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## List of Publications

### Research Papers

1. Ahmad, T and Kathuria, OP (2010). Estimation of crop yield at block level. *Adv. Appl. Res.*, **2(2)**, 164-172.
2. Ahmad, T, Rai, A and Singh, R (2010). Statistical evaluation of development of village's potential for agro forestry using GIS. *Adv. Appl. Res.*, **2(2)**, 157-163.
3. Alam, W and Chaturvedi, A (2010). Discriminating among overlapping parametric models and estimating survivorship function of insects mortality. *Int. J. Comp. Sci. Math.*, **2(1)**, 1-10.
4. Bhardwaj, SP (2010). Impact of global meltdown on agriculture – An exploratory study. *Ind. J. Agric. Eco.*, **65(3)**, 497-507.
5. Chandra, Hukum (2010). Small area estimation with binary variables. *J. Ind. Soc. Agril. Statist.*, **64(3)**, 367-374.
6. Gandhi, RS, Kumar, Amit, Singh, Avtar and Paul, AK (2009). Genetic analysis of stayability in dairy cattle: A review. *Ind. J. Dairy Sci.*, **62**, 79-89.
7. Gangopadhyay, KK, Mahajan, RK, Parsad, Rajender, Kumar, Gunjeet, Meena, BL, Kar, Ranjan, Gambhir, Rajeev, Mishra, SK (2010). Relative efficiency of experimental designs in evaluation of plant genetic resources. *Ind. J. Plant Gene. Reso.*, **23(2)**, 164-167.
8. Ghosh, H, Paul, RK, and Prajneshu (2010). GARCH and EGARCH nonlinear time-series models for volatile data: An application. *J. Statist. Appl.*, **5**, 177-193.
9. Gupta, VK, Singh, Poonam, Kole, Basudev and Parsad, Rajender (2009). Construction of optimal mixed-level supersaturated designs *J. Ind. Soc. Agril. Statist.*, **63(3)**, 311-319.
10. Gupta, VK, Singh, Poonam, Kole, Basudev and Parsad, Rajender (2010). Addition of runs to a two-level supersaturated design. *J. Statist. Plann. Inf.*, **140(9)**, 2531-2535.
11. Gupta, VK, Singh, Poonam, Kole, Basudev and Parsad, Rajender (2010). Construction of efficient balanced and nearly balanced two-level supersaturated designs. *J. Statist. Appl.*, **5(2)**, 179-194.
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13. Iquebal, MA, Ghosh, H and Prajneshu (2010). Application of genetic algorithm for fitting self-exciting threshold autoregressive nonlinear time-series model. *J. Ind. Soc. Agril. Statist.*, **64(3)**, 391-398.
14. Jaggi, Seema, Sarika and Sharma, VK (2010). Response surface analysis incorporating neighbour effects from adjacent units. *Ind. J. Agril. Sci.*, **80(8)**, 719-723.
15. Jaggi, Seema, Gill, AS, Varghese, Cini, Sharma,

- VK and Singh, NP (2011). Statistical evaluation of fodder trees under an agroforestry system. *The Ind. Forester*, **137(1)**, 113-120.
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17. Kaul, Sushila and Ram, Ghasi (2009). Impact of global warming on production of Jowar in India. *Agril. Situation Ind.*, **66(5)**, 253-256.
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21. Madke, PK, Lathwal, SS, Singh, Yajuvendra, Kumar, Anil and Kaushik, Vinay (2010). Study of behavioural and physiological changes of crossbred cows under different shelter management practices. *Ind. J. Anim. Sci.*, **80(8)**, 771-774.
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23. Mandal, BN, Gupta, VK and Parsad, Rajender (2010). Inclusion probability inversely proportional to size sampling. *J. Statist. Appl.*, **5(1)**, 15-26.
24. Mandal, BN, Gupta, VK and Parsad, Rajender (2011). Construction of polygonal designs using linear integer programming. *Comm. Statist.-Theory Methods*, **40**, 1787-1794.
25. Mathur, DC and Sethi, SC (2010). Estimation of productivity of coconut crop for different holding categories at blocks / districts level in Kerala state. *Hry. Eco. J.*, **27(1-2)**, 101-102.
26. Meher, PK, Rao, AR, Wahi, SD and Jaggi, N (2010). Detection of multivariate outliers in breeding data. *Intt. J. Statist Sys.*, **5(4)**, 527-535.
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41. Singh, Surendra, Vasisht, AK, Paul, AK, Sharma, SC and Bhar, LM (2010). The effect of farms on growth pattern of crossbred cattle. *Ind. J. Anim. Sci.*, **80(4)**, 373-375.
42. Srinath, K, Nair, RV, Unnithan, GR, Gopal, N. Bathla, HVL and Ahmad, T (2008). Post harvest losses in marine fisheries. *Fish. Technol.*, **45(1)**, 109-112.
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## Popular Articles

सांख्यिकी-विमर्श 2010-11, अंक-6 में प्रकाशित लेख

- कृष्ण कान्त त्यागी, अशोक कुमार एवं विजय बिन्दल । संस्थान के कीर्तिस्तम्भ : प्रोफ़ेसर मनीन्द्र नाथ दास, 1-2
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## Book Chapters

1. Bhardwaj, SP (2010). Managing supply chain in agriculture sector, e-published in the proceeding of Second Annual Conference of the Indian Society of Agri-Business management held at IIM, Lucknow, 1-19.
2. Bhatnagar, Vasudha and Ahuja, Sangeeta (2010). Robust clustering using discriminant analysis. *Advances in Data Mining: Applications and Theoretical Aspects, Lecture Notes in Computer Science. Springer-Verlag Berlin, Heidelberg*, **6171**, 143-157.

### Project Reports

1. Alam, W, Rao, AR, Singh, P, Wahi, SD and Prabhakaran, VT (2010). Some investigations on robust clustering procedures, IASRI, New Delhi.
2. Bhatia, VK, Vasisht, AK, Singh, DR, Bhardwaj, SP, Kumar, Ashok, Arya, Prawin, Sivaramane N and Kaul, Sushila (2010). An Analysis of Market integration of major agricultural commodities in India. A report of Sub-programme III: Policy Analysis and Market Intelligence of Visioning, Policy Analysis and Gender (V-PAGE) project under NAIP, IASRI, New Delhi.
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5. Lahiri, Alope, Gupta, VK, Rao, A Subba, Muralidharan, Y, Parsad, Rajender and Rathore, Abhishek (2010). Planning, designing and analysis of experiments relating to AICRP on STCR. IASRI/PR-08/2010, IASRI, New Delhi.
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9. Dahiya, Shashi, Goyal, RC, Chaturvedi, KK, Bharadwaj, Anshu, Jaggi, Seema, Varghese, Cini (2010). An eLearning system for agricultural education. Technical Project Report. IASRI/PR-12/2010, IASRI, New Delhi.
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13. Singh, DR, Arya, Prawin, Kumar, Ashok and Sivaramane, N (2010). An econometric analysis of groundwater markets in Indo-Gangetic plains of India. IASRI/PR-16/2010, IASRI, New Delhi.
14. Kumar, Anil, Kaur, Rajinder and Sharma, VK (2010). A Statistical investigation on production, economic and potential of crop sequences in different agro ecosystems. IASRI/PR-17/2010, IASRI, New Delhi.
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1. Sharma, NK, Batra, PK, Gangwar, B, Parsad, Rajender (2010). Fertilizer response ratios for different crops. IASRI/TB-01/2010. Joint publication of IASRI, New Delhi and PDFSR, Modipuram.

### Reference Manuals

1. Early Warning System for Food Security. IASRI, New Delhi. (2010, Eds. Ranjana Agrawal).
2. Goyal, RC, Malhotra, PK, Sudeep, Arora, Alka and Singh, Pal (2010). Data management in PIMS-ICAR. IASRI, New Delhi.
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4. Development of Expert Systems in Agriculture: IASRI, New Delhi (2010, Eds. Sudeep, RC Goyal, Alka Arora, Pal Singh, HO Agarwal and Pratap Singh).



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7. Data Analysis Using SAS, E-manual also prepared and available at [http://web.iasri.res.in/nars/sas\\_manual/CONTENTS.html](http://web.iasri.res.in/nars/sas_manual/CONTENTS.html). (2011, Eds. Rajender Parsad).
8. Data Analysis of Agroforestry Experiments Using

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#### Macros Developed

1. Parsad, Rajender, Dhandapani, A and Khandelwal, Manoj Kumar (2011). SAS Macro for Analysis of Data from Augmented Block Designs. [http://web.iasri.res.in/nars/Augmented\\_Macro/micro\\_sas.htm](http://web.iasri.res.in/nars/Augmented_Macro/micro_sas.htm).

#### Other Periodical Publications

- Annual Report of the Institute, 2009-10
- IASRI News (published quarterly)



## Strengthening Statistical Computing for National Agricultural Research System

New Delhi, 8 June 2010. Dr S. Ayyappan, Secretary (DARE) and Director-General (ICAR), inaugurated the Launch Workshop on 'Strengthening Statistical Computing for National Agricultural Research System' under NAIP Consortium. This project is a realization of the visualization of research managers, research facilitators, researchers and trainers to create a sound and healthy statistical computing environment for the benefit of scientists of National Agricultural Research System (NARS). The goal of the project is to provide research guidance in statistical computing and computational statistics so as to provide enabling statistical computing facilities to the researchers of NARS. The efforts would not merely be focused on an interface of statistics, computer science and numerical analysis, but it would also involve designing of intelligent algorithms for implementing statistical techniques particularly for analyzing massive data sets, simulation, bootstrap, etc.



The availability of healthy statistical computing environment would enable the researchers in National Agricultural Research System to undertake probing, in-depth, appropriate, intractable analysis of data generated from agricultural research including those in advanced research areas like biotechnology, genomics, micro-arrays, forecasting, agricultural field experiments, surveys, microarrays, massive data sets such as climate change, biodiversity, market intelligence, etc. It would also facilitate data sharing over web and creation of analytics over the web useful for All India Coordinated Research Projects and other Network Projects of National Agricultural Research System.

Dr Ayyappan, emphasized the need to sensitize the researcher managers about the capabilities of this project in making the agricultural research globally competitive, visible and acceptable. To this end Indian Agricultural Statistical Research Institute has

to play a proactive role by describing success stories, capabilities and features of the statistical computing environment through presentations in Director's Conferences, State Agricultural Universities Vice-Chancellor's Conferences, Dean's meetings and other important fora. The launch of this timely initiative to reinvigorate the agricultural research system with advanced computing facilities and development of computing skills would provide enhanced visibility to Indian Agricultural Statistical Research Institute and agricultural statistics discipline in National Agricultural Research System. This project has brought all 151 NARS organizations in a closed network. The training component of the project is also very exhaustive and targets at training 1,500 agricultural research scientists in the country in the usage of high-end statistical package. These would then become trainers and in turn train other agricultural research scientists. Such an effort would have a multiplier effect.

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skills and technologies developed by institutions Council of Agricultural Research and the State entities over the years have significantly enhanced productivity, quality and production. However, violation of agricultural research coupled with alienation of proprietary rights over innovations in hindering not only the nature of agricultural research but also the creation of new knowledge with both social and economic perspectives. It is not just the new invention or a discovery, but the recognition of the potential of agricultural research for developing new products, services or systems to bring about significant changes in the society. An effective innovation system would essentially require a multi-tier institutional mechanism; wherein the farmer organisations, so that all the stakeholders come partners in the production, diffusion and use of agriculturally useful knowledge; and that alone would be the innovation process.

issues relating to IP management, the ICAR formulated the policy on "Intellectual Property Management and Commercialization" that provide the required framework to develop research partnerships. The ICAR has created three-tier institutional mechanism; wherein the Intellectual Property Management Unit (IPMU) and a Committee on Intellectual Property Management in each institute that are empowered to



## From the DG's Desk

million. A high-end statistical package SAS would enable the researchers in NARS to undertake probing, in-depth, appropriate, intractable analysis of data generated in advanced research areas, and it would also facilitate data sharing over web and creation of analytics over the web useful for All India Coordinated Research Projects and other Network Projects of NARS.

Dear Readers,

Information Communication Technology (ICT) has facilitated the much needed community empowerment and development by meeting their information needs. ICT is also an important enabler of research activities to accomplish tasks faster, more efficiently and effectively. It holds as much potential for development of agriculture sector as for any other sector in India.

ICAR has initiated various ICT programmes for agriculture sector in the country. Major ICT initiatives are e-connectivity of 200 Krishi Vigyan Kendras spread across the country, Video-Conferencing and IP Telephony for agricultural scientists, Agricultural Research Portal, Centralized and Secure Data Centre, National Agricultural Bioinformatics Grid, Digital Repositories of Research Information, e-Learning courseware for UG/ PG programs in Agriculture, E-Publishing and Open Access of research journals, MIS for e-Governance.



The Consortium for e-Resources in Agriculture (CeRA) established at Indian Agricultural provides access to a collection of about 2,000 international journals in more than 120 libraries in National Agricultural Research System (NARS). Till October 2010, the number of visitors to CeRA website is more than 2 million and the total download of full text articles is more than 1.5 million. A high-end statistical package SAS would enable the researchers in NARS to undertake probing, in-depth, appropriate, intractable analysis of data generated in advanced research areas, and it would also facilitate data sharing over web and creation of analytics over the web useful for All India Coordinated Research Projects and other Network Projects of NARS.

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