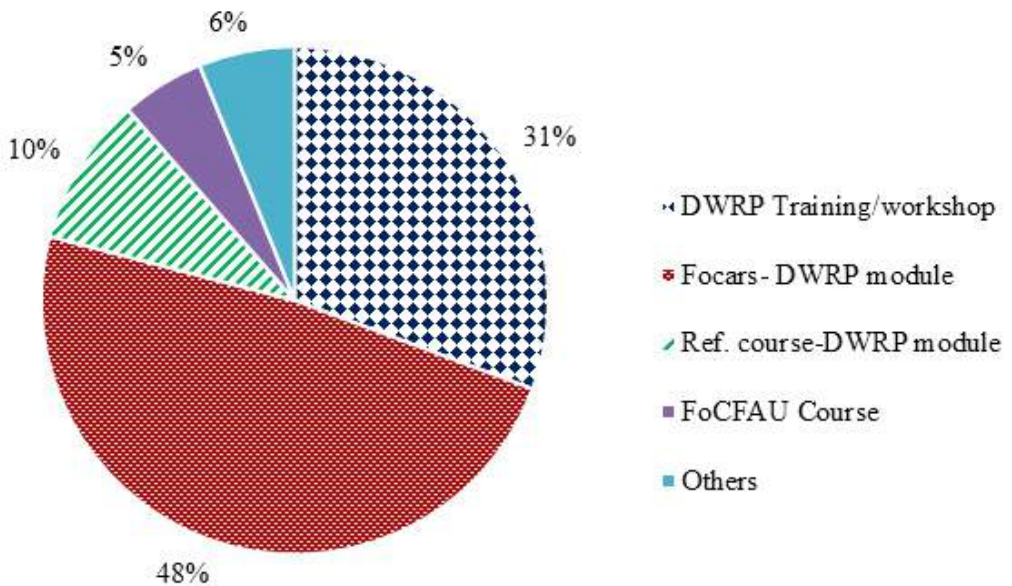


Fig.1.2. Gender-wise profile of participants (n=3258)

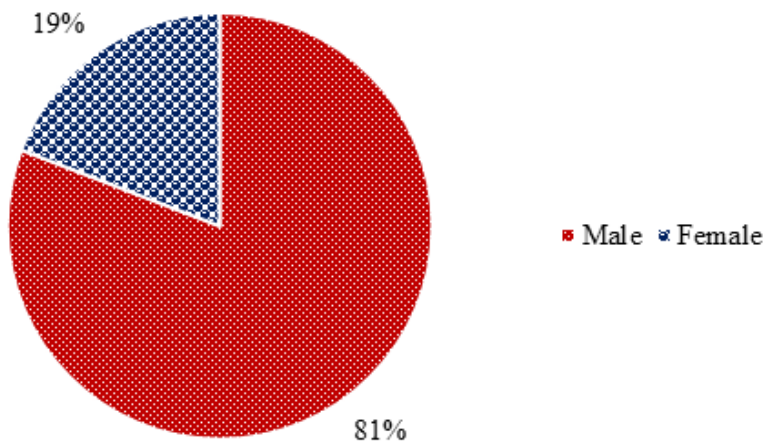


Fig. 1.3. Organisation-wise profile of participants (n=3258)

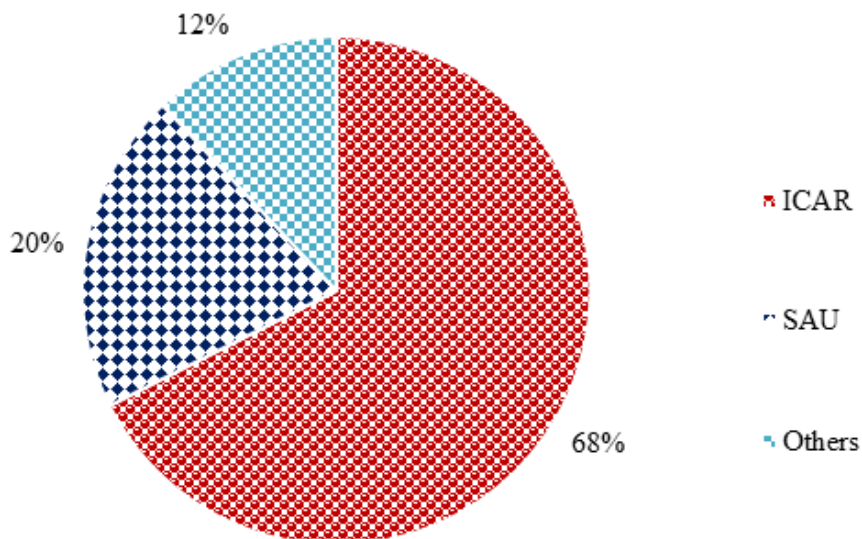
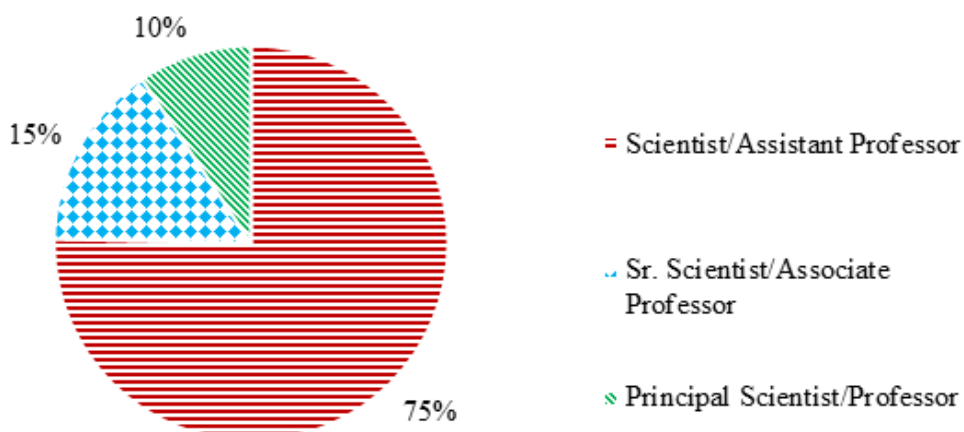


Fig. 1.4. Designation-wise profile of participants (n=3258)

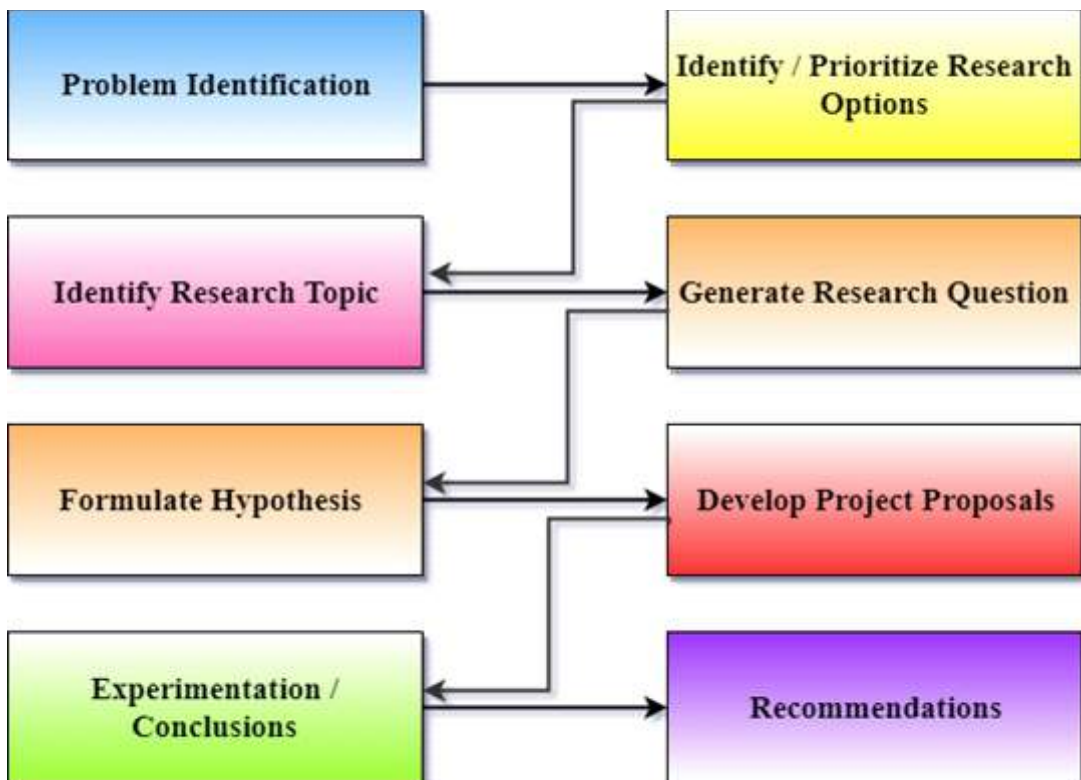


Objectives of the Programme

- To develop skills in the format of a tool box for writing research proposals a focus on the needs of the stakeholders that can win funds from donors.
- To provide practice in writing various components of a research proposal in a workshop format.
- To develop a culture of collaborative interdisciplinary project development and users related to the implementation.

Pedagogy of Training

For writing winning research proposals, the first and foremost element is complete understanding of research management process in agriculture, which is given below:



The complete module runs on these elements in a step-by-step manner. Theory follows the case analysis and culminates with group work where the trainees learn by doing. After the contextual understanding, the participants are exposed to various situations and they learn the essential components of the research project. The training consists of following components:

- Theory classes for comprehensive contextual understanding
- Sharing of practical cases
- Story telling
- Learning basics of research proposals through online web based software (AHP Analyser, Research Concept Writer and Project Logframe Writer)
- Working in group/s
- Developing concept note and proposal
- Peer evaluation of the concept notes

How the Present Research Option is Most Relevant?

The identified problem may have several research solutions but donors always ask this question why this project, and has this been reviewed carefully with respect to resource utilization? Another important issue is collaborative decision making (*the issue, which also has been highlighted by the Hon'ble Prime Minister in his meeting with Secretaries on 4th June 2014*). To integrate all such issues, a standard methodology called Analytic Hierarchy Process (AHP) has been introduced in DWRP module as a process of prioritization and a platform of collaborative decision making through opinion analysis by peer groups. The primary objective of this methodology is to prioritize options to allocate scarce research resources efficiently, i.e. to maximize the benefit for the society expected from public expenditures for research. Rigorous prioritization processes are needed as the research budget reductions, research institutions face new challenges and the farmers demand higher accountability from research managers. The AHP provides a

brief overview on some of the more practical issues in prioritizing options in the context of developing research projects with respect to:

- To select best portfolio of research activities;
- To review the existing resource allocation/s;
- To clarify the differences of opinion, which provide occasion of debating ;
- To review existing and novel alternatives;
- To provide more transparent institutional management for increasing credibility;

The methodology involves a process with mathematical exercises, therefore to make it user friendly a software application called 'AHP Analyser' has been developed by NAARM for agricultural scientists, which is available in Google search. The software is an open source and available at '<https://naarm.org.in/ahp/>'.

Clarifying Research Objectives at Conceptual Level

A solid foundation for a research project is not possible if clarity is absent at the conceptual level. The conceptual clarity helps in effective designing of the research project proposal so that it is saleable to the donor. A common mistake that most researchers make is to fail to narrow a topic sufficiently or to try to jump from a broad topic or problem itself directly into a research project without first creating a research question or formulating a testable 'Research Hypotheses'. To make research more analytical, especially developmental research, a process has to be followed before designing a research project proposal to make recommendations.

In DWRP module, the trainees are involved in groups so that research projects are designed around interdisciplinary research questions. It is possible to phrase many potential research questions for most of the topics or sub questions for a central research question. Before proceeding to design a research project, the scientist trainees narrow down and focus the topic. Research questions so developed refer to the relationships among a small number of variables, they also learn how questions are normally phrased.

Final answers to the research questions are only obtained upon the construction of the research project. Alongside the trainees are exposed to methodologies so that the answers to these questions are not magic outcome of the research process that no one could have foreseen. Once the questions are clear, scientist trainees turn them into research hypotheses, i.e. into assertions (affirmations) which precisely indicate what the project team members foresee.

To make the learning process smooth, the Academy has developed an online software called 'Research Concept Writer', which is available in Google search. The software is open source and available at '<https://naarm.org.in/dwrp/>'. Trainees use the software for learning in class and also later for developing and saving the concept notes.

Contextual Understanding and Stakeholder Analysis

The project cannot be designed, run, evaluated and monitored in isolation. It has always to be contextual to various related situations e.g., it is desirable to take up or design a project, which does not contribute towards the achievement of national goal/s, because no donor will provide funds for such project proposals. If the project objectives are ambiguous, project impact may be seen as non- significant. If project environment is not conducive and in full in of risks, there are fewer chances of success of the project. Therefore, while designing project the understanding of contextual situation is an essential requirement.

The Project	The Project Environment
The Project Impact	

This part is taken care of through understanding of interests, importance and influence of the stakeholders on the prospective project and vice versa. Stakeholder analysis is highly sensitive to nature and locale of the projects. Clarity through analysis of importance-influence matrix is the part of training.

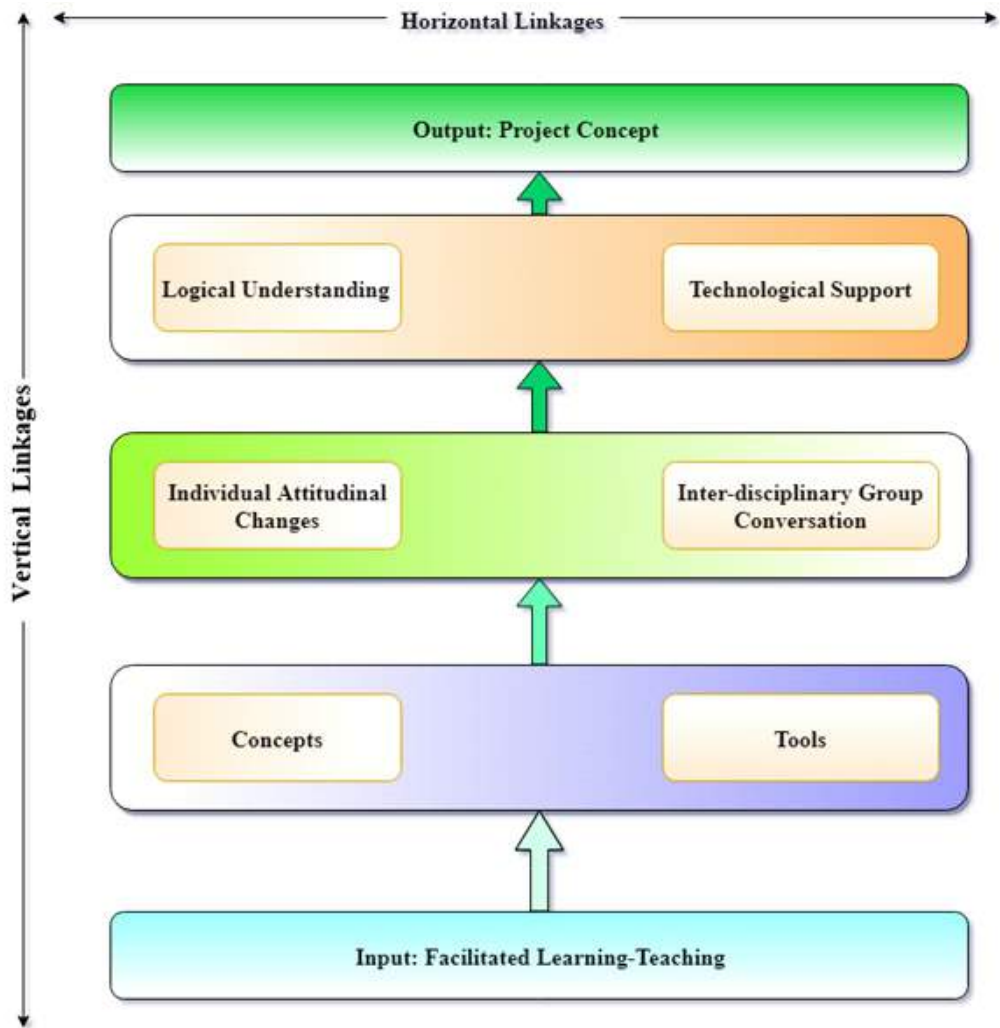
Clarifying the Research Objectives at Implementation Level

The donors are interested in a clear plan of implementation as per the objectives and along-with clarity of parameters for monitoring and evaluation specially in terms of fulfillment of purpose, physical deliverables, input use efficiency, time over run or cost over run etc. therefore the team needs to follow a structured methodology for a well-designed hierarchy of objectives, objectively verifiable indicators, means of verification and the assumptions for the success or failure of defined objectives. The clarity about outputs and outcomes and logical linking at vertical and horizontal level is the main focus of training, which is carried through a methodology called 'Project Logical Framework'.

To make the learning process smooth, the Academy has developed an online software called 'Project Logframe Writer', which is available in Google search. The software is open source and available at '<https://naarm.org.in/logframe/>'. Trainees use the software for learning in class and later for developing and saving the project log-frame.

Innovative Learning Model

The trainees are given theoretical inputs related to contextual understanding about various aspects of research proposal and its objectives. After that they work in groups and start working upon real time project concept in a collaborative mode; then they are exposed to second level inputs related to stakeholder involvement and project deliverables, consequent upon the trainee groups work further. At third level, the inputs are mostly related to global and technological perspectives, the trainees imbibe it and include those in their research proposals appropriately. Finally, the output from the training changes attitude towards research proposal writing, depth of understanding of the components of a winning type research proposal and as shown in the model below a 'Project Concept Note', which can be elaborated further and submitted for funding to the donors or taken up as an institute project. In several cases, the trainees approach the training coordinators for help in further development of full proposals.



Model of DWRP Training

Figure 1.5. Model of teaching-learning in DWRP

Conclusion

The curriculum design is separate for each kind of training module, the complete package is given in five-day module only. After going through such a module, the scientist trainees are exposed to theoretical concepts, they follow a process to complete the given assignments in groups, and they are provided live case studies and an opportunity of interaction with such a faculty who has been involved in project funding activities of scientific organizations. All together, the aim is to infuse confidence among trainees so that they are capable of writing a good research proposal. In some cases, the project proposals developed during the training module have been submitted as full proposal to the funding organizations and scientists and have been funded. One such example is

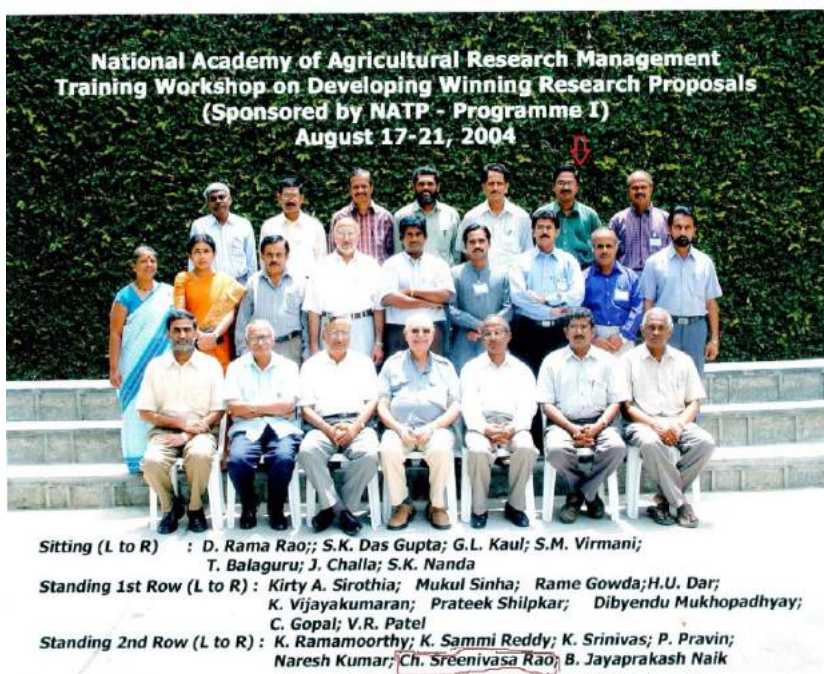


Figure 1.6. First programme of DWRP in 2004 with Dr Jaganadham Challa and Dr D. Rama Rao as Course Directors

Dr Ch. Srinivasa Rao, who is Director, NAARM at this moment. The day he joined as Director in April, 2017 during his first address to the staff, he opined that he attended the DWRP training in 2004, when he was a Senior Scientist at ICAR- Central Research

Institute in Dry land Agriculture (CRIDA), later he rose to position to Director, CRIDA. He told that this training has significant impact in his professional career. He tells in his lectures that the project proposal he developed during the DWRP training programme, which he later submitted to the funding organization and obtained the grant. He often quotes that this project brought scientific laurels to him including an ICAR award. He further emphasizes that the outputs from this project later were inputs to a larger project handled by him.

Some of the trainees have brought to notice that this programme helped them to have inter-institutional collaborations. Few trainees observed that this programme has developed confidence among them, and brought lot of clarity in various components of the research proposals. Therefore, it was decided to have impact study of this DWRP training project, the methodology and results of the impact study follows in various chapters ahead.



Figure 1.7. DWRP programme at NDRI held 13-16 December 2017. Dr SK Soam and Dr Ch. Srinivasa Rao were Course Directors

Major Resource Persons in DWRP Training

Late (Dr) Jagannadham Challa

Dr Challa Jagannadham joined the University of Agricultural Sciences (UAS), Bangalore, as Instructor in 1974. In 1977 he joined Indian Veterinary Research Institute (IVRI), Izatnagar and worked in the capacities of Scientist and Senior Scientist. He joined NAARM in 1989 as Senior Scientist. And retired in 2011 as Principal Scientist (Educational Technology) with special focus on teacher development. Organizational Behavior, Team Building and Group Dynamics, Personality Development, Distance Learning/Training in Agricultural Research Management and Education Technology, Educational Technology and Psychology, Developing Winning Research Proposals, HRD Strategies for Organizational Effectiveness of NARS, Scientist-Administration Interface, Organizational and Management Reforms, HRD for Agricultural Education and Allied Sciences.

Dr D. Rama Rao

Dr Rama Rao, M.Sc. (Physics); IIT, Delhi; Ph.D. (Fiber Science & Technology)) is in the agricultural research service of ICAR from 1978 to 2016. He started his career as Scientist at Central Sheep and Wool Research Institute (CSWRI), Avikanagar in 1978. He later joined as Senior Scientist at Central Institute for Research on Cotton Technology (CIRCOT), Mumbai in 1986. In 1991, he joined NAARM, Hyderabad and worked in the capacities of Principal Scientist and Head of Information and Communication Management Division. In 2013, he joined as National Director, National Agricultural Innovation Project (NAIP), ICAR, New Delhi. In July 2014, he came back to the NAARM as Director and served till September 2016. He has received advance training in technology in education and decision systems at Ohio State University, USA. He was the Course Director for the first academic course on Information Technology Management in Agriculture at NAARM.

Award: In 1996, he received Hari Om Ashram Trust Award for database management.

Dr A. Bandyopadhyay

Dr Bandyopadhyay retired as National Coordinator, National Fund for Basic and Strategic Research in Agriculture, ICAR, New Delhi. Prior to that he served as National Coordinator of World Bank funded 'National Agricultural Innovation Project (NAIP)', ICAR, New Delhi. He received doctorate in Genetics and Plant Breeding from Indian Agricultural Research Institute in 1976. Earlier he was Director, National Research for Groundnut, Junagarh till 2002. His area of interest are Agriculture Research Management, Genetics, Microbiology, and Agricultural Statistics.



National Academy of Agricultural Research Management

Rajendranagar, Hyderabad - 500407

Workshop on Research Project Proposal Development

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Dr. Surinder Mohan Virmani

Dr. Surinder Mohan Virmani Born in Bannu, India on 28 January 1938. Educated at Government High School, Ludhiana, Punjab, 1951-54; Agricultural College Ludhiana, Punjab, 1954-61; Indian Agricultural Research Institute, New Delhi 1961-64; National Institute of Agronomy, Paris, France 1964-65; B.Sc. 1958; M.Sc. 1960; Ph.D. 1964; Post-Doctorate 1965. Advisor, Indian Resources Information and Management Technologies Ltd. (INRIMT), Hyderabad, 2006 to date.

Professor of Soil Science and Chief Scientist [Dryland Agriculture] Haryana Agricultural University 1971-75; Visiting Scientist, Canadian Department of Agriculture 1973; Visiting Research Fellow, Farming Systems Research Program, 1975-76, Principal Scientist (Agro-climatology) Farming Systems Research Program, 1977-81, and Leader, Farming Systems Research Program, 1981-85 International Crops Research Institute for

the Semi-Arid Tropics (ICRISAT) Patancheru, A.P. India, Visiting Professor, Evapotranspiration Laboratory, Kansas State University, Manhattan Kansas, USA, 1984-85; Principal Agro-climatologist, Natural Resources Management Program, 1986-91, and Team Leader, Agronomy, 1991-98 ICRISAT; Coordinator, ADB-assisted Asian Watersheds Research Program 1999-2001.

Awards/Honours: Lifetime Service Achievement Award, Soil and Water Conservation Society, India; ICRISAT Dedicated Research Service Awards, 1986 and 1996; Chairman, Commission VI, International Union of Soil Sciences, 1994-1998; Member, American Society of Agronomy; National Geographical Society, USA.

Fellow: National Academy of Agricultural Sciences; Indian Society of Soil Science; National Academy of Sciences, India.

Research Areas: Natural resource management, rainfed-dryland agriculture; agro-climatology; sustainable agriculture



Dr S.K. Soam

Dr S.K. Soam is Head, Information and Communication Management Division at National Academy of Agricultural Research Management (NAARM), Hyderabad. A Doctorate in Botany and has worked in agroforestry research at IGFRI, Jhansi. Later since May 2000 working at NAARM and specialized in project management, knowledge

management and intellectual property systems development. He has received training at International Center for development oriented Research in Agriculture (ICRA), The Netherlands; World Trade Institute, Switzerland, and Washington State University, Pullman, USA. As a member of several platforms in India and abroad he has contributed to capacity building initiatives in the area of Intellectual Property Rights (IPRs) and natural resources management. As members of CGIAR Central Advisory Service-Intellectual Property (CAS-IP), Rome contributed in several meetings at Kenya, Indonesia, Italy, USA and The Netherlands. His current area of interest is project management, knowledge management and intellectual property systems.



Dr. Cherukumalli Srinivasa Rao

Dr. Cherukumalli Srinivasa Rao Born in Anigandlapadu, Krishna district of Andhra Pradesh on 4 October 1965. Educated at ZP High School, Anigandlapadu, 1975-80; SGS College Jaggaiahpet, 1980-82; Agricultural College, Bapatla, 1982-88; Indian Agricultural Research Institute, New Delhi, 1988-92; Tel-Aviv University, Israel, 1998-99; B.Sc (Ag) 1982; M.Sc(Ag) 1988; Ph.D 1992; Post-Doctoral 1999.

Director, ICAR-National Academy of Agricultural Research Management, Rajendranagar, Hyderabad, April 2017 to date.

Scientist, Indian Institute of Soil Science, Bhopal, 1992-98; Senior Scientist, Indian Institute of Pulses Research, Kanpur and Central Research Institute for Dryland Agriculture, Hyderabad, 1998-2006; Principal Scientist, 2006-13 and Project Coordinator, All India Coordinated Research Project for Dryland Agriculture, Central Research Institute for Dryland Agriculture, Hyderabad (CRIDA), Hyderabad, 2013-14; Deputation to International Crop Research Institute for Semi Arid Tropics, Patancheru, 2006-2008; Director, ICAR-Central Research Institute for Dryland Agriculture, Hyderabad, 2014-17.

Awards/Honours: Certificate of Merit ISCA, 1995; ISSS Golden Jubilee Young Scientist Award, 1997; ICAR Young Scientist Award, 1998; International Potash Institute - FAI Award, 1998; Pran Vohra Memorial Award, 2000 and Dr. B.C. Deb Memorial Award, 2006 of Indian Science Congress Association; PPIC-FAI Award, PPIC-FAI Award, 2006; Dhuru Morarjee Memorial Award of FAI, 1993 and 2003; ISPRD Recognition Award, 2006-2007; Doreen Mashler Award by ICRISAT, 2007; ICRISAT Millennium Science Award, 2008; International Plant Nutrition Institute Prize 2008; Sukumar Basu Memorial Award of IARI, 2009; Vasant Rao Naik Award of ICAR, 2009; FAI Golden Jubilee Award, 2011; Padmasree Dr. I.V. Subba Rao Memorial Award from Rithunestam, 2012; International Potash Institute-FAI Award, 2012. Chief Editor, Indian Society of Dryland Agriculture, 2009 to 2014; Hari Om Ashram Trust Award of ICAR 2014; Rajashri Tandon Rajbasha Puruskar - 2013-14; 2014-15; Vasant Rao Naik Award 2014; Sardar Patel Outstanding Research Institute Award of ICAR - 2014; Editor, Indian Society of Soil Science 2014-15; Chairman, Standing Technical Committee, National Mission for Sustainable Agriculture (NMSA) 2014 onwards; Hindi Regional Rajbhasha Award, 2016 by Ministry of Home Affairs; UNFCCC Indian Delegation Member - Bonn, Germany, 2015, 2016; Executive Board Member, International Dryland Development Committee, Cairo, Egypt; Member, RAG, NABARD. Fellow of Indian Society of Soil Science and Indian Society of Pulses Research. President of Indian Society of Dryland

Agriculture and Development.

Fellow: National Academy of Agricultural Sciences; Indian Society of Soil Science; Indian Society of Pulses Research and Development

Research Areas: Climate change, District agriculture contingency planning, Soil carbon sequestration, Participatory soil health management, Dryland agriculture



Figure 1.8. Dr Ch. Srinivasa Rao, Director, NAARM delivering a lecture to young scientists at off campus DWRP programme at NDRI, Karnal, December 2017

Chapter-2

Software as Learning-Teaching Tool

Introduction

The participants are exposed to various theoretical concepts of research proposal writing, afterwards they form interdisciplinary groups of 4-5 trainees and practice the learning in groups through a real time research proposal. Though they identify a problem and also a probable research project as solution but there are several steps in between and major challenges and questions are;

- How to encourage interaction and active participation?
- What kind of interactive platform is required for group work and cross learning?
- How to constantly keep group cohesiveness and learning enthusiasm?

Major Learning-Teaching Software Developed for DWRP

AHP Analyser: Developed in 2014, renovated in 2017, presently around 1500 registered users in 50 countries. Average time spending is 13 minutes.

Research Concept Writer: Formally launched in October 2017 at SVVU, Tirupati, now around 500 registered users in 6 countries including USA. Average time spending is 22 minutes.

Project Logframe Writer: Formally launched in December 2017 at NDRI, Karnal, currently around 400 registered users in 5 countries including USA. Average time spending is 28 minutes

Looking to the above challenges and questions, few of the theoretical topics were converted into software and opportunity was given to participants for independent learning with a constant zeal of learning. The details of these software are given in following paragraphs. After initial exposure to various functionalities of the software, the trainee groups are given a case, which they analyse using the software. While doing the case analysis lot of discussion takes place. The trainees are highly charged and enthusiastic in learning, the zeal is same in newly joined young

scientists of Foundation Course (FOCARS), and Head of Divisions and Principal Scientists of Management Development Programme (MDP) course. These facts are

evident from the videos available on the following link.

- FOCARS trainees using AHP Analyser - <https://youtu.be/yEGl69vaN0k>
- MDP trainees using Project Logframe Writer- <https://youtu.be/aC4vTtc04HQ>
- SVVU, Tirupati trainees using Research Concept Writer - <https://youtu.be/nO2HrQ4d28g>

Major Advantages of Online Project Management Software Applications

Learning-teaching

- Bring innovation in teaching-learning through enabling 'thinking differently' and changing perception
- Influence large number of scientists and academician remotely through internet based self learning
- Change in attitude and behaviour by removing immunity cover of negative aspects
- Bring high level interaction and discussion even in least learning phase of the day i.e. post lunch training sessions
- Enhanced contribution from introverts and shy people
- Inculcate creativity with the benefit of hindsight

Decision making and research prioritization

- Web platform for good governance in decision making through a transparent process with greater wisdom involving experienced peer group
- Enhancement in relevance and reverence to the context in decision making coupled with sufficient front end planning

Conceptualization and project planning

- Opportunity of ideation i.e. idea generation, otherwise in the busy professional life not enough time is available for that
- Realistic project plan by breaking task down to 'bite sized chunks'
- Breaking the general tendency of 'not making an effort', and convenience does not take the edge. Therefore, more scientific rigor through analytical bit-by-bit process
- Work as platform for sufficient importance to the control systems (monitoring indicators, means of verification, critical assumptions) and customer management change through involvement of key stakeholders in decision making and project conceptualization and planning process
- Waste minimization through activity related cost efficiency and removing least value added activities

Basic Features of Online Software Applications

Self-learning as per own convenience

Online documentation of concepts/ideas/projects, anytime and anywhere

Group discussions and interactive learning environment

Keeping confidentiality in decision making, therefore no data saving in AHP Analyser

Data saving in Research Concept Writer and Project Logframe Writer, therefore repository of research concepts and project logframes can be maintained

Teach the methodology using the software in their own classes, therefore it is called 'Learning-Teaching tool'.

Research Concept Writer: an online web tool to conceive a project

Research Concept note is a summary of research proposal containing ideal information and concise description of a research project. Research Concept Writer is a web based application developed to make simplified research proposal writing and easy understanding about terms, objectives involved in concept note preparation. Good research question and clear research hypothesis is the true guide for efficient project implementation and efficient impact. The good research question comes out of well analysed problem definition. The rationale of conceived idea brings your research project into well-defined line of logical and scientific thinking. The justification is the basis of confidence of the project team among itself, and confidence of the donor organization into the project team and organization.

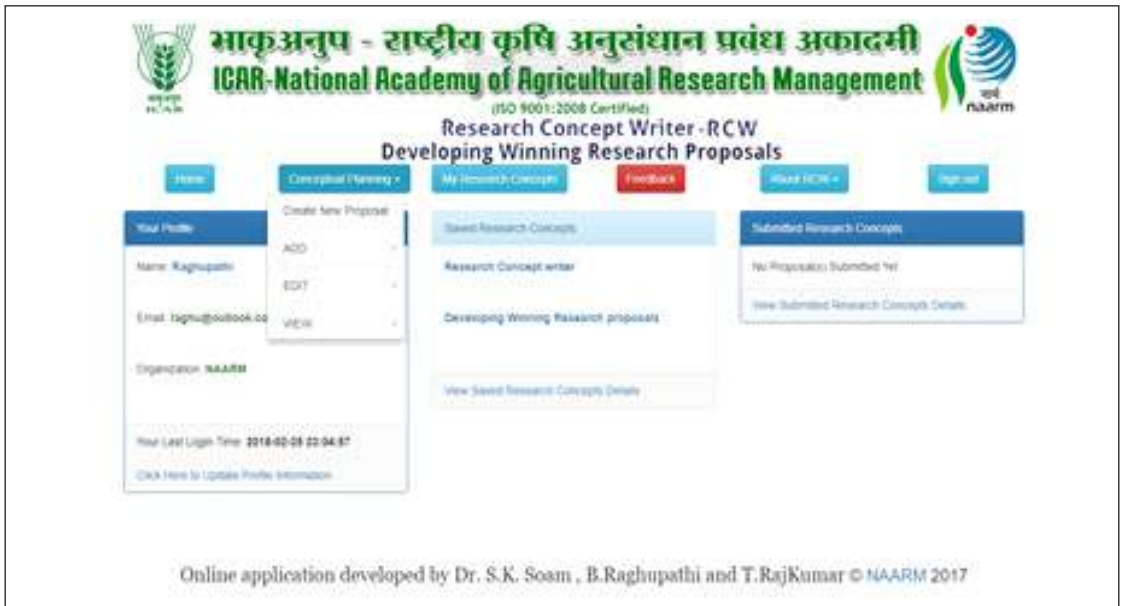
The online open source software developed by NAARM is available at '<https://naarm.org.in/dwrp/>'. Using this software, the trainees in group learn through software, develop the research concept and save the research concepts for later use and store. The organizations may also use the software for developing and storing the research concepts developed by their students, scientists and faculty members over the period of time, therefore make a repository of research concepts. The software helps in step-by-step research concept formulation in the following manner;

- Documenting problem definition
- Fragmenting concept into research question and research hypotheses
- Defining and documenting the research question and type of research question
- Defining and documenting the research hypotheses
- Understanding various components of 'Rationale' and documenting them
- Understanding various components of 'Justification' and documenting them

- Brings out logical and creative thinking
- Document can be saved and edited as per convenience.

After generation of the report, editing can't be done but the document would in MS word, therefore can be copy-pasted as per desired format of the donor agency Just like any professional software, the matter can be written and saved for later use, editing etc. can be done any time. The software was formally launched in October 2017 at DWRP training programme at Sri Venkateswara Veterinary University (SVVU), Tirupati, till June 2018, there were 500 registered users including from USA also. The software screen shots and flow diagram is given below.





Flow Diagram of Research Concept Writer

The software application bit by bit takes through various steps of conceptualization of research project.

- Preliminary information as title, keywords etc.
- Problem definition
- Research question
- Research hypothesis
- Rationale
- Justification

Conceptual Planning- Project Information

Name of Project PI

Project PI Organization/Institute

Name of Project Co-PI(s)

Write project Co-PI names. each name separated by, (comma)

Project Title

Key Words

Minimum 5 key words required. Use, (comma) after each keyword

Problem Definition

Describe your research issue

Research Questions

Research Question

Write your research question here

Dependent variable in above research question

Independent variable in above research question

Universe in above research question

Unit of analysis in above research question

Category of research question:

- ✓ **Explanatory**
- ✓ **Exploratory**
- ✓ **Descriptive**

Research Hypothesis

Research Hypothesis

Write your research hypothesis here

Is this tentative answer to research question **YES** **NO**

Whether it has become more specific than research question **YES** **NO**

Whether it has independent variable? **YES** **NO**

Whether it has dependent variable ? **YES** **NO**

Whether it has universe? **YES** **NO**

Rationale

Literature search in journals **YES** **NO**

Literature search in open source databases **YES** **NO**

Literature search in open source databases (Google Scholar, OER commons, Science Direct, PubMed, etc.)

Literature search in paid databases **YES** **NO**

Literature search paid databases (Web of Science, Scopus, EBSCO, CMIE, SciFinder, etc.)

Patent search in open source databases **YES** **NO**

Patent search in open source databases (Esp@cenet, USPTO,WIPO, etc.)

Patent search in paid databases **YES** **NO**

Patent Search in paid databases (LexisNexis, Delphion, Derwent, PAJ, SIPO,etc.)

Rationale

What is scientific logic of proposed research concept ?

How the proposed research concept is offshoot of earlier research?

How the proposed research concept supplement to the earlier research ?

How the proposed research concept compliment to the earlier?

How the proposed research concept confirm/deny the earlier research results ?

What new knowledge would be added by the proposed research?

Justification

Part A: Capabilities of team & organization

Related experience of PI & Co-PI

Related experience of proposed organization

Facilities / Strength of proposed organization

Any other information

Part B: Amount of benefit from technology / knowledge gained by the concept

Socio-economic impact

Social equity impact

Common property resources(CPR) impact

Sustainability of the concept, after funding is over for the project

Any other information

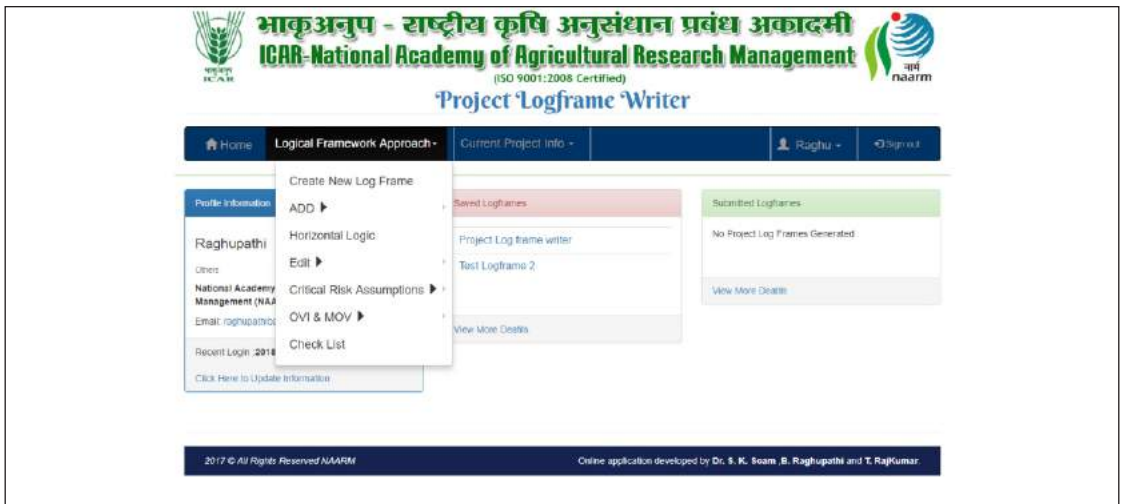
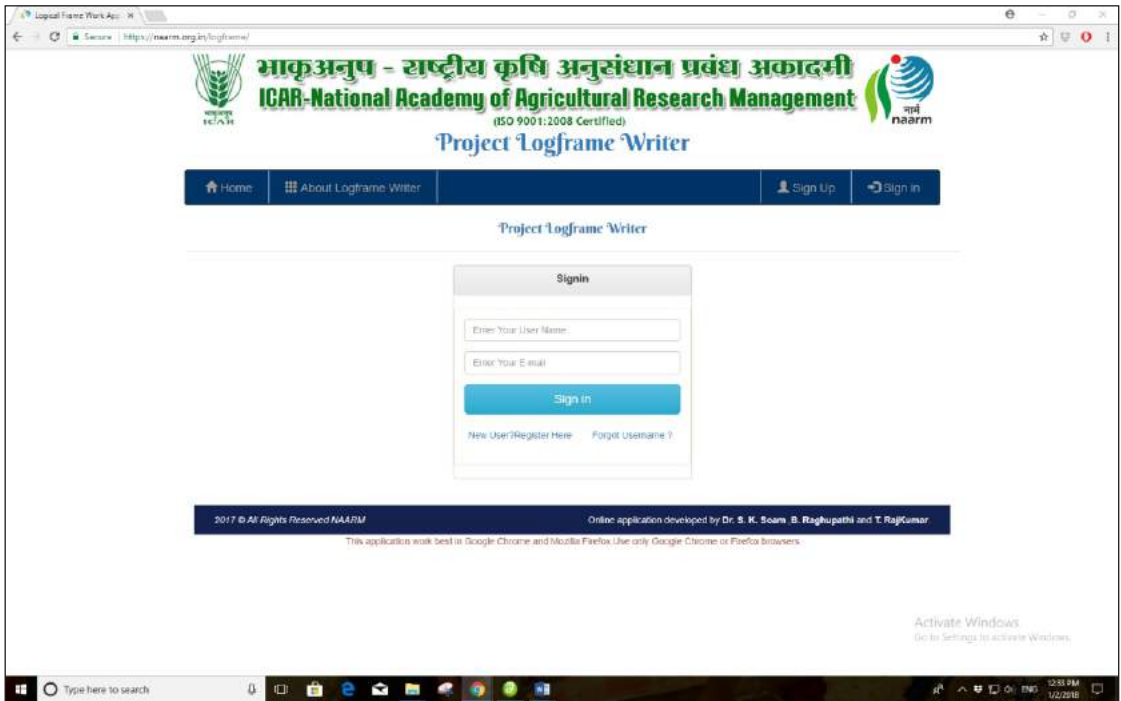
Project Logframe Writer: an online web tool to design and write a project

The online open source software developed by NAARM is available at '<https://naarm.org.in/logframe/>'. Using this software, the trainees in group learn various components of project logical framework for the identified research concept, they use software for developing, saving and storing several project log-frames for later use or repository. The project logical framework is a matrix, with logical linkages of hierarchical objectives at vertical and horizontal direction as given below;

Hierarchy of objectives	Objectively Verifiable Indicator (OVI)	Means of Verification (MoV)	Critical Assumptions/Risks
Project Goal			
Outcome (s)			
Purpose (s)			
Outputs			
Activities			
Inputs			
Inputs based project cost			

The screen shots and software flow diagram is given in paragraphs ahead which brings out;

- Step-by-step logical linking (vertical and horizontal) with bit-by-bit analysis
- Stimulate critical forward thinking with benefit of hindsight



Flow Diagram of Project Logframe Writer

Project Information

PI Name

PI Institute/ Organization

Co-PI Name(s)

Any Other Information

Currency Format for Project Costing

Project Purpose

Purpose

Output

Project Output

Outcome

Project Outcome

Goal

Project Goal

Horizontal Logic

Project Title

Goal

Outcome

Purpose

Output

Critical Assumptions & Risks

	Critical Assumptions for Success	Critical Assumptions for Failure	Risk (If any)
Goal	<input type="text"/>	<input type="text"/>	<input type="text"/>
Outcome	<input type="text"/>	<input type="text"/>	<input type="text"/>
Purpose	<input type="text"/>	<input type="text"/>	<input type="text"/>
Output	<input type="text"/>	<input type="text"/>	<input type="text"/>

Objectively Verifiable Indicators (OVI) & Means of verification (MOV)

	Objectively Verifiable Indicators (OVI)	Means of verification (MOV)
Goal	<input type="text"/>	<input type="text"/>
Outcome	<input type="text"/>	<input type="text"/>
Purpose	<input type="text"/>	<input type="text"/>
Output	<input type="text"/>	<input type="text"/>

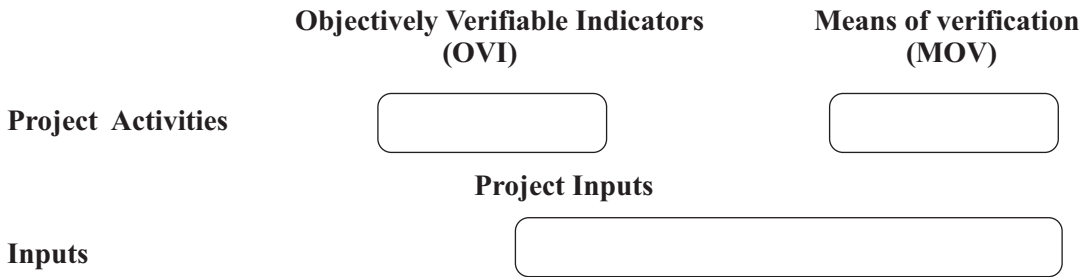
Project Activities

Activities

Critical Assumptions & Risks - Activities

	Critical Assumptions for Success	Critical Assumptions for Failure	Risk (If any)
Project Activities	<input type="text"/>	<input type="text"/>	<input type="text"/>

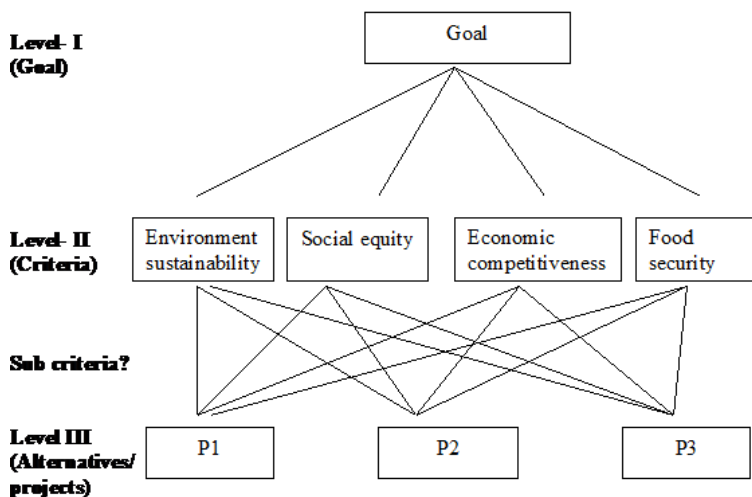
Objectively Verifiable Indicators (OVI) & Means of verification (MOV) - Activities



AHP Analyser: an online web tool for research project prioritization

The project logframe so developed can be used for developing the project in the format by the donor agency, the logframe is not project proposal in itself rather it's a means to develop the proposal further, the relevant material can be taken and put in the project proposal format. It is also suggested the copy of logframe may be put as annexure along with the project proposal.

Any funding organization would ask a question, whether the proposed research proposal is best solution for the identified problem? We may also call it 'Research Priority Setting'. In DWRP training, a multi-criteria ranking methodology called 'Analytic Hierarchy Process' has been used for research project prioritization. It's done in groups and mostly with knowledgeable peer group. The hierarchy under AHP are organized as below;



The online open source software developed by NAARM is available at 'https://naarm.org.in/ahp/'. The details of methodology for understanding the process is available at 'https://naarm.org.in/ahp/AHP_Methodology.php'. The methodology employ lot of mathematics but using this software, the trainees need to concentrate only on technical aspects of the subject. They learn various components of AHP methodology in groups, and rank various options available for solution of a problem. It is also suggested that results so obtained can be printed and put as annexure in the research proposal. The 'AHP Analyser' work as calculator and saving option is not available. The saving option has not been given deliberately because, the users' might use this tool for highly confidential decisions, where confidentiality is of utmost importance. So very simple, sit in a group, use software, take print and finish.

The software has around 1500 registered users from India and 49 other countries as given below:

Registered Users of AHP Analyser

Algeria	Ethiopia	Italy	Morocco	South Africa
Australia	Egypt	Japan	Netherlands	South Korea
Austria	England	Kenya	New Zealand	Spain
Bhutan	Germany	Kuwait	Peru	Sri Lanka
Brazil	Ghana	Latvia	Poland	Syria
Chile	Greece	Libya	Romania	Taiwan
Colombia	Hong Kong	Lithuania	Russia	Turkey
Croatia	India	Malaysia	Saudi Arabia	Ukraine
Cyprus	Indonesia	Mexico	Singapore	United Kingdom
Ecuador	Iran	Mongolia	Slovakia	United States

ICAR | AHP Analyser | K

Secure | <http://naarm.org.in/ahp/>

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ICAR-National Academy of Agricultural Research Management
 (ISO 9001:2008 Certified)

Sign in Downloads Gallery

AHP Analyser - Project Prioritization

(A Group Decision Making Tool for Ranking of Options)

User Name

Email Address

Sign in Sign up Reset

[Forgot Username ?](#)

Analytic Hierarchy Process (AHP) analyser is online tool that facilitates the group decision making by pairwise comparison based on expert judgment values. The Decision Support System (DSS) by web based AHP methodology is converted to Expert System. In developing this online application, the basic of AHP as developed by Dr. T.L. Saaty and other professors has been taken into consideration. The Detailed Documents are available in Downloads

The AHP decisions are based on Consistency Ratio (CR), the threshold limits of CR values have been modified for agricultural research projects as per the research conducted by Dr. S.K. Soam at NAARM, Hyderabad. The AHP analyser can be used for Project Prioritization, Priority Setting, Research Project Monitoring and Evaluation (PME) and also for Technology Valuation and Technology Management.

Online application of AHP methodology. Developed by Dr. S.K. Soam , Ch. Sridharababu , T.RajKumar and B.Raghupathi ©NAARM, 2014

Activate Windows
Go to Settings to activate Windows.

Type here to search

12:51 PM 1/2/2018

ICAR | AHP Analyser | K

Secure | <http://naarm.org.in/ahp/>

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Sign in Downloads Gallery

AHP Analyser - Project Prioritization

(A Group Decision Making Tool for Ranking of Options)

Case Example for Judgment Values Case Example Analysed Research Paper on AHP

AHP Methodology Print Empty Form Gallery

Instructions:

- Write group name and members' names who are participating in decision making. Exercise to be done in the group only, which may consist of 3-5 members, who are the experts in the subject of decision making in question.
- Define the goal for which decision to be made, it should be clear, not very broad or narrow.
- Identify the criteria for evaluating project options. Criteria must be responsive to the decision in question. Identify the project options. AHP works wonderfully with four criteria and three options, more than five project options are not suggested. Abbreviation/code of six or less letters must be given as it is easy to remember while making judgment in pairwise comparison.
- Print empty form: As its online application, sometimes internet may be slow or disruption in connectivity or current, and there is no save option in this application. Therefore facility is provided to print empty form and write the judgment values in this hard copy also so that judgment value data is not lost.
- Now group has to fill the judgment values on fundamental scale of 5,8, for pairwise comparisons of all the evaluation criteria with respect to goal and all the project options with respect to each criterion. The system generates final priority, the priority with highest score is top priority and other follows at second and third place as per score obtained. However, prior to application of software and filling the judgment values- please download and read 'Case example for judgment values' and 'Case example analysed'.
- Revision of judgment values: Research conducted at NAARM shows that the Consistency Ratio (CR) value must be kept <0.3 in case of lab projects and <0.5 in case of developmental projects, therefore you need to revise judgment values if CR values are exceeding threshold limit. The judgments are perfectly consistent if CR is about 0.2 or less.
- After filling judgment values and revising (if required) the system will conduct necessary calculations and provide final priority. Now you can take the print. In chrome browser 'save as PDF'. In other browsers pdf can be made using Cute PDF or PDF software etc.
- The AHP Analyser is based on Analytic Hierarchy Process. For complete understanding please download and read 'AHP methodology' and 'Research Paper on AHP'.

Online application of AHP methodology. Developed by Dr. S.K. Soam , Ch. Sridharababu , T.RajKumar and B.Raghupathi ©NAARM, 2014

Flow Diagram of AHP Analyser

Group Name

Members Name

Goal

Options

Option Name

Option Abbreviation/Code

Criteria

Criteria Name

Criteria Abbreviation/Code

Pairwise Comparison by Filling Judgement Values

Selection of judgement values by the team on the basis of fundamental scale of 1-9.

Comparison: Criteria with respect to Goal

Comparison: Options with respect to All Criteria



Chapter-3

Evaluation of DWRP Training Programme

Background and Results

For the five-day training at NAARM or as a off-campus programme, the evaluation of training programme is done on various parameters as available on **Annexure II**. On the last day of the training, the trainees are asked to rate various parameters on the scale 1-5, where the rating 5 indicates excellent and decreases thereon to 1. The evaluation of individual theory class is also done. For the evaluation, the hard copies were used and later average in each parameter is calculated. Since 2012, a web based platform called Training Management Information System (TMIS) is used for training evaluation. The biases are completely avoided as the name of trainee is not essential on hard copy, further the evaluation is handed by separate cell called 'Academic Cell' and not by the coordinators. The average of 20 programmes is given below.

Table 3.1. Overall assessment of DWRP five-day training

Sl. No.	Evaluation Parameter	Average Value on 1-5 Ranking given by 500 Trainees
1	Course content	4.45
2	Coordinator's skill and support	4.31
3	Relevance to your needs	4.78
4	Overall learning from the course	4.53
5	Course in general	4.65

Table 3.2. Assessment of DWRP five-day training on specific technical parameters

Sl. No.	Evaluation Parameter	Average Value on 1-5 Ranking given by 500 Trainees
1	Expectations from the Course were mostly fulfilled	4.23
2	I will recommend this programme to others	4.67
3	Proportion of exercises/case studies/examples was adequate	4.10
4	Topics were updated to suit the present scenario	3.92
5	Speakers were clear in their presentation & trainees were given relevant information	4.15
6	Participants had enough opportunities to interact with the trainers	4.27
7	I can use the information learned and skills acquired	4.86

Critical Observations of Trainees

As given in table 3.1 and 3.2, the average of 500 trainees recommended the following various parameters at 'Excellent level', few are listed below:

- Relevance to their needs and overall learning from the course;
- Course content and course in general;
- Expectation were fully met and they will recommend this programme to others;
- Enough interaction and they can use the information and skills learned in this programme.

A few critical qualitative observations by the trainees are presented below;

Qualitative observations as perceived by the trainees:

- Brought clarity about various components of research proposals;
- Learnt the project writing tools that enhance interaction as organized communication;
- Brought enthusiasm and attitudinal changes towards writing a research proposal;
- Enhanced collaboration while writing the research proposal.

In justification of above, the readers are requested to view a small video clip available on the link below. It may be observed that similar enthusiasm and interaction is noted in young and very senior level scientists;

- FOCARS Trainees Using AHP Analyser - <https://youtu.be/yEGl69vaN0k>
- MDP Trainees Using Project Logframe Writer- <https://youtu.be/aC4vTtc04HQ>
- SVVU Trainees Using Research Concept Writer - <https://youtu.be/nO2HrQ4d28g>

List of session evaluated for time management, usefulness and use of teaching aids

The training programme consisted of several lectures, group assignments and case studies, which are also evaluated, the list of topics is given below.

- DWRP: An overview and contextual understanding.
- What is a research proposal (winning type)?
- Research objectives for conceptual planning.
- Sharing examples of winning type research proposal.
- Collaborative proposal writing_ Research Question & Hypotheses (work in groups).
- Collaborative proposal writing_ Concept Note (work in groups).
- Research objectives for implementation planning.
- Collaborative proposal writing_ Project Logframe (work in groups).
- Proposals review & expert evaluation.
- DWRP in NRM perspectives
- Donors' perspective and IPR perspectives.
- DWRP: My experiences (a lecture by a scientist, who has gone through this training earlier).

For a comprehensive understanding of evaluation methodology, a post training evaluation was done by scientists of ICAR-National Dairy Research Institute (NDRI), Karnal. It is attached at **Annexure III** for general feedback and at **Annexure IV** for session-wise feedback. This programme was the 36th programme in the series and conducted during 13-16 December 2017 as off campus programme at NDRI.



Chapter-4

Impact of DWRP Training: Analysis of Questionnaire Survey Results

Introduction

The training programme on 'Developing Winning Research Proposals' was started in 2004, 36 such programmes have been conducted until 2017, and about 3258 trainees have undergone through this programme. The program is a still well sought after, therefore Academy then decided to measure the impact of the programme. Further, the institute 'Research Advisory Committee' has suggested to measure the impact of few training programmes including DWRP.

Methodology

For measuring the impact of the DWRP a questionnaire was developed, the important indicators were included in the questionnaire. During March 2017, the questionnaire was administered to the faculty of NAARM. The questionnaire was modified after a pilot testing with NAARM faculty. The questionnaire is enclosed at **Annexure V**.

Thereafter during May-June 2017, the questionnaire was administered to 700 scientists, who had participated in DWRP full module training programmes up to 2015. Out of 700 respondents, 150 responded to the questionnaire. The data so collected through online survey from 150 respondents was analysed by using standard statistical methods.

Results & Discussion

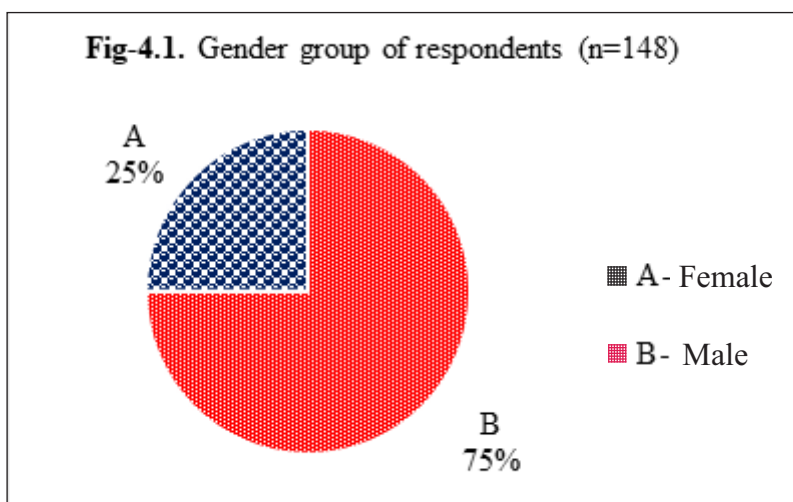
During online survey 12 questions were asked from the respondents, these related to personal information, constraints in writing research proposals and how the training resolved those constraints. The questions also enquired about the role of trainees after 1-2 year of DWRP training. All the questions were close-ended, except one i.e. '*In your opinion, what are the major challenges for the agricultural scientists in winning sponsored research projects?*'. The detailed results are discussed in following paragraphs.

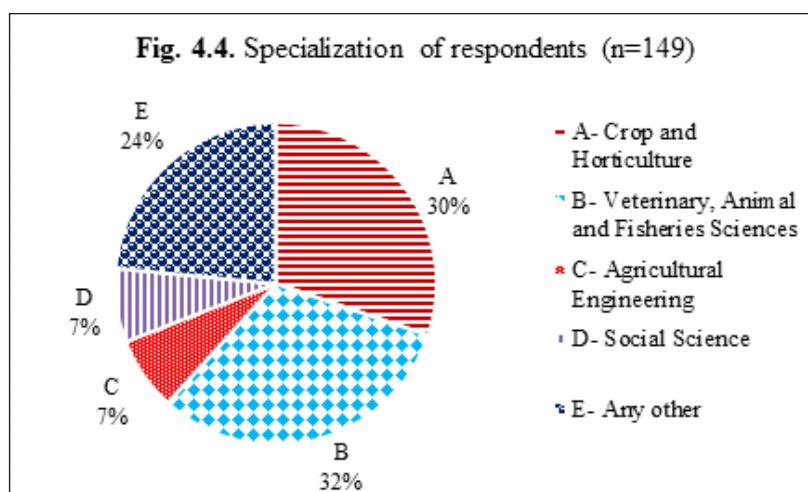
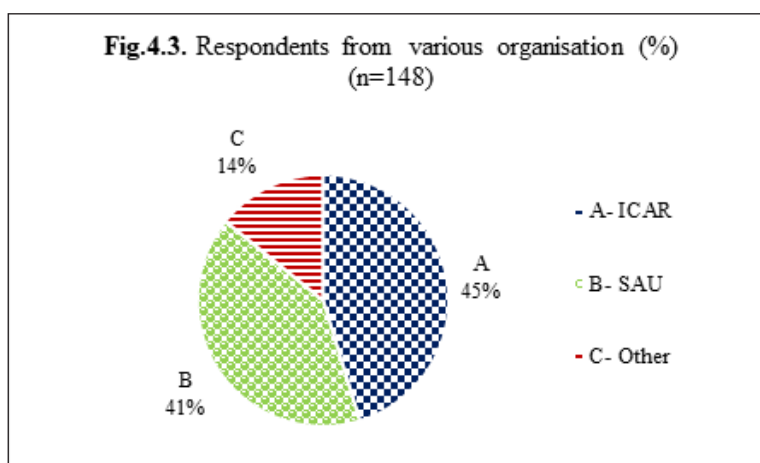
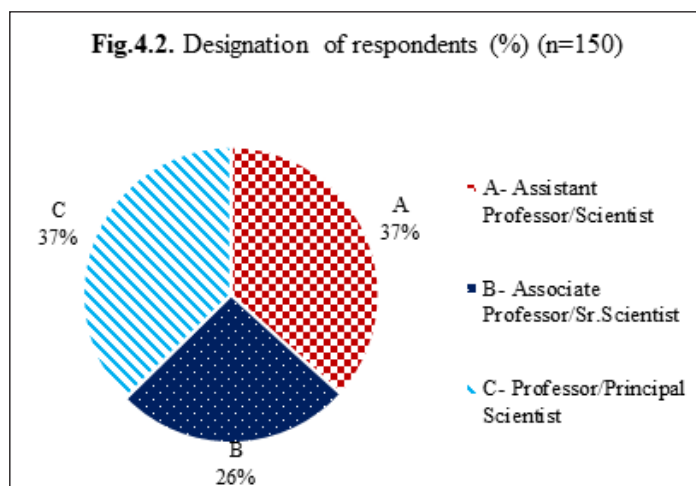
Profile of the Respondents

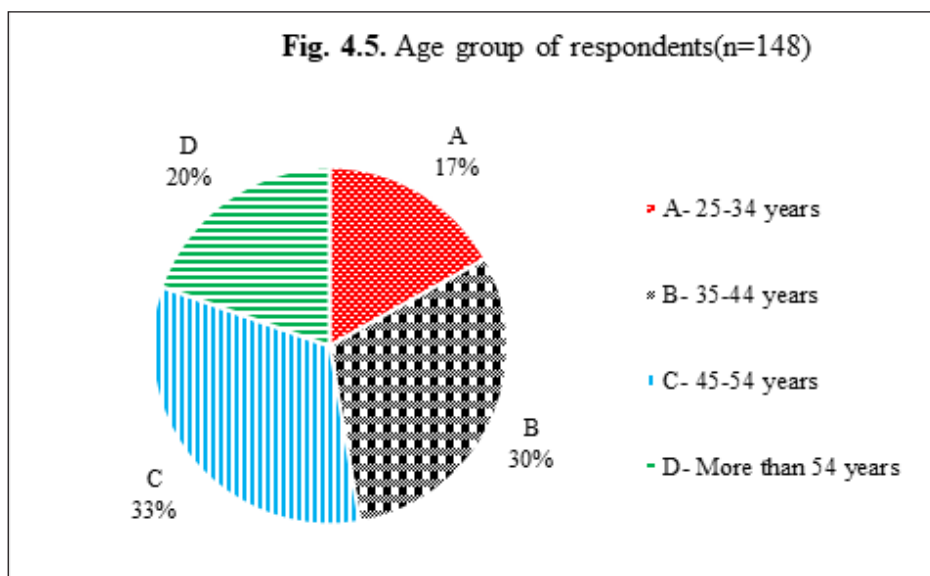
- Most respondents are male
- Mostly are scientist/Asst. Prof or principal scientist/ Prof.
- Equal representation from ICAR and SAUs
- Equal representation of crop & animal sciences and mostly from these subjects
- Most respondents are between 35-54 years

The figures 4.1 to 4.5, show that 75% respondents are of which male, 37% were Scientist/ Assistant Prof / Principal Scientist/ or Professor, and the rest were Senior Scientist/ Associate Professors. The representation from ICAR and SAU is also close by i.e. 45% from ICAR and 41% from SAUs, the survey included respondents from private organizations, NGO or general universities

too. Subject representation of the respondents is also similar to number of scientists in NARS system i.e. 45% from crop and horticulture disciplines, and 47% from veterinary, animal and fisheries sciences. About 49% are 45-54 years of age, followed by 45% between 35-44 years of age group, we can say that these are most productive years of the NARS system. The profile of the respondents completely match with the structure of the NARS and its not skewed towards any parameter. The salient features of the respondents are shown in figure 4.1.







Difficulty-Enhancement Level in Research Proposal Components

The research proposals normally have 12 components (in table 4.1), the respondents were asked to rate their difficulty level in each component (high/medium/low) prior to DWRP training. Further they were asked the enhancement level in each component (high/medium/low) after the DWRP training.

Table 4.1. Various components in research proposal

Rationale	Objectives	Risk
Justification	Output	Donors requirements
Research questions	Outcome	Stakeholders requirements
Research hypothesis	Critical assumptions	Technology Management

Difficulty level prior to DWRP training

.As given in figure 4.6, except outcome more than 50% respondents had medium level difficulty in all the components. Stakeholders requirement, critical assumptions,

Pre-training difficulty level: About 20, 55 and 25 percent of respondents respectively felt high, medium or low level of difficulty on average of all the components (Fig. 4.6). Stakeholders requirement, critical assumptions, rationale, justification and output are the top five components in high difficulty level category

rationale, justification and output are the top five components in high difficulty level category. About 18-24% respondents felt high difficulty level in all the components except justification. Risk, technology management, rationale, research hypotheses and objectives are top five difficult components for those, who express

medium level difficulty in several components. About 17-29% respondents have expressed low level of difficulty in several components, means they are comfortable with these components. Outcome, justification, research question, research hypotheses and risk are the five top components in low difficult level category.

Post DWRP training enhancement level in understanding

The DWRP training content has been designed in such a way that it takes into account understanding of all the 12 identified components of the research proposals. Therefore, post-training enhancement level of understanding various components of a research proposal was also measured through the questionnaire, the respondents were asked as to which level (high/medium/low), the understanding has been enhanced regarding various components. As given in figure 4.7, majority of respondents (51%-61%) felt high level of enhancement of understanding in all the components except risk and critical assumptions, where it was around 42%-48% respectively. The top five components in highest level of enhancement in understanding are outcome, rationale, output, objectives and justification. Most interesting feature is outcome and justification, where the respondents thought that they had good understanding prior to training, but after training, the results reveal that their doubts have been cleared in these two areas, and they had a new learning in these two areas most. The top five components of enhancement in understanding at high and medium level are given in table 4.2.

Table 4.2. Top five components in enhanced knowledge/understanding of respondents after training in DWRP.

Rank	High level enhancement	Medium level enhancement	Low level enhancement
	(54% respondents)	(40% respondents)	(6% respondents)
1	Outcome	Risk	Research hypotheses
2	Rationale	Critical assumptions	Research question
3	Output	Donors' requirements	Outcome
4	Objectives	Technology management	Tech management/ Donors' requirements
5	Justification	Research question	Objectives

Fig. 4.6. Pre-training difficulty level of understanding various components of a research proposal (%)

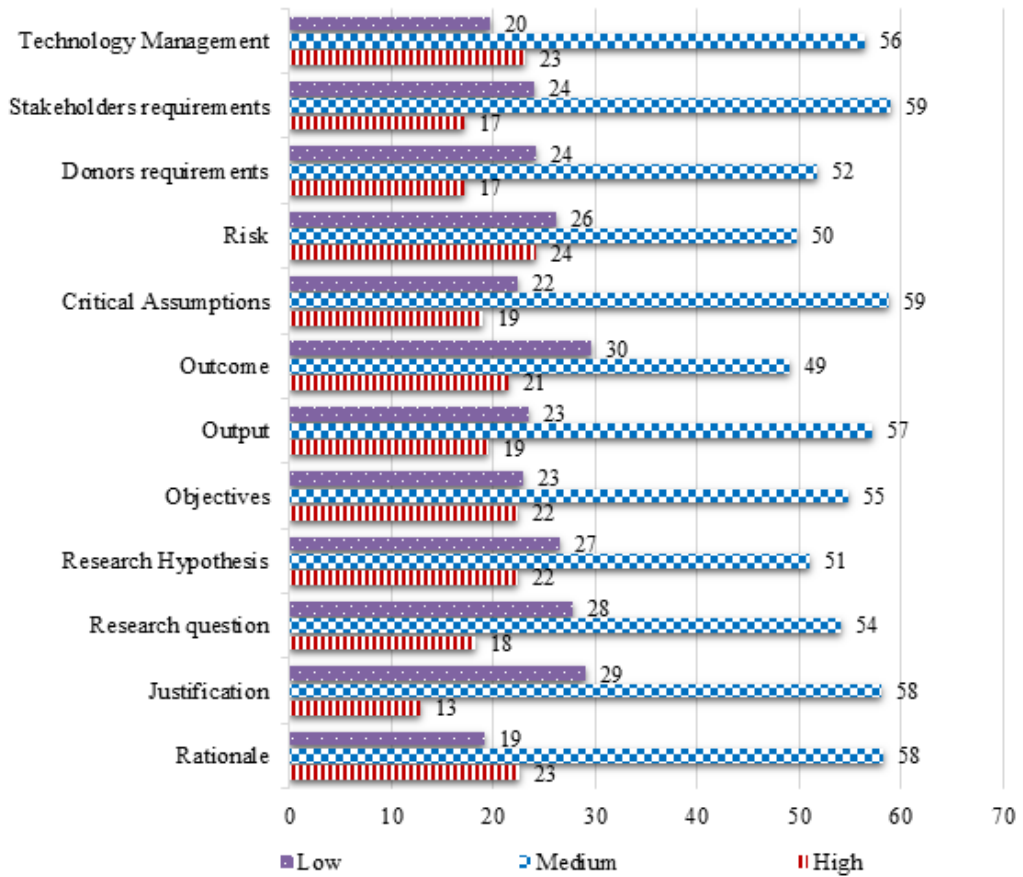
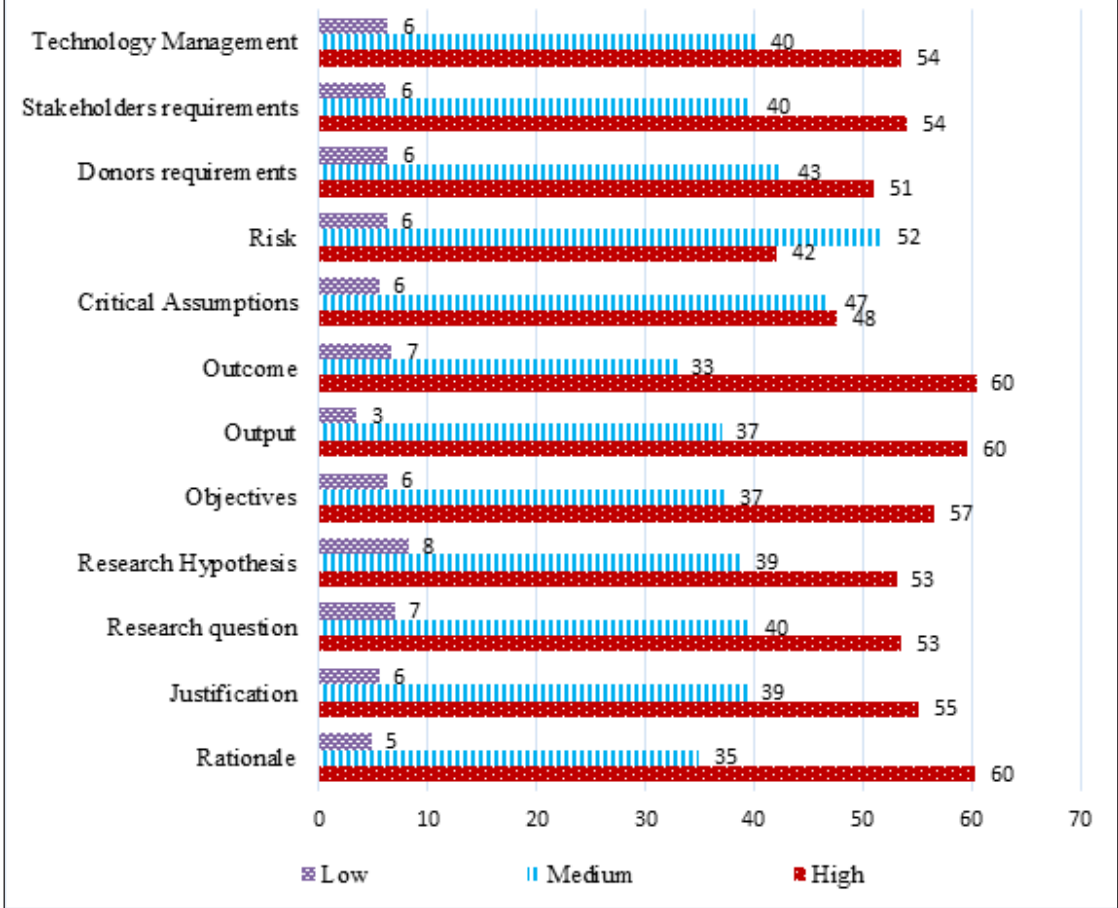


Fig.4.7. Post training enhancement level of understanding various components of a research proposal (%)



Major challenges in winning research funding

The respondents were asked an open-ended question '*In your opinion, what are the major challenges for the agricultural scientists in winning sponsored research projects? (Please write not more than 25 words)*'. The responses later were given codes and categorised into four types as given below:

Lack of clarity about output, outcome, objectives & target. Poor team building, networks and collaborations are major hurdles in getting research proposal funding

- Lack of clarity on objectives/targets,
- Lack of clarity on outputs/outcomes,
- Infrastructural Constraints,
- Not meeting donor's requirements,
- Weakness related to team building, networks and collaborations,
- Other factors.

The detailed responses in each of the category are available in **Annexure VI**. As given in table 4.3, it is very interesting to note that highest number of responses (29%) are for other factors, it means it's not the proposal writing but other related factors are major challenges in getting the funds. A few of such concerns are presented below;

- Biasness in proposal scrutiny and evaluation,
- Proposals not addressing the needs of stakeholders and donors' priorities,
- Not enough home work is done by the scientists,
- Lacking a good team who has appropriate writing skill and convincing skill also,
- Emerging technologies are given priority over the conventional subjects,
- Novelty of the project and must not be repetition ,
- Large number of projects are submitted for funding, how do you draw attention?,
- Internal mechanism of proposal writing guidance at institute level,
- Donor agency do not give reasons of rejection,
- Developing long-term relationship with potential donors.

As given in table 4.3, lack of knowledge related to outputs and outcome followed by lack of clarity on objectives and targets are the major challenges; another significant reason is weak project teams, insufficient networks and collaborations. A respondent says '*Even if we submit a sound proposal I don't know on what grounds they do not approve it*', it means transparency policy of donor agency for giving the reasons for rejection.

Table 4.3. Opinion of respondents about challenges in winning the research proposal funding (N=144)

Observations	Responses (%)
Lack of clarity on outputs/outcomes	21
Lack of clarity on objectives/targets	20
Weakness related to team building, networks and collaborations	15
Not meeting donor's requirements	10
Infrastructural constraints	5
Other factors	29

How DWRP training/ workshops helped?

The trainees or DWRP workshop participants obtained satisfaction in enhanced learning or new knowledge in various components of research proposal. There can be three broad areas, where DWRP trainings have helped.

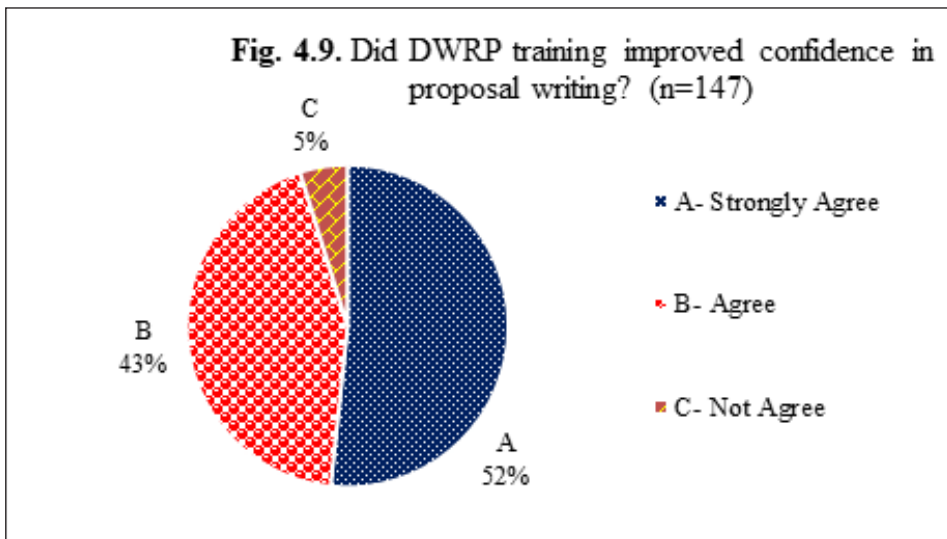
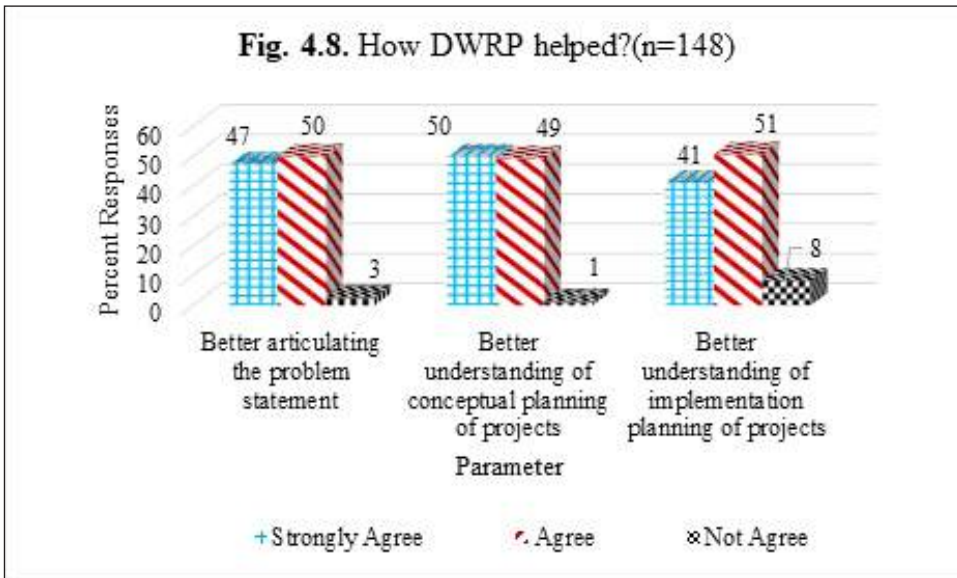
- Better articulating the problem statement; and
- Better understanding of conceptual planning of projects.
- Better understanding of implementation planning of projects.

As in figure 4.8, almost all the respondents either strongly agree or agree that the training

Almost all the respondents believe that DWRP enhanced understanding at problem articulation, conceptual level or implementation planning level; and majority either agree or strongly agree to that (Fig.4.8). Majority of respondents strongly agree that training boosted their confidence in writing the research proposals (Fig.4.9).

has helped in all the three i.e. better articulating problem statement, and better understanding of conceptual planning and implementation planning of the projects. Not agree relative percentage is almost negligent except in understanding of implementation planning, where about 8% respondents did not agree, the DWRP training gave more emphasis on conceptual planning. The DWRP

training not only enhanced knowledge level but also boosted confidence of respondents for writing the research proposals. More than 95% respondents either agree or strongly agree that DWRP improved confidence of the respondents, and about 52% strongly believe so (Fig. 4.9).



Post-training Initiatives of the Respondents

As agreed by the respondents, the DWRP trainings/workshops/modules addressed all the challenges identified by the respondents, in addition it enhanced the understanding about various components of research proposal writing to the high satisfaction level of the respondents. What they did afterwards, this was the major challenge for NAARM;

- Did they submit any research proposal to the host institute or outside donor?
- If they did so, how many?
- How many of submitted proposals are approved as in-house project or got funding support from other sources?

Therefore, these were the major questions in the questionnaire. The results as presented in figure 4.10 are very encouraging, about 72% respondents put at least one proposal as their own institute project, and 29% have put more than two proposals. 78% respondents submitted at least one proposal for outside funding, and about 27% did so for more than two proposals. The proposals may be as Principal Investigator (PI) or Co-PI. The ex-trainees have shown extraordinary zeal in project submission either as institute project or for outside funding to the donors.

After submission, did they get approval to run the institute project or did they get funds from the donors? As given in figure 4.11, about 48% respondents got funding support from donors, and 13% of which got more than two projects funded. For institutional projects, the rate of rejection was very less, about 64% respondents got approval to run at least one project as institutional project; about 18% respondents could get approval to run more than two research projects also.

We can therefore assert that training had a large impact on project submission and approvals as well. On one hand, respondents were self-motivated to submit the research proposals and on another hand, the quantum of approvals was good, it should that the quality of proposals was acceptable. The trainee participants could get funds from various donors (Fig 4.12).

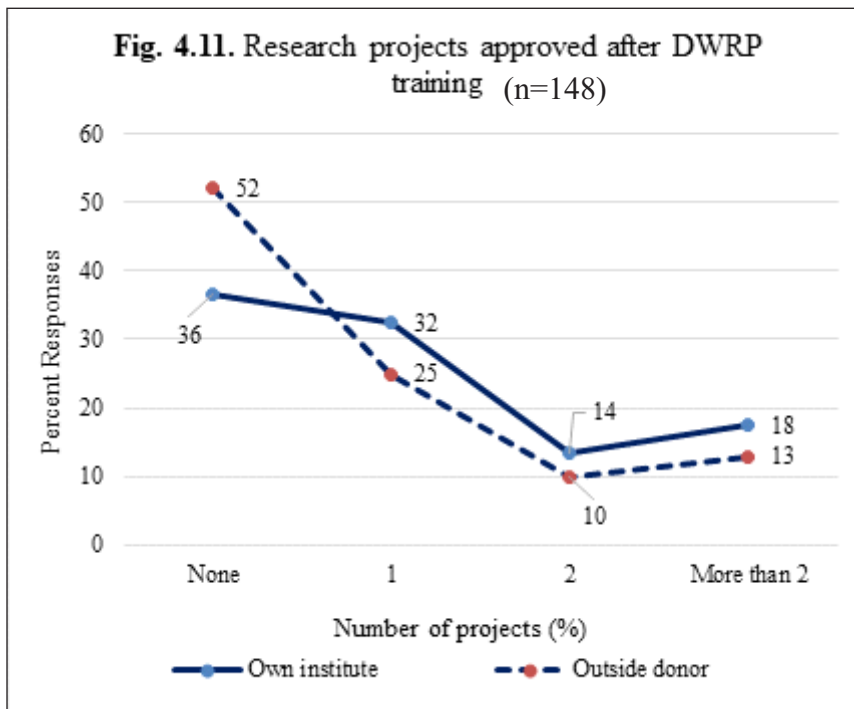
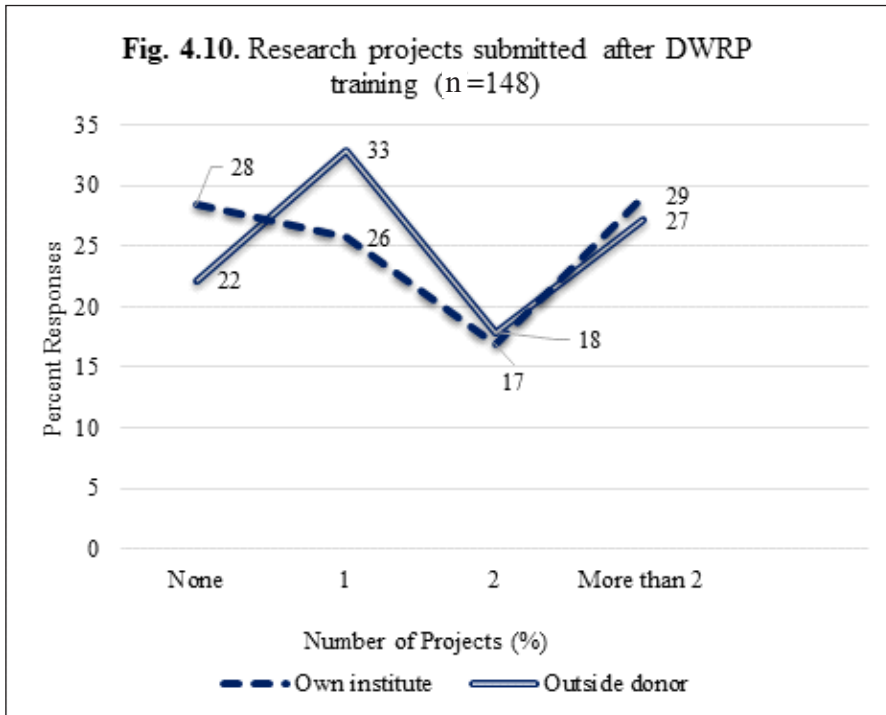
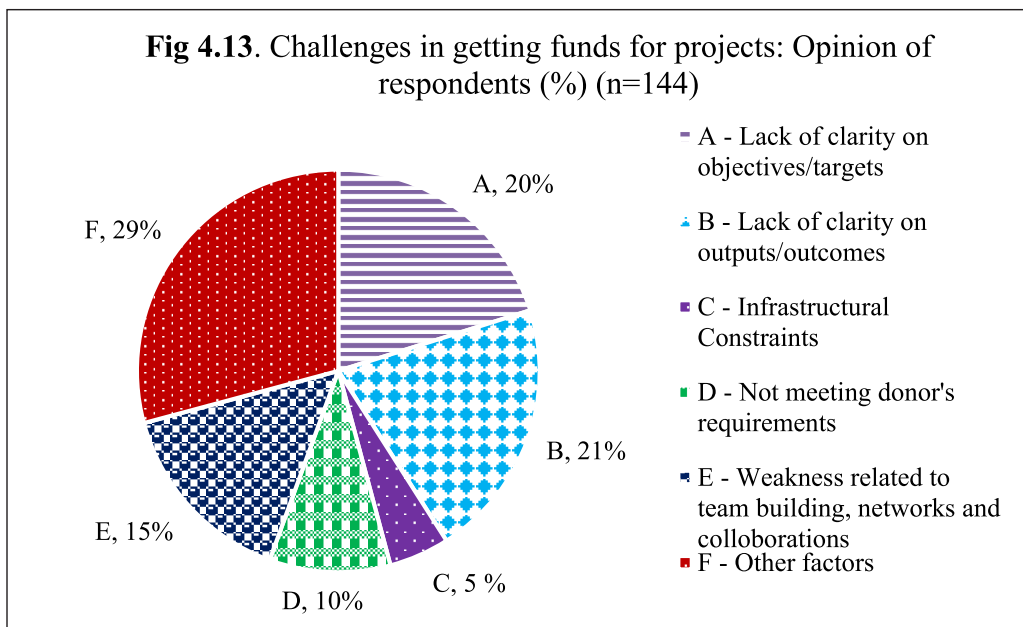




Fig 4.12. Successful fund donors for trainee participants

List of Important Challenges Identified by the Respondents

In continuation of results in table 4.3, the respondents' important opinion points of the top two identified challenges are presented in figure 4.13, the details are available at **Annexure-VI**.



Lack of clarity on objectives/targets

- Not able to identify problem related to their area of specialization.
- The major challenges are the conceptualization of ideas, hypothesis, output, outcome, patent and commercialization of technology to meet the requirement of funding agency.
- Other than ICAR, very few organizations recognized our research proposals.
- Lack of clarity on targets
- Conceptualizing the problem. Delineating a clear cut C-C-Q-H (Context-Complications-Questions-Hypothesis) flow of the thinking process.
- Preparation of project proposals, concept note with clear definition of objective, output and outcome.
- Conceptualizing the problem, precise objectives of the study, focusing outcome and output from the project
- Selection of target areas and selection of funding agencies and identification of research problem at current situation
- Understanding the donor expectations on the proposal, objectives and output and outcome.
- Identifying the research problem and developing projects around the research problem.
- The major challenges are the conceptualization of ideas, hypothesis, output, outcome, patent and commercialization of technology to meet the requirement of funding agency.
- Identifying the research problem and developing projects

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- Clear cut focus on planning, objectives expected output and deliverables
 - The project should be need based covering the aim and objective of the Sponsoring agency. It should be result oriented & achieving goal within time period.
 - The objectives / outcome need to be very clear/ field oriented and there should be well balanced budgetary provisions
 - I found the training was concise and focused on problem identification, drawing well defined objectives and their relation to the output and outcome. I found, my skill has been enhanced for conceptual designing of fruitful project.
 - The prospective winner has to be articulate in respect of formulation of hypothesis and objectives. Should adhere to a set timeline.
 - Lack of proper basic understanding (strategic and applied) of the conceived problem and its method of conduct to achieve the outcome and proper writing skill to impress the funding agency and its ultimate impact to the target group
 - Identification of problem, setting objectives, justification of work, fail to justify the need of the target group to the funding agency, clarity of the proposal.
 - The criteria of submission and areas of research.
 - The relation between outcome, output and objectives of any research problem if clear then winning sponsored research projects will definitely increase.
 - Generating the research idea or identification of problem, connecting ideas or the problem to the expectation of funding agency, identifying potential partners, execution, evaluation of the outcomes
 - Conceptual understanding and technical explanation
 - The major challenges for the agricultural scientists in winning sponsored research projects are identifying the correct field problem and innovative methodology to

address that burning issue.

- Clarity of the proposal on the deliverables of the project proposal, the novelty of the project proposal and the framing of research hypothesis which needs to be tested with project activities
- Though I am in HRM and not involved in research directly, I feel formulation of research questions, objectives, output and outcome are the major areas that need improvement.
- Identifying the focal area, innovation in introducing new technology, developing an appropriate writing skill and articulating the outputs and outcomes into potential budgeting

Lack of clarity on outputs/outcomes

- My field is sericulture, which falls under agro-industry category. Most of the projects in sericulture are developmental/social projects where defining tangible outputs and outcomes, is a challenge, hence difficult to convince donors.
- Very difficult to explain proposed output and outcome in quantifiable term within three to four years of project duration. Problem in committing generation of technology in animal science research within project duration.
- Problem identification and justification in scientific manner to propose.
- Formulating research questions and development of output-outcome orientated technical programme in accordance with specific requirement of donor organization are the major challenges for the scientists like me.
- We should highlight the existing problem at present and provide the solution for such problem.
- Most of the agricultural scientists in India have very limited knowledge and experience of getting research projects approved and how to get the desired outcome

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- Assessing real problems of farmers and find out its solutions
 - Articulating in a right way the output and outcomes of the proposed project.
 - Take risk to win good projects.
 - In the Sericulture sector, many projects are developmental in nature hence, the output and outcomes are often intangible in nature and in such cases it is difficult to convince the donors about the relevance of the proposals.
 - Identifying the focal area, innovation in introducing new technology, developing an appropriate writing skill and articulating the outputs and outcomes into potential budgeting
 - It takes a lot of hard work to prepare a winning research proposal. There is a great challenge to put together the research team, plan the work for the project and to allocate the budget in the different heads and finally achieve the goals of the project.
 - The major challenges are the conceptualization of ideas, hypothesis, output, outcome, patent and commercialization of technology to meet the requirement of funding agency.
 - Preparation of project proposals, concept note with clear definition of objective, output and outcome.
 - Conceptualizing the problem, precise objectives of the study, focusing outcome and output from the project
 - Understanding the donor expectations on the proposal, objectives and output and outcome.
 - The major challenges are the conceptualization of ideas, hypothesis, output, outcome, patent and commercialization of technology to meet the requirement of funding agency.

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- Clear cut focus on planning, objectives expected output and deliverables.
 - Take risk to win good projects. Good projects should be between good team and cooperative collaborators as team work results in good results with better outcome.
 - Understanding the donors' perspectives, expectations and requirements and articulating the outcomes with global perspectives.
 - The objectives / Outcome need to be very clear/ field oriented and there should be well balanced budgetary provisions.
 - I found the training was concise and focused on problem identification, drawing well defined objectives and their relation to the output and outcome. I found, my skill has been enhanced for conceptual designing of fruitful project.
 - Lack of proper basic understanding (strategic and applied) of the conceived problem and its method of conduct to achieve the outcome and proper writing skill to impress the funding agency and its ultimate impact to the target group.
 - The relation between outcome, output and objectives of any research problem if clear then winning sponsored research projects will definitely increase.
 - Generating the research idea or identification of problem, connecting ideas or the problem to the expectation of funding agency, identifying potential partners, execution, evaluation of the outcomes.
 - Developing concept, selection of team of workers, exiting infrastructural facilities, research output and outcome, applicability of output.
 - The scientist should have closer contact with field and clear understanding of problems existing, passion towards solving the problem identified and then at last the support of the institution where they served.

DWRP Training Programmes, Workshop and Short Modules at NAARM (2004-2017)

A. Training Programmes and Workshops

#	Dates	Gender		Total Participant	Category			Designation		
		Male	Female		ICAR	SAU	Other	Scientist/ Assistant Professor	Sr.Scientist /Associate Professor	Principal Scientist/ Professor
1	17.08.04- 21.08.04	17	1	18	6	9	3	6	9	3
2	26.10.04- 30.10.04	28	1	29	10	19	0	12	14	3
3	22.11.04- 25.11.04	36	6	42	4	35	3	12	21	9
4	21.10.05- 26.10.05	17	1	18	8	7	3	9	8	1
5	27.04.06- 02.05.05	17	9	26	12	12	2	8	15	3
6	09.10.06- 13.10.06	16	1	17	9	8	0	3	12	2
7	20.04.06- 25.04.06	11	3	14	6	8	0	9	5	0
8	24.03.08- 29.03.08	13	3	16	6	7	3	8	8	0
9	28.04.08- 30.04.08	39	3	42	4	32	6	12	19	11
10	10.09.08- 12.09.08	46	3	49	11	5	33	15	12	22
11	25.10.08 - 27.10.08	40	2	42	10	10	22	18	12	12
12	14.10.08- 20.10.08	14	2	16	2	12	2	8	6	2
13	11.03.09- 16.03.09	22	3	25	4	20	1	7	14	4
14	18.06.09- 23.06.09	14	3	17	1	16	0	11	4	2
15	22.10.09- 27.10.09	18	0	18	0	11	7	15	2	1
16	22.04.10- 27.04.10	16	4	20	1	19	0	10	7	3
17	02.09.11- 08.09.11	24	6	30	0	0	30	30	0	0

18	28.10.10- 03.10.10	26	4	30	0	0	30	30	0	0
19	08.11.10- 12.11.10	15	3	18	5	13	0	11	7	0
20	13.12.11- 17.12.11	14	4	18	0	17	1	9	5	4
21	13.12.11- 17.12.11	31	4	35	27	3	5	11	14	10
22	20.02.12- 23.02.12	30	0	30	23	2	5	12	14	4
23	11.04.12- 12.04.12	103	12	115	0	0	115	75	28	12
24	12.06.12- 13.06.12	5	0	5	4	1	0	1	4	0
25	19.11.12- 21.11.12	36	0	36	25	5	6	6	19	11
26	22.11.12- 24.11.12	29	3	32	19	5	9	8	8	16
27	10.11.13- 13.11.13	22	5	27	0	27	0	20	5	2
28	9.09.14 - 11.09.14	19	0	19	11	7	1	3	8	8
29	10.08.15- 13.08.15	19	6	25	0	25	0	25	0	0
30	25.08.15- 29.08.15	11	7	18	10	8	0	14	4	0
31	18.02.16- 21.02.16	25	0	25	0	25	0	25	0	0
32	20.04.16- 23.04.16	24	1	25	0	25	0	25	0	0
33	20.09.16 - 24.09.16	13	1	14	6	8	0	10	2	2
34	01.08.17- 05.08.17	12	10	22	9	10	3	17	4	1
35	04.10.17- 06.10.17	29	11	40	0	40	0	10	2	28
36	13.12.17- 16.12.17	21	5	26	26	0	0	22	4	0
Total		872	127	999	259	451	290	527	296	176

B. Foundation Course for Agricultural Research Service (FOCARS): Short Module

#	Dates	Gender		Total Participant	Category			Designation		
		Male	Female		ICAR	SAU	Other	Scientist/ Assistant Professor	Sr.Scientist /Associate Professor	Principal Scientist/ Professor
90	20.04.10- 17.08.10	35	9	44	44	0	0	44	0	0
91	11.05.10- 07.09.10	30	8	38	38	0	0	38	0	0
92	01.09.10- 29.12.10	61	15	76	76	0	0	76	0	0
93	27.04.11- 24.08.11	80	20	100	100	0	0	100	0	0
94	15.09.11- 13.12.11	109	27	136	136	0	0	136	0	0
95	23.01.12- 21.04.12	16	4	20	20	0	0	20	0	0
96	02.07.12- 29.09.12	24	6	30	30	0	0	30	0	0
97	01.01.13- 01.04.13	99	25	124	124	0	0	124	0	0
98	01.07.13- 30.09.13	18	5	23	23	0	0	23	0	0
99	01.01.14- 31.03.14	164	41	205	205	0	0	205	0	0
100	01.07.14- 30.09.14	57	14	71	71	0	0	71	0	0
101	01.01.15- 31.03.15	191	48	239	239	0	0	239	0	0
102	01.07.15- 30.09.15	90	22	112	112	0	0	112	0	0
103	01.01.16- 31.03.16	165	41	206	206	0	0	206	0	0
104	05.07.16- 04.10.16	54	13	67	67	0	0	67	0	0
105	05.01.17- 04.04.17	20	5	25	25	0	0	25	0	0
106	05.07.17- 04.10.17	45	16	61	61	0	0	61	0	0
Total		1258	319	1577	1577	0	0	1577	0	0

C. Foundation Course for Faculty of Agricultural Universities (FoCFAU): Short Module

#	Dates	Gender		Total Participant	Category			Designation		
		Male	Female		ICAR	SAU	Other	Scientist/ Assistant Professor	Sr.Scientist /Associate Professor	Principal Scientist/ Professor
1	25.11.14–24.12.14	39	14	53	0	53	0	53	0	0
2	01.05.15-30.05.15	44	19	63	0	63	0	63	0	0
3	02.05.16-31.05.16	30	27	57	0	57	0	57	0	0
Total		113	60	173	0	173	0	173	0	0

C. Foundation Course for Faculty of Agricultural Universities (FoCFAU): Short Module

#	Dates	Gender		Total Participant	Category			Designation		
		Male	Female		ICAR	SAU	Other	Scientist/ Assistant Professor	Sr.Scientist /Associate Professor	Principal Scientist/ Professor
1	03.11.11–23.11.11	22	6	28	28	0	0	0	17	11
2	19.01.12 -08.02.12	22	6	28	28	0	0	0	18	10
3	05.06.12–18.06.12	26	7	33	33	0	0	0	20	13
4	07.01.13–19.01.13	25	6	31	31	0	0	0	19	12
5	15.07.13-27.07.13	36	9	45	45	0	0	0	27	18
6	03.02.14-15.02.14	28	7	35	35	0	0	0	21	14
7	14.07.14–26.07.14	32	8	40	40	0	0	0	24	16
8	10.11.14–22.11.14	8	2	10	10	0	0	0	6	4
9	13.07.15–25.07.15	18	5	23	23	0	0	0	14	9
10	23.02.16-05.03.16	18	5	23	23	0	0	0	14	9
11	15.11.16–26.11.16	10	3	13	13	0	0	0	8	5
Total		245	64	309	309	0	0	0	188	121

E. Other Programmes

Name	Dates	Gender		Total Participant	Category			Designation		
		Male	Female		ICAR	SAU	Other	Scientist/ Assistant Professor	Sr.Scientist /Associate Professor	Principal Scientist/ Professor
Amity University- NOIDA	17.01.14- 18.01.14	35	15	50	0	0	50	50	0	0
Amity University Gurgaon	04.03.14- 05.03.14	40	10	50	0	0	50	50	0	0
VNMKV, Parbhani	07.09.17	30	15	45	0	45	0	45	0	0
NBFGR, Lucknow	06.11.17	20	10	30	30	0	0	18	9	3
NIABM, Baramati	06.12.17	20	5	25	25	0	0	15	5	5
Total		145	55	200	55	45	100	178	14	8
Grand Total (A+B+C+D+E)		2633	625	3258	2200	669	390	2455	498	305

Format for Evaluation of Training Programme

Training Course id:

Course Name: Subject area of participant:

Note: Please blacken the circle of your choice

Rating 5 indicates Excellent & decreases thereon to 1

Overall assessment

	1	2	3	4	5
1 Course content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 Coordinator's skill and support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3 Relevance to your needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4 Overall learning from the course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5 Course in General	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Assessment of Programme (Rating of 5 indicates maximum level of your agreement to the statements made below and decreases thereon to 1)

	1	2	3	4	5
1 Expectations from the Course were mostly fulfilled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 I will recommend this programme to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3 Proportion of exercises/case studies/examples was adequate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4 Topics were updated to suit the present scenario	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5 Additional knowledge was gained due to the programme	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6 Resource materials were well organized, useful and dequate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7 Teaching aids used were well prepared and comfortable in viewing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8 Speakers were clear in their presentation & trainees were given relevant information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9 Participants had enough opportunities to interact with the trainers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10 Logistic support was good & conducive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I Food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ii Accommodation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
iii Transport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11 Class rooms are comfortable, clean and well equipped	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12 can use the information learned and skills acquired	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Scope for further improvement 1

- 1 List at least ONE strong point of this programme, if any
1
2
- 2 List at least ONE weak point of this programme, if any
1
2
- 3 Should the duration of course be extended/ curtailed? If yes, by how many days?
- 4 List Topics TWO which may be added/deleted, if any
1
2
- 5 List TWO things that impressed you most
1
2
- 6 Give suggestions TWO for course improvement

Session / Topic-wise Feedback / Evaluation

Training Course id

Course Name :

Note: Please blacken the circle of your choice

(Rating of 5 indicates maximum level of your satisfaction and decreases thereon to 1)

Topic	Time allocated					Range of coverage					Usefulness					Teaching aids				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A Sample Report of General Feedback from TMIS

Off- Campus Training Programme on Developing Winning Research Proposals' at
National Dairy Research Institute, Karnal

From 13-12-2017 to 16-12-2017

Total No. of Participants: 25

I. OVERALL ASSESSMENT (Rating 5 indicates Excellent & decreases thereon to 1)

	Overall Assessment	Average
1	Course Content	4.67
2	Coordinator's Skill and support	4.81
3	Relevance to your needs	4.76
4	Overall learning from the course	4.48
5	Course in General	4.57

II. ASSESSMENT OF THE PROGRAMME (Rating of 5 indicates maximum level of your agreement to the statements made below and decreases thereon to 1)

	Assessment of the Programme	Average
1	Expectations from the Course were mostly fulfilled	4.57
2	I will Recommend this Programme to others	4.67
3	Proportion of exercises/case studies/examples was adequate	4.33

4	Topics were Updated to suit the present scenario	4.57
5	Additional Knowledge was gained due to the Programme	4.62
6	Resource Materials were well organized, useful and adequate	4.38
7	Teaching aids used were well prepared and comfortable in viewing	4.71
8	Speakers were clear in their presentation & trainees were given relevant information	4.71
9	Participants had enough Opportunities to interact with the trainers	4.76
10	Training methodologies used were interesting and relevant for the purpose	4.62
11	I can use the information learned and skills acquired	4.57
Part-B		
1	Supporting Services:	
	a. Food	4.29
	b. Hostel Room Services/Maintenance	2.71
	c. Transport	3.62
	e. Medical	2.62
	f. Library	2.9
2	Training venue is neat, clean, comfortable and well maintained	4.05
3	Lighting was adequate in the venue	4.05
4	Air-conditioning is working well in the venue	4.05
5	The Computer, projection and audio facilities in the venue are appropriate for the teaching - learning purpose	3.57
6	The Toilets around the training venue are neat, clean and well maintained	3.95

III. Scope for further Improvement

1. List Strong Points of this Programme

- Communication skills
- Well planned and useful
- Structured sessions
- Good case studies
- Individual participation in preparing project proposal
- It gave me a fresh perspective on how to approach formulation of a new research project proposal.
- Applied and enthusiasm
- Way of communication
- Learned three software for research proposal writing
- Use of software in developing the research proposal
- We could learn how to write a good research project
- Hands on practical to write concept note of proposed research project
- It was having less theory and more practical exercises which were very useful
- Faculty members were excellent
- Interactive mode of teaching
- New methodologies in learner friendly mode
- The sessions are interactive
- Improvement in project writing technique
- Knowledgeable resource person
- Interactive

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-
- Enough case studies
 - Topic is very relevant for ICAR Scientists

2. List Weak Points of this Programme

- Long sessions
- Didn't find
- Project preparation task should be given in advance so that more realistic project can be prepared for applying to funding agencies
- Requires more classes on how to prepare proposals for different funding agency
- Maybe more hands on exercises can be added.
- Duration should be more
- A still more time is needed to understand especially with software when Internet facilities are not proper
- Pre formation of research project team and topic will lead to the formation of good project at the end of training
- More time period could have given
- It was of very short duration.
- Duration is less
- More practical experience should be discussed
- Project management after sanctioned not projected
- One good accepted research project in animal science should be shown

3. Should the duration of course be extended/curtailed?

- Curtailed by 01 day

-
-
- No
 - No
 - No
 - The duration is fine.
 - Yes
 - For 6 days
 - Time was enough to understand the concept
 - Yes for 21 days
 - NA
 - No
 - Definitely yes. It should be minimum of 10 days
 - No
 - Total 6 days
 - Five days Training

4. List Topics which may be Added/Deleted

- Resource management and proposal may be added
- How to deal with funding agency at different stages
- How to manage a multi-disciplinary research project
- Presentation of full project may be added
- More detail course on budget management
- Topic related to the Project management may be added
- New analytical softwares for assessment of project proposal
- Project handling and coordination technique

-
-
- Research proposal got success as case study
 - Project management after sanctioning
 - Lecture from IIM people on management
 - One lecture regarding several funding agencies should be incorporated

5. Give suggestions for course Improvement

- Subject matter specialist may be invited to evaluate the proposal prepared during training
- Lecturing from funding agency officials will give more clarity on getting external projects
- How to present a research project proposal
- Duration of course should increase
- It should be extended to the stage of complete research proposal
- Increasing duration of training
- The course duration may be increased
- Trainees must be selected on diversified field
- Off campus training programme may more efficient
- More practical exercises should be incorporated
- Other institutes located in the regions should be involved to get more interdisciplinary outlook
- Printed compendium may be provided
- Full project evaluation should be included

A Sample Report of Session-wise Feedback from TMIS

Off- Campus Training Programme on Developing Winning Research Proposals' at
National Dairy Research Institute, Karnal (13-16 December 2017)

Topic Name	Facilitator	Time allocated	Range of coverage	Usefulness	Teaching aid
DWRP in Dairy Science perspectives by Senior Faculty from NDRI	Dr. T.K. Datta	4.86	4.86	4.95	4.71
DWRP : My experiences	Dr. Ch Srinivasa Rao	4.81	4.81	4.71	4.62
DWRP in NRM perspectives_ Part-I	Dr. Ch Srinivasa Rao	4.81	4.76	4.76	4.19
DWRP in NRM perspectives_ Part-II	Dr. Ch Srinivasa Rao	4.81	4.76	4.71	4.52
DWRP in Positive Thinking perspectives Collaborative* proposal writing_ Project Logframe (work in groups)	Dr. SK Soam	4.76	4.81	4.81	4.67
Collaborative* proposal writing_ RQ & Hypotheses (work in groups)	Dr. SK Soam	4.86	4.62	4.62	4.38
DWRP in IPR perspectives	Dr. SK Soam	4.9	4.9	4.81	4.62
DWRP: An Overview	Dr. SK Soam	4.67	4.67	4.67	4.48
Research Objectives for conceptual planning	Dr. SK Soam	4.81	4.81	4.9	4.62
Research Objectives for implementation planning	Dr. SK Soam	4.71	4.86	4.76	4.67

Research* project prioritization_ AHP Analyser	Dr. SK Soam	4.81	4.67	4.71	4.67
Collaborative proposal writing_ concept note (work in groups)	Dr. SM Virmani	4.86	4.81	4.9	4.71
Collaborative proposal writing_ concept note (work in groups)	Dr. SM Virmani	4.81	4.86	4.86	4.38
Sharing examples of winning type research proposal	Dr. SM Virmani	4.76	4.86	4.9	4.71
What is a research proposal? (winning type)	Dr. SM Virmani	4.81	4.9	4.95	4.76
Proposals review & Expert evaluation	Dr. SM Virmani / Dr. SK Soam	4.86	4.86	4.9	4.71

**ICAR- National Academy of Agricultural Research Management,
Hyderabad**

Format of Questionnaire Survey (*done through Google form*)

**Impact of Training /Workshop- “Developing Winning Research
Proposals (DWRP) in Agriculture”**

Note: Personal information and responses to questions will be kept confidential.
Individual information and responses will be analysed only as collective dataset.

1. Your present designation
Assistant Professor/ Scientist _____
Associate Professor/Sr.Scientist _____
Professor/Principal Scientist _____
2. Your organisation is:
ICAR institute _____
SAU _____
Other _____
3. Yours specialization belongs to:
Crop and Horticulture _____
Veterinary, Animal and Fisheries Sciences _____
Agricultural Engineering _____
Social Science _____
4. You are in age group:
25-34 years _____
35-44 years _____
45-54 years _____
More than 54 years _____
5. You are:
Male _____
Female _____

6. How DWRP training/workshop helped you:

	Strongly Agree	Agree	Not Agree
Better articulating the problem statement			
Better understanding of conceptual planning of projects			
Better understanding of implementation planning of projects			

7. Prior to DWRP training/workshop, what was your difficulty level with respect to understanding of various components of research project?

	High	Medium	Low
Rationale			
Justification			
Research questions			
Research hypothesis			
Objectives			
Output			
Outcome			
Critical assumptions			
Risk			
Donors requirements			
Stakeholders requirements			
Technology Management			

8. To what extent the DWRP training/workshop helped in enhancing your level of understanding with respect to various components of research project?

	High Satisfaction	Medium Satisfaction	Low Satisfaction
Rationale			
Justification			
Research questions			
Research hypothesis			
Objectives			
Output			
Outcome			
Critical assumptions			
Risk			
Donors requirements			
Stakeholders requirements			
Technology management			

9. After DWRP training/workshop, how many number of research projects you have submitted for approval?

Own Institutional Funding	None, 1, 2, >2
Donor Outside Funding	None, 1, 2, >2

10. After DWRP training/workshop, how many number of research project were approved by your institute/outside donor?

Own Institutional Funding	None, 1, 2, >2
Donor Outside Funding	None, 1, 2, >2

11. Overall, did DWRP training/workshop help in enhancing your confidence for writing a better competitive research proposal?

Strongly Agree _____
 Agree _____
 Not Agree _____

12. In your opinion, what are the major challenges for the agricultural scientists in winning sponsored research projects? (Please write not more than 25 words)

Optional

Your Name : _____
 Affiliation : _____
 Email : _____

Specific Notes

Note for report only

Administered to NAARM faculty members on 8th March 2017. Faculty members provided several suggestions, which were included. Special thanks to Dr KH Rao, Dr Ranjit Kumar, Dr A. Dhandapani and Dr P. Krishnan.

Note for email

Sub: NAARM Survey on DWRP Impact

Since 2004, the ICAR- National Academy of Agricultural Research Management (NAARM), Hyderabad is conducting training/workshop on 'Developing Winning Research Proposals (DWRP) in Agriculture'. These trainings/workshops were conducted either as NAARM programme or sponsored programme under NATP/NAIP/ ICAR-National Fund (NFBSFARA)/SAU. In addition, 3-day module in FOCARS and 2-day module in refresher courses were also included since 2010-11. Till now more than 3000 scientists have undergone through these trainings/workshops on DWRP. You are one such scientist.

Now, ICAR has asked us to do impact analysis of DWRP trainings/workshops. For this purpose, we have developed a very brief questionnaire, it will take about 5 minutes to complete. I request you to kindly cooperate in this initiative by filling the responses on the 'google form' in the provided link below:

I anticipate your response very soon and thank you for giving us your precious time.

Kind Regards
SK Soam
Head, ICM Division
ICAR-NAARM, Hyderabad
(sudhir.soam@icar.gov.in)

Major Challenges in Winning Sponsored Projects: Opinion of Agricultural Scientists

A: Lack of clarity on objectives/targets

- Not able to identify problem related to their area of specialization.
- The major challenges are the conceptualization of ideas, hypothesis, output, outcome, patent and commercialization of technology to meet the requirement of funding agency.
- Other than ICAR, very few organizations recognized our research proposals.
- Lack of clarity on targets
- Conceptualizing the problem. Delineating a clear cut C-C-Q-H (Context-Complications- Questions-Hypothesis) flow of the thinking process.
- Preparation of project proposals, concept note with clear definition of objective, output and outcome.
- Conceptualizing the problem, Precise objectives of the study, Focusing Outcome and Output from the project
- Selection of target areas and selection of funding agencies and identification of research problem at current situation
- Understanding the donor expectations on the proposal, objectives and output and outcome.

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- Identifying the research problem and developing projects around the research problem.
 - The major challenges are the conceptualization of ideas, hypothesis, output, outcome, patent and commercialization of technology to meet the requirement of funding agency.
 - Identifying the research problem and developing projects
 - Clear cut focus on planning, objectives expected output and deliverables
 - The project should be need based covering the aim and objective of the Sponsoring agency. It should be result oriented & achieving goal within time period.
 - The objectives / Outcome need to be very clear/ field oriented and there should be well balanced budgetary provisions
 - I found the training was concise and focused on problem identification, drawing well defined objectives and their relation to the output and outcome. I found, my skill has been enhanced for conceptual designing of fruitful project.
 - Conceptual clarity
 - The prospective winner has to be articulate in respect of formulation of hypothesis and objectives. Should adhere to a set timeline.
 - Lack of proper basic understanding (strategic and applied) of the conceived problem and its method of conduct to achieve the outcome and proper writing skill to impress the funding agency and its ultimate impact to the target group
 - Identification of problem, setting objectives, justification of work, fail to justify the need of the target group to the funding agency, clarity of the proposal.
 - The criteria of submission and areas of research.

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- The relation between outcome, output and objectives of any research problem if clear then winning sponsored research projects will definitely increase.
 - Generating the research idea or identification of problem, connecting ideas or the problem to the expectation of funding agency, identifying potential partners, execution, evaluation of the outcomes
 - Conceptual understanding and technical explanation
 - The major challenges for the agricultural scientists in winning sponsored research projects are identifying the correct field problem and innovative methodology to address that burning issue.
 - Clarity of the proposal on the deliverables of the project proposal, the novelty of the project proposal and the framing of research hypothesis which needs to be tested with project activities
 - Though I am in HRM and not involved in research directly, I feel formulation of research questions, objectives, output and outcome are the major areas that need improvement.
 - Identifying the focal area, innovation in introducing new technology, developing an appropriate writing skill and articulating the outputs and outcomes into potential budgeting

B: Lack of clarity on outputs/outcomes

- My field is sericulture, which falls under agro-industry category. Most of the projects are in sericulture development/social projects, where defining tangible outputs and outcomes, is a challenge, hence difficult to convince donors.

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- Very difficult to explain proposed output and outcome in quantifiable term within three to four years of project duration. Problem in committing generation of technology in animal science research within project duration.
 - Problem identification and justification in scientific manner to propose.
 - Formulating research questions and development of output-outcome orientated technical programme in accordance with specific requirement of donor organization are the major challenges for the scientists like me.
 - We should highlight the existing problem at present and provide the solution for such problem.
 - Most of the agricultural scientists in India have very limited knowledge and experience of getting research projects approved and how to get the desired outcome
 - Assessing real problems of farmers and find out its solutions
 - Articulating in a right way the output and outcomes of the proposed project.
 - Take risk to win good projects.
 - In Sericulture sector many projects are developmental in nature hence, the output and outcomes are often intangible in nature and in such cases it is difficult to convince the donors about the relevance of the proposals.
 - Identifying the focal area, innovation in introducing new technology, developing an appropriate writing skill and articulating the outputs and outcomes into potential budgeting
 - It takes a lot of hard work to prepare a winning research proposal. There is a great challenge to put together the research team, plan the work for the project and to allocate the budget in the different heads and finally achieve the goals of the project.

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- The major challenges are the conceptualization of ideas, hypothesis, output, outcome, patent and commercialization of technology to meet the requirement of funding agency.
 - Preparation of project proposals, concept note with clear definition of objective, output and outcome.
 - Conceptualizing the problem, precise objectives of the study, focusing outcome and output from the project
 - Understanding the donor expectations on the proposal, objectives and output and outcome.
 - The major challenges are the conceptualization of ideas, hypothesis, output, outcome, patent and commercialization of technology to meet the requirement of funding agency.
 - Clear cut focus on planning, objectives expected output and deliverables.
 - Take risk to win good projects. Good projects should be between good team and cooperative collaborators as team work results in good results with better outcome
 - Understanding the donors' perspectives, expectations and requirements and articulating the outcomes with global perspectives
 - The objectives / Outcome need to be very clear/ field oriented and there should be well balanced budgetary provisions
 - I found the training was concise and focused on problem identification, drawing well defined objectives and their relation to the output and outcome. I found, my skill has been enhanced for conceptual designing of fruitful project.
 - Lack of proper basic understanding (strategic and applied) of the conceived problem

and its method of conduct to achieve the outcome and proper writing skill to impress the funding agency and its ultimate impact to the target group

- The relation between outcome, output and objectives of any research problem if clear then winning sponsored research projects will definitely increase.
- Generating the research idea or identification of problem, connecting ideas or the problem to the expectation of funding agency, identifying potential partners, execution, evaluation of the outcomes
- Developing concept, selection of team of workers, exiting infrastructural facilities, research output and outcome, applicability of output.
- The scientist should have closer contact with field and clear understanding of problems existing, passion towards solving the problem identified and then at last the support of the institution where they served
- Though I am in HRM and not involved in research directly, I feel formulation of research questions, objectives, output and outcome are the major areas that need improvement.

C: Infrastructural Constraints

- My research on life sciences I belong to Pharmacology & Toxicology division of Veterinary science, I am mostly doing industrial research projects, I could not get extramural funding because of high-end molecular research needs for which I don't have infrastructure, but same is accepted in other institutions where they have infrastructure.
- The funding agency is not transparent why they have rejected a project proposal for funding. We do not know, whether the comments of the project reviewers are

recorded. If it is then why these are not forwarded to the project leader/submitter.

- Many competitors, funding is not adequate, infrastructural problems, donors not very interested to invest in agricultural science.
- Mechanization and water management are major challenges
- Staff strength and local administrative support
- Developing concept, selection of team of workers, exiting infrastructural facilities, research output and outcome, applicability of output.

D: Not meeting donor's requirements

- To fit into the expectation of the funding agency justifying our expertise.
- Understanding the Donor requirements and technology management will be major challenges
- The project should be need based covering the aim and objective of the sponsoring agency. It should be result oriented & achieving goal within time period.
- The stakeholder/donors views are not known to the submitting scientist
- Many donors are providing funds for research proposal in agricultural and veterinary sector. Researcher should know the way to get it.
- Ignorance about donor requirements, inept screening/review, existing weak laboratory facility
- Understanding the donors' perspectives, expectations and requirements and articulating the outcomes with global perspectives
- Interaction with the donor agencies should be held with the trainees for funding the project and it should be submitted at the spot with help of trainers, bringing all stake

holder (scientist, trainer and donor) at one platform is the biggest challenge in agriculture.

- Not able to write good proposal having clear-cut research questions and in moulding the proposal as per donor requirements
- High competition, less funding available, not meeting donor's requirements lack of contact with funding sources
- To meet the stakeholders, need and technology management
- My field is Sericulture, which falls under agro-industry category. Most of the projects in sericulture are developmental/social projects where defining tangible outputs and outcomes, is a challenge, hence difficult to convince donors.
- Formulating research questions and development of output-outcome orientated technical programme in accordance with specific requirement of donor organisation are the major challenges for the scientists like me.
- In Sericulture sector many projects are developmental in nature hence, the output and outcomes are often intangible in nature and in such cases it is difficult to convince the donors about the relevance of the proposals.
- Many competitors, funding is not adequate, infrastructural problems, donors not very interested to invest in agricultural science.
- The concept itself, as most of the time it will be a repetition of earlier projects.
- The criteria of submission and areas of research.
- The stakeholder/donors views are not known to the submitting scientist
- The convincing ability of the researcher through his project proposal.

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- The major challenges are the conceptualization of ideas, hypothesis, output, outcome, patent and commercialization of technology to meet the requirement of funding agency [coherence between research objectives and donor's requirements].

E: Weakness related to team building, networks and collaborations

- Not enough networking and not knowing ways to follow-up if caught in institutional politics
- Good projects should be between good team and cooperative collaborators as team work results in good results with better outcome.
- Finding the rationale and the collaborative type of project
- It is easier for those who already have funded projects to get new ones rather than first time applicants.
- Coordination and cooperation among institute should be stronger
- Less man-hours spent for preparation
- Diversion in working environment
- Lobbying
- Diversified research activity
- Lack of specialization in subject due to many reasons
- Lack of encouragement from experts
- Unnecessary administrative and official red-tape
- Frequent transfers

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- Lack of internal support in terms of finance and guidance is major and only constraint
 - Reviewer of the project are not selected on the basis of expertise in the relevant field.
 - Take risk to win good projects. Good projects should be between good team and cooperative collaborators as team work results in good results with better outcome
 - Experts/ Coordinators have preferences for awarding the proposals for a particular Scientist/ Institute ignoring the quality of proposal
 - Prevailing criteria of most funding agency about Investigator's experience in terms of years and possessing doctorate cannot be met up by start-up scientists by SAUs
 - Team building is most difficult task due to more individual centric approach forced by score card in present form.
 - Major challenges to build a professional research support to the institute with revenue generating support, helping in submitting a correct and manageable project together and avoid problems with financial reporting and audit.
 - A small request to encourage participation from NGO & Agriprenuers who can seek alternative sources for funding. Also post training 2 - 3 days' refreshers training's for trained candidates or any cell / hand hold support as and when required from ICM Division, NAARM will be really helpful.
 - Selection of team of workers
 - Staff strength and local administrative support
 - Developing a proposal with the priority areas of Sponsoring institute
 - Diversified Problems, thus need collaborative research proposals
 - Focus on the specific problem/crop may not of interest to all the people

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- Convincing the sponsors of the projects prepared
 - Good projects should be between good team and cooperative collaborators as team work results in good results with better outcome.
 - Donors not very interested to invest in agricultural science.

F: Other factors

- Presenting the proposal in more accurate and attractive way
- The convincing ability of the researcher through his project proposal.
- The concept itself, as most of the time it will be a repetition of earlier projects
- The funding agency should be fair and transparent in selection processes
- Focused research program
- The scientist working in regional centers of ICAR institutes or SAUs which are still under establishment should be given highest emphasis for giving funds. There should be balance among various disciplines such as breeding, biotechnology, natural resources, protection, extension etc. while allocation of projects based on location specific approaches.
- Understanding future needs of agriculture and food
- Scientists in SAUs are engaged in multifarious duties (teaching, extension, farm/lab in-charge etc.) apart of research work. Accordingly, the percentage of time devoted in research work is less.
- Mixing of discipline is one of the hurdle example fisheries and agriculture research and problem so its better if discipline wise workshops and with and case study is

required. Apart of this detailed discussion on already accepted projects and funding agencies will give real picture and more confidence to the audience

- Evaluation of project proposal from other discipline scientists/researchers who cannot appreciate the thinking/vision of scientist. Also, project evaluators are generally very old people who do not appreciate the new ideas. Therefore, project evaluation should be by researchers from same discipline and team should have mixture of old and young blood.
- At first, the scientists should made aware of various national and international schemes from time to time. Secondly, development of projects in linkages with other research institutes, non-governmental organizations, private organizations etc. will help to derive achievable deliverable's. Thirdly, Scientists could undergo training or seek the advice of experts for developing a winning research proposal.
- Enhance communication skill and presenting the problem are the major challenges from scientist's side.
- Project evaluators should be provided training for unbiased evaluation
- Finding a good donor agency is a big challenge for agricultural scientists
- Low scalability and low return to research investment especially problem with socio-economic interest.
- Not related with the components of research projects but beyond that (non-mentionable)
- In spite of having submitted couple of projects I was not able to get one. What is the logic behind getting project appears to be difficult to understand,
- Providing solution for need of the farmers and finding out scientific facts are two

diverge aspects. Project proposal of scientists trying to address both the aspects but not doing justice to any one of them.

- Now a days funding opportunities decreased. All are facing this problem but especially so for disciplines like entomology wherein funding has become impossible without the inclusion of biotechnology component
- There should be an effort for guiding the new scientists regarding formulation of new research proposals and funding sources at institute levels also
- Technology invention using strategic research
- Sustainability of the projects and developing sustainable and models suitable for particular location
- There is stiff competition as number of good projects submitted are many. In some areas of agriculture, it is difficult to win a project.
- Working in the production units, there is no opportunity for involving in research.
- Mostly scientist is working in basic science and funds are available for emerging technologies
- As agriculture scientist to get something new (for e.g. varieties) from a research project (3yr. duration) which farmers use directly, is difficult and also it is difficult to get two projects in a row from same funding agency.
- Getting funding agencies is very difficult. Please help me in this line
- It helped me in understating the terminology are to be used appropriately. The overall presentation of research problem has become clear. Institutional hurdles for homework for project proposal preparation, wrong posting in units unrelated to specialization, bureaucratic hurdles, non-acquaintance to financial nitty-gritties, too

much engagement in non-research activities. Selecting the farmer's needs is critical.

- Calls for funding's are very few
- There should have some linkages with funding agency
- Even if we submit a sound proposal I don't know on what grounds they do not approve it.
- Projects are sanctioned only at esteemed institutes, there are talents at places which are not in metros, so quality based approval should be given rather than previous bureaucracy of the place or institute. Need information regarding list of funding agencies in wildlife related research work. In my opinion, the researchers do not understand the requirement of the farming community. Accordingly, their research is not linked with the state and national priorities as well priorities of funding agencies.
- Much focus towards addressing the need of end users in the era of climate change as a team of multi-disciplinary researchers; needs quick approval system;
- The agricultural scientists challenges are they should be given exposure in other high class Research Institutes/SAU,s in India and other foreign Countries for better understanding and exchange of ideas among scientists.
- Since last one decade I am involved in writing the developmental projects for sericulture industry for funding from the GOI Central Sector schemes and foreign funding agencies. Understanding the field problems- critical gaps in technology and related infrastructure in the field for various activities of silk value chain (Diagnostics) and addressing them through TOT, community development and intensive monitoring mechanism is one of the major challenge for achieving the desired outputs (cost: benefits, IRR, NPVs), and outcome and their measurements. I would suggest to conduct a few programmes for writing the winning developmental

projects in forthcoming training programmes. The quality of the project proposals submitted by State Agencies for funding from MGNREGS, RKVY, NRLMs, etc is presently very poor and need of the hour. best wishes.

- Proposals are many but not need based, and also not scrutinized properly at SAU levels and get rejected. The scientist should have closer contact with field and clear understanding of problems existing, passion towards solving the problem identified and then at last the support of the institution where they served
- The scientist working in regional centers of ICAR institutes or SAUs which are still under establishment should be given highest emphasis for giving funds. There should be balance among various disciplines such as breeding, biotechnology, natural resources, protection, extension etc. while allocation of projects based on location specific approaches.
- Reviewer of the project are not selected on the basis of expertise in the relevant field.
- Budget calculation for non-recurring head, budget for manpower, cost of the project depend on this two component and output is dependent on these two factors. Due to high cost of these two sometime project are not considered.

The Detailed List of DWRP Training Programmes & Trainees (2004-2017) and Short Modules (2010- 2016)

A. Information about Complete Training Programme/ Workshop

For (Programme Title, Dates and Name and Addresses of Trainees from Programme No. 01 to 36), **please see 102 pages document** [Annexure-VII: The Detailed List of DWRP Training Programmes & Trainees (2004-2017), and Short Modules (2010-2016)]; available at <http://eprints.naarm.org.in/id/eprint/249>

B. Information about modules

Developing Winning Research Proposals (DWRP) Three-day Module in Foundation Course for Agricultural Research Service (FOCARS)

2010-2017

FOCARS	Year	Duration		Total
		From	To	
90 th	2010	20 th April, 2010	17 th August, 2010	44
91 st	2010	11 th May, 2010	7 th September, 2010	38
92 nd	2010	1 st September, 2010	29 th December, 2010	76
93 rd	2011	27 th April, 2011	24 th August, 2011	100
94 th	2011	15 th September, 2011	13 th December, 2011	136
95 th	2012	23 rd January, 2012	21 st April, 2012	20
96 th	2012	2 nd July, 2012	29 th September, 2012	33
97 th	2013	1 st January, 2013	1 st April, 2013	124
98 th	2013	1 st July, 2013	30 th September, 2013	23

FOCARS	Year	Duration		Total
		From	To	
99 th	2014	1 st January, 2014	31 st March, 2014	205
100 th	2014	1 st July, 2014	30 th September, 2014	71
101 st	2015	1 st January, 2015	31 st March, 2015	239
102 nd	2015	1 st July, 2015	30 th September, 2015	112
103 rd	2016	1 st January, 2016	31 st March, 2016	206
104 th	2016	5 th July, 2016	4 th October, 2016	67
105 th	2017	5 th January, 2017	4 th April, 2017	25
106 th	2017	05 th July, 2017	04 th October, 2017	61
		Grand Total		1577

Developing Winning Research Proposals (DWRP) Foundation Course for Faculty of Agricultural Universities (FOCFAU)

#	Year	Dates	Total
1	2014	November 25 th – December 24 th , 2014	53
2	2015	May 1 st – May 30 th , 2015	63
3	2016	May 2 nd – May 31 st , 2016	57
Grand Total			173

Developing Winning Research Proposals (DWRP) Two-day Module in Refresher Course on Agricultural Research Management (2011-2016)

#	Year	Dates	Total
1	2011	November 3 – 23, 2011	28
2	2012	January 19 – 8 th February, 2012	28
3	2012	June 5 – 18, 2012	33
4	2013	January 7 – 19, 2013	31
5	2013	July 15- 27, 2013	45
6	2014	February 3 – 15, 2014	35
7	2014	July 14 – 26, 2014	40
8	2014	November 10 – 22, 2014	10
9	2015	July 13 – 25, 2015	23
10	2016	February 23 – March 5, 2016	23
11	2016	November 15 – 26, 2016	13
Grand Total			309

Developing Winning Research Proposals (DWRP) Modules at other organizations

#	Location	Year	Dates	Total
1	Amity University-NOIDA	2014	17-18 January 2014	50
2	Amity University Gurgaon	2014	4-5 March 2014	50
3	VNMKV, Parbhani	2017	7 th Sepetember 2017	45
4	NBFGR, Lucknow	2017	6 th November 2017	30
5	NIABM, Baramati	2017	7 th December 2017	25
Grand Total				200