



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

**Vol. 70  
No. 3**

**CONFERENCE  
NUMBER**

**JULY-  
SEPTEMBER  
2015**

**ISSN            0019-5014**

**INDIAN  
JOURNAL  
OF  
AGRICULTURAL  
ECONOMICS**

**INDIAN SOCIETY OF  
AGRICULTURAL ECONOMICS,  
MUMBAI**

## **THE INDIAN SOCIETY OF AGRICULTURAL ECONOMICS, MUMBAI**

### **Aims and Objects:**

To promote the study of social and economic problems of agriculture and rural areas and also to promote technical competence for teaching and research in Agricultural Economics and allied subjects through:

- (a) research in problems of agricultural economics and rural development;
- (b) periodical Conferences and Seminars;
- (c) publication of books, reports, papers or summaries of papers either separately or collectively, or in a periodical which may be issued under the auspices of the Society;
- (d) co-operation with other institutions having similar objects, such as the International Association of Agricultural Economists and the Indian Economic Association, etc.

### **OFFICE-BEARERS FOR THE YEAR 2015**

#### *President:*

Dr. C. Ramasamy

#### *Vice-Presidents:*

Dr. Sangeeta Verma

Dr. G.P. Reddy

Dr. S.T.Sangle

Dr. P.S. Birthal

Dr. R.K. Panda

#### *Hon. Secretary and Treasurer*

Dr. C.L. Dadhich

#### *Hon. Joint Secretary:*

Mrs. Vijaya Venkatesh

#### *President-Elect for the 75th Annual Conference:*

Dr. R.S. Deshpande

#### *Executive Committee Members:*

Dr. R.K. Singh

Dr. Sukhpal Singh

Dr. Subhasis Mandal

Dr. Murtuza Khan

Dr. Shivaji Sahebrao Ambhore

Dr. D.V. Subba Rao

Dr. D. Suresh Kumar

Dr. Kartik Prasad Jena

Dr. O.P. Singh

Dr. S.A. Wani

Dr. A. Amarender Reddy

Dr. S.P. Gupta

Dr. Sarba Narayan Mishra

Dr. Babu Singh

Dr. R. Ramakrishna

**INDIAN JOURNAL  
OF AGRICULTURAL  
ECONOMICS**



(Organ of the Indian Society of Agricultural Economics)

<b>Vol. 70</b>	<b>JULY-SEPTEMBER 2015</b>	<b>No. 3</b>
----------------	----------------------------	--------------

CONFERENCE NUMBER

- \* \* \* -

PAPERS READ

AT THE

SEVENTY FIFTH ANNUAL CONFERENCE

OF THE

INDIAN SOCIETY OF AGRICULTURAL ECONOMICS

Department of Economics and Sociology  
Punjab Agricultural University,  
Ludhiana-141 004 (Punjab)

November 19-21, 2015

**SUBJECTS**

- (1) Disadvantaged Regions and People: Is There a Way Forward?
- (2) Role of Technology, Institutions and Irrigation in Agricultural Development.
- (3) Economic Contribution of Women in Agriculture.

**INDIAN SOCIETY OF AGRICULTURAL ECONOMICS**  
**MEMBERS OF THE RESEARCH PROGRAMMES COMMITTEE, 2015**

Dr. C. Ramasamy (*Ex-officio as President of the Society*)  
Dr. R.S. Deshpande (*Ex-officio as President-Elect for the 75th Annual Conference*)  
Dr. Vasant P. Gandhi (*Ex-officio as Chairman of the Editorial Board*)  
Dr. C.L. Dadhich (*Ex-officio as Honorary Secretary and Treasurer of the Society*)  
Mrs. Vijaya Venkatesh (*Ex-officio as Honorary Joint Secretary of the Society*)  
Dr. H.P. Singh  
Dr. Ranjit Kumar  
Dr. C. Hazarika  
Dr. H.S. Shylendra  
Dr (Ms.) T. Prabha

**EDITORIAL BOARD**

Dr. Vasant P. Gandhi	.. <i>Chairman</i>
Dr. M.H. Suryanarayana	.. <i>Editor</i>
Dr. K. Palanisami	.. <i>Members</i>
Dr. H.R. Sharma	
Dr. Sukhpal Singh	
Dr. Will Martin, U.S.A.	
Prof. Dr. Johan Swinnen, Belgium	
Dr. A. Ganesh Kumar	
Dr. V.B. Bhise	
Dr. Bharat Ramaswami	
Mrs. Vijaya Venkatesh	.. <i>Associate Editor</i>

---

All editorial correspondence and articles for publication may kindly be sent to the Editor, Indian Journal of Agricultural Economics, C-104, First Floor, Sadguru Complex I, Near Vagheshwari, Gen. A.K. Vaidya Marg, Goregaon (East), Mumbai - 400 063 (India).

Note:- Individual Membership Fee and Institutional Subscription to the Indian Journal of Agricultural Economics are Rs. 600.00 or US \$ 100.00 and Rs. 1,500.00 or US \$ 250.00 respectively and should be sent to the Hon. Secretary and Treasurer, The Indian Society of Agricultural Economics, C-104, First Floor, Sadguru Complex I, Near Vagheshwari, Gen. A.K. Vaidya Marg, Goregaon (East), Mumbai - 400 063 (India).

The copyright and all rights of reproduction and translation of articles, book reviews and correspondence published in the Indian Journal of Agricultural Economics are reserved by the Society. Application for permission to translate or reproduce any material contained in it should be made to the Honorary Secretary & Treasurer, at the above address.

Telephone: 022-28493723  
email: [isae@vsnl.com](mailto:isae@vsnl.com)

Fax: 91-022-28493724  
Website: [www.isaeindia.org](http://www.isaeindia.org)

## CONTENTS

**DISADVANTAGED REGIONS AND PEOPLE: IS THERE A WAY FORWARD?**

	Page
Financial Inclusion through Kisan Credit Cards in Disadvantaged Region like Arunachal Pradesh – Is There District-level Convergence? <i>Samir R. Samantara</i>	217
Impact of MNREGA on Employment of Disadvantaged Groups, Wage Rates and Migration in Rajasthan <i>Mruthunjay Swain and Shreekant Sharma</i>	231
Transitioning India's Public Expenditure in Agriculture towards Higher Growth and Equity <i>Alka Singh, Suresh Pal and Girish Kumar Jha</i>	246
Regional Disparities in Profitability of Rice Production: Where Small Farmers Stand? <i>A. Amarender Reddy</i>	259
Socio-Economic Transformation of the Tribals in Central India: Lessons and Experiences <i>Vishwa Ballabh and Pooja Batra</i>	272
Summaries	283

**ROLE OF TECHNOLOGY, INSTITUTIONS AND IRRIGATION IN AGRICULTURAL DEVELOPMENT**

An Implication of Groundwater Institutions on Reducing Negative Externality, Enhancing Economics Efficiency and Welfare in Karnataka <i>Kiran Kumar R. Patil</i>	292
Optimising Irrigation Water Use in Punjab Agriculture: Role of Crop Diversification and Technology <i>Baljinder Kaur, Kamal Vatta and R.S. Sidhu</i>	307

		Page
Incorporating Cost of Irrigation Water in the Currently Underestimated Cost of Cultivation: An Empirical Treatise	<i>G.V. Rohith, K.S. Rashmi, K.R. Hamsa, U. Divya Lekshmi, D. Rajeshwari, A.V. Manjunatha, N. Rashmi and Jagannath Olekar</i>	319
Is the Role of Irrigation in Agricultural Output Declining in India?: A District-Wise Study at Six Time Points	<i>A. Narayanamoorthy, P. Alli and R. Suresh</i>	333
Death of <i>Kuhl</i> irrigation System of Kangra Valley of Himachal Pradesh: Institutional Arrangements and Technological Options for Revival	<i>Ashwani Kumar Sharma, K.D. Sharma and Brahm Prakash</i>	350
Unsustainable Groundwater Use in Punjab Agriculture: Insights from Cost of Cultivation Survey	<i>Shivendra Srivastava Ramesh Chand, S.S. Raju, Rajni Jain, I. Kinsly, Jatinder Sachdeva, and Jaspal Singh</i>	365
Summaries	.....	379

#### **ECONOMIC CONTRIBUTION OF WOMEN IN AGRICULTURE**

Impact of Out-Migration on Agriculture and Women Work Load: An Economic Analysis of Hilly Regions of Uttarakhand India	<i>B.V. Chinnappa Reddy and Gunjan Bhandari</i>	395
Determinants of Participation of Women in SHGs and Credit Delivery from Formal and Informal Sources to BPL Households in Odisha	<i>Deepak Shah and Sangram Panigrahi</i>	405

CONTENTS

v

	Page
Performance and Sustainability of Kudumbashree Neighbourhood Groups in Kerala: An Empirical Analysis <i>K.V. Praveen and A. Suresh</i>	417
Summaries ..... ..	426

RAPPORTEURS' REPORT

Rapporteur's Report on Disadvantaged Regions and People: Is There A Way Forward? <i>N. Chandrasekhar Rao</i>	438
--	-----



## PREFACE

The Seventy Fifth Annual Conference of the Indian Society of Agricultural Economics is scheduled to be held from 19th to 21st November, 2015 under the auspices of Punjab Agricultural University, Ludhiana, (Punjab).

The following subjects are selected for discussion at the Conference:

- (1) Disadvantaged Regions and People: Is There a Way Forward?
- (2) Role of Technology, Institutions and Irrigation in Agricultural Development.
- (3) Economic Contribution of Women in Agriculture.

The Keynote papers on Subject I, II and III are being hosted in our Society's website [www.isaeindia.org](http://www.isaeindia.org) with a view to enabling the researchers, well in advance, to come prepared for discussion and deliberations at the Conference. These papers would be subsequently revised in the light of discussions at the Conference and published in the January-March 2016 issue of our Journal.

The President of the Conference, on the recommendations of the Rapporteurs, has accepted in all 54 papers for discussion at the Conference. Out of these, 14 papers are published in full and 40 in the form of Summaries in this issue which also includes the Rapporteurs' Reports on the three subjects. The Editorial Board would like to place their record and appreciation to the Rapporteurs and Conference President for their careful refereeing and shortlisting the papers under different categories of this volume.

We regret it has not been possible to publish, in full length, a large number of papers because of the time constraint and the exorbitant increase in the cost of printing. We do hope the contributors whose papers could not be published in full would appreciate our difficulty and bear with us. We are thankful to the keynote paper-writers and to all the paper-writers for sending their papers and to the Rapporteurs for preparing their Reports embodying the main points made in the papers and also outlining issues for discussion.

October 20, 2015

M.H. Suryanarayana  
*Editor*