8

Consultancy and Advisory Services

Advisory services for researchers in NARS and other organizations were pursued rigorously and various training programmes were conducted as consultancy (details given in Chapter 5).

International Consultancy

Study on improving methods for estimating crop area, yield and production under mixed, repeated and continuous cropping

This consultancy was awarded to IASRI by Food and Agriculture Organization (FAO) of United Nations under the "Global Strategy to Improve Agricultural and Rural Statistics" of FAO. The study involves development of an appropriate methodology for estimation of area, production and productivity under mixed, repeated and continuous cropping and subsequent field testing in three countries one each in Asia-Pacific, Latin America/Caribbean and Africa region. The countries identified by the FAO, Rome for field testing of developed methodology are Indonesia, Jamaica and Rwanda in the Asia-Pacific, Caribbean and Africa regions respectively. The first Technical Report of the project entitled "Synthesis of Literature and Framework" was prepared and submitted to the FAO. The comments on the report was received from FAO. The comments were incorporated and the revised first Technical Report was submitted to the funding agency. Gap analysis for crop area and yield estimation in general and crop area and yield estimation under mixed and continuous cropping in particular has been carried out. The methodology for estimating crop area, yield and production under mixed, repeated and continuous cropping has been developed. The schedules for primary data collection as per the developed methodologies were designed. The second Technical Report of the project entitled

"Gap analysis and proposed methodologies for estimation of crop area and crop yield under mixed and continuous cropping" was prepared and submitted to the FAO. Country schedule for obtaining information about the Agricultural Statistics System of the field testing countries and Work Plan for the field testing countries have been prepared and sent to Indonesia and Rwanda.

Advisory Services

Following advisory services were provided to the scientists/students of National Agricultural Research System and other organizations:

- Sh. Cousin Musvosvi, Ph.D. Student, Department of Genetics & Plant Breeding, University of Agricultural Sciences, Dharwad on the analysis of alpha lattice designs to evaluate 72 maize hybrids in one experiment, and 28 maize hybrids in another experiment. The advice was given regarding the SAS Code to be used for the analysis and how to use Indian NARS Statistical computing Portal.

- Shri R Balaji Naik, Ph.D. (Agronomy), S.V. Agricultural College, Tirupati, ANGRAU, Hyderabad on the analysis of data generated using a Strip -Split Plot Design. and Dr. CM Parihar, Scientist (Agronomy), DMR, New Delhi on how to compute percentage increase or decrease in yield over the years using data from an experiment conducted using a split plot design with three main plot treatments (Zero tillage, Permanent Bed and Conventional tillage) and four sub treatments (Maize-wheat-mungbean, Maize-chickpea-sesbania, Maize-mustard-mungbean and Maize-maize-sesbania) cropping systems and three replications.

- Dr. Sujit Sarkar, Scientist, Division of Agricultural Extension, IARI, New Delhi on the use of logistic regression analysis to study the adaptive behavior of farmers in the state of Himachal Pradesh and Rajasthan respectively by taking into account different structural, socio-cultural, psychological and personality variables. A stepwise logistic regression analysis has been performed to identify the most significant variables affecting the adaptive behavior of farmer. A high percentage of correct classification have been observed in both the states respectively.

- Ms. Mayanka, a Research Scholar from Lady Irwin College, Delhi University on the use of Kendall's tau correlation coefficient for measuring the relationship between several socio-economic variables like sex, family type, education, age, marital status, employment, income length of stay in the village.

- Developed maps for the total population of cattle, buffaloes, yak, mithuns, bovines, sheep, goats, horses & ponies, mules, donkeys, camel, pigs etc for Department of Animal Husbandry, Govt. of India.

- Ms. Meenu Gupta, student M.Sc. (Floriculture) on the use of Repeated Measurement ANOVA for data on different bio-chemical parameters observed over a period of time.

- Dr. TV Prasad, Senior Scientist, NBPGR on the use of Probit analysis to obtain LD50 and LD99 value of electron beam on pulse beetle. The probit analysis was performed separately for five different insect stages of pulse beetle viz. egg stage, early larva stage, middle larva stage, late larva stage and pupa stage. The experiment consists of seven different doses of electron beam.

- Dr. KH Singh, Principal Scientist, Directorate of rapeseed and Mustard Research, Bharatpur on analysis of data generated through an alpha design with v=28, b=12, r=3, k=7 at four locations.

- Dr. NK Lenka, Principal Scientist, IISS Bhopal on the analysis of data generated from an experiment conducted to study the runoff values from 5 different crop cover treatments in two replications.

- Dr. Vikender Kaur, Scientist, NBPGR, New Delhi on the procedure of analysis of factorial CRD using SAS.

- Dr. Sujay Rakshit and Dr. Harvinder Talwar from Directorate of Sorghum Research, Hyderabad on the analysis of data pertaining to an experiment conducted using an alpha design in three replications in blocks of size 8 to study the performance of 48 genotypes in two artificially created environments (stress: rainfed and no stress) across two locations for two years (2010 and 2011). They were also advised on the SAS code to be used.

- Mr. Sandip Mandal, Scientist, Agricultural Engineering Division, ICAR Research Complex for NEH Region on the use of contrast analysis for studying the impact of 24 treatment combinations (12 doses of bio-char + 2 doses of fertilizer) along with two control on soil biomass, pH, CEC etc.

- Miss Fatima Siddiqui, a Ph.D. student of Department of Statistics and Operations Research, Aligarh Muslim University (AMU), Aligarh in the area of Remote Sensing and Statistics.

- Dr. Neeta Singh, NBPGR, IARI, New Delhi in asymmetrical factorial experiments of responses on germination percentage of various crops like till, mustard, wheat etc. in 14 period, 3 moisture level and 3 temperture condition.

- Dr. Jitendra Kumar, Director, Directorate of Medicial and Aromatic Plants, Anand on fitting of Ritger and Peppas' equation for determination of diffusion components of 11 different formulations of each of carbofuran and imazethapyr for their release in soil and water.

- Dr. KP Singh, Senior Scientist, Agricultural Mechanization Division, CIAE, Bhopal was advised on the analysis of data generated using a Split Plot Design on Maize-Soybean sequence.

- Scientist at DWR Karnal on the layout of alpha design for an experiment to be conducted to test and compare the 250 genotypes of wheat. Two different layouts: (i) v=250, b=30, r=3, k=25 and (ii) v=250, b=75, r=3 and k=10 were suggested.

- Dr. Neeta Singh and Dr. Kalyani of NBPGR, IARI, in factorial CRD of two factor at level 11 and 8 for response variable MTS and LEH percentage.

- Mr. Debasish Chakraborty, Scientist, Division of Agricultural Engineering, ICAR research complex for NEH region, Umiam, Meghalaya on the use of split plot design with Agro advisory

and without Agro advisory as the two main plot treatments and farmer's practice along with modern agronomic practice as the two sub plot treatments.

- Dr. MH Wani, Professor, Rajiv Gandhi Chair, SKUAST-K, Srinagar in cointegration analysis and causality testing for the data of Apple price in different markets of India.

- Ms. Prativa Sahu, Scientist, NRC on Pomegranate, Solapur. The pollen germination data on male and bisexual flowers, collected from two different position of plant (Nodal and Axile) and kept under 4 different durations in cryopreservation for 5 different cultivars as well as 5 wild germplasms were analysed as Factorial CRD. To get the optimal combinations of flower type, flower position and cryopreservation temperature, the data were analysed using Response surface methodology.

- Dr. NB Singh, Scientist, NRC on Pomegranate, Solapur on different growth traits to study the performance of pomegranate hardwood cuttings after 90 and 180 days of four different AMF (arbuscular-mycorrhizal fungi) inoculation were analyzed using ANOVA, correlation and regression methodologies.

- Dr. (Ms) Aarti Bairwa, Scientist, Central Potato Research Station, Muthorai, Udagamandalam (Tamil Nadu) to study the population dynamics of nematode in different crops and for different seasons. This experiment has been conducted for eight different crops such as potato, carrot, radish, beat root, cauliflower, cabbage garlic and French bean.

- Ms. Shilpa HB, Scientist NRC on Pomegranate, on Genotype-Phenotype association.

- Mr. Roshan Kumar, Technical Assistant, Central University of Punjab, Bhatinda who is currently doing his Ph.D. with Dr. Elumalai at Presidency College, Madras on the use of clustered analysis for grouping different microbial strian based on various physiochemical characters.

- Department of Animal Husbandry, Govt. of India regarding development of maps for the total population of cattle, buffaloes, yak, mithuns, bovines, sheep, goats, horses & ponies, mules, donkeys, camel, pigs etc.

- Ms. Savita, Ph.D. Scholar, Soil Science Department, GB Pant University of Agriculture and Tech., Pantnagar - 263145, Uttarakhand, India.

- Mrs. Geeta Kalucha, Sr. Asst. Professor, Department of Mathematics, University of Delhi on SAS programming in a sample survey related problem.

- Ms. Sukanya Barua, Ph.D. scholar of the Division of Agricultural Extension, IARI on regression analysis using indicator variables to determine the factors influencing the knowledge level of the respondents about scientific practices of vegetable cultivation.

- Dr. Anita Malhotra, Associate Professor, Lakshmibai College, University of Delhi, Delhi on suitable statistical techniques for analysis of data.

Launch Workshop of Research Projects

- Pilot Study for Developing State Level Estimates of Crop Area and Production on the basis of Sample Sizes Recommended by Professor Vaidyanathan Committee Report

- Research on Improving Methods for Estimating Crop Area, Yield and Production under Mixed, Repeated and Continuous Cropping

- Study to Test the Developed Alternative Methodology for Estimation of Area and Production of Horticultural Crops: IASRI Component of CHAMAN Programme under MIDH

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