



**ISEE NATIONAL SEMINAR-2019**

**on**

**SOCIO-DIGITAL APPROACHES FOR  
TRANSFORMING INDIAN AGRICULTURE**

**November 20-22, 2019**

***Proceedings and Recommendations***



**ORGANIZED BY**

**Indian Society of Extension Education, New Delhi  
Chaudhary Charan Singh Haryana Agricultural University, Hisar  
and  
Banda University of Agriculture and Technology, Banda( U.P.)**

**ISEE NATIONAL SEMINAR-2019**  
**SOCIO-DIGITAL APPROACHES FOR TRANSFORMING INDIAN AGRICULTURE**  
**November 20-22, 2019; CCSHAU, HISAR**

**Schedule of Technical Sessions: Oral and poster presentations**

Wednesday, 20 <sup>th</sup> November 2019 (1 <sup>st</sup> Day)			
08:3-09:30 am	<b>Breakfast</b>		
9:30-11:00 am	<b>On Spot Registration, Kit Distribution</b>		
11:00-12:30 pm	<b>Inaugural session (Venue: Auditorium, CoA)</b> <b>Dr. DK Mishra Memorial Lecture: Dr. R. Raman Nair, Research Supervisor, MG University, Thiruvananthapuram, Kerala</b>		
12:30 -1:30 pm (60 min)	<b>Plenary Session (Venue: Auditorium, CoA)</b> <b>Chairperson: Dr. Veerbhadraiah</b> , Former Director Extension, UAS, Bangalore <b>Co-Chairperson: Dr. J.P. Sharma</b> , Joint Director Extension, IARI, New Delhi <b>Rapporteurs:</b> <ol style="list-style-type: none"> <li>1. Dr. Shantanu Kumar Dubey, ATARI, Kanpur</li> <li>2. Dr. Kiran Singh, DEE, BAU, Ranchi</li> <li>3. Dr. Alok Kumar, PS, NAARM, Hyderabad</li> </ol> <b>Convenor:</b> Dr. J.S. Malik, Professor & Head, Department of Extension Education, CCSHAU, Hisar <b>Key Note Address:</b> <ol style="list-style-type: none"> <li>1. Dr. V.V. Sadamate, Former Advisor Agriculture, Planning Commission, GoI, New Delhi</li> <li>2. Dr. S.K. Kashyap, Professor &amp; Head, Department of Agricultural Communication, GBPUAT, Pantnagar, Uttarakhand</li> </ol>		
1:30-2:30 pm	<b>Lunch</b>		
2:30-04:30 pm (120 min)	<b>Paper Session 1</b> Venue: Room No. 6, CoA	<b>Paper Session 2</b> Venue: Room No. 10, CoA	<b>Paper Session 3</b> Venue: Committee Room, CoA
3:15-3:30 pm Tea Break	<b>Theme 1</b> <i>Digital Strategies and approaches for sustainable agricultural development</i> <b>Convenor:</b> Dr. Manju Dahiya <b>Chairperson:</b> Dr. Anjani Kumar, Director, ATARI, Patna <b>Co-Chairperson:</b> Dr. JPS Dabas, Head, CATAT, IARI, New Delhi <b>Rapporteurs:</b> <ol style="list-style-type: none"> <li>1. Dr. Umesh Chandra, BUAT, Banda</li> <li>2. Dr. Sarvesh Kumar, KVK, Harda</li> </ol> <b>Lead Paper:</b> <ol style="list-style-type: none"> <li>1. Dr. B. Jirli, Professor, BHU, Varanasi</li> </ol>	<b>Theme 5</b> <i>Digital approaches for secondary Agriculture</i> <b>Convenor:</b> Dr. Ashok Godara <b>Chairperson:</b> Dr. H.K. Verma, Director Extension GADVASU, Ludhiana <b>Co-Chairperson:</b> Dr. K.S. Kadian, Head, Dairy Extension, ICAR-NDRI, Karnal <b>Rapporteurs:</b> <ol style="list-style-type: none"> <li>1. Dr. Deepa Roy, UBKV, Cooch Behar</li> <li>2. Dr. Sithara Balan V., TVM, Kerala</li> </ol> <b>Lead Paper:</b> <ol style="list-style-type: none"> <li>1. Dr. H.K. Verma, Director Extension, GADVASU, Ludhiana</li> <li>2. Dr. Ram Singh, Professor, CAU, Imphal</li> </ol>	<b>Theme 3</b> <i>Advances in Capacity Building of farming community</i> <b>Convenor:</b> Dr. P.S. Shehrawat <b>Chairperson:</b> Dr. C. Prasad, Former DDG Agril. Extension, ICAR, New Delhi <b>Co-Chairperson:</b> Dr. Gopal Sankhala, PS, ICAR-NDRI, Karnal <b>Rapporteurs:</b> <ol style="list-style-type: none"> <li>1. Dr. Diksha Patel, KVK, Banda</li> <li>2. Dr. M.P. Singh, KVK, Mahoba</li> </ol> <b>Lead Paper:</b> <ol style="list-style-type: none"> <li>1. Dr. Rajbir Singh, Director, ATARI, Ludhiana</li> <li>2. Dr. Lakhan Singh, Director, ATARI, Pune</li> </ol>
4:30 pm	<b>ISEE General Body Meeting</b>		
8:00-9:00 pm	<b>Dinner</b>		

**Thursday, 21<sup>st</sup> November, 2019 (2<sup>nd</sup> Day)**

08:00-09:00 am			
<b>Breakfast</b>			
9:30am-12:30 pm (180 min)	<b>Paper session 4</b>	<b>Paper Session 5</b>	<b>Paper Session 6</b>
	<b>Venue: Room No. 6, CoA</b>	<b>Venue: Room No. 10, CoA</b>	<b>Venue: Committee Room, CoA</b>
11:00-11:15 am Tea Break	<b>Theme 11</b> <i>Challenges and Opportunities in Digital Marketing</i> <b>Convenor:</b> Dr. Manju Dahiya, <b>Chairperson:</b> Dr. Prabhu Kumar, Former Director, ATARI, Ludhiana <b>Co-Chairperson:</b> Dr. B.S. Meena, PS, ICAR-NDRI, Karnal <b>Rapporteurs:</b> 1 Dr. Ritu Kumari, KVK, Delhi 2 Dr. Sarvesh Tripathi, KVK, Ratlam <b>Lead Paper:</b> 1. Dr. Jancy Gupta, NDRI, Karnal 2. Dr. U.K. Sharma, PC, KVK, Jhajjar	<b>Theme 9</b> <i>Technological Interventions for Climate Smart Agriculture</i> <b>Convenor:</b> Dr. Beena Yadav <b>Chairperson:</b> Dr. B.Jirli, Head, Extension Education, BHU, Varanasi <b>Co-Chairperson:</b> Dr. P.P. Pal, PS, ATARI, Kolkata <b>Rapporteurs:</b> 1 Dr. Ratna Nashine, IGKV, Raipur 2 Dr. S.K. Goyal, KVK, Mirzapur <b>Lead Paper:</b> 1. Dr. Kalyan Ghadei, Professor, BHU, Varanasi 2. Dr. Y.G. Prasad, Director, ATARI, Hyderabad	<b>Theme 4</b> <i>Empowerment of rural community through CBOs</i> <b>Convenor:</b> Dr. P.S. Shehrawat <b>Chairperson:</b> Dr. G. Trivedi, Former VC, RAU, Samastipur <b>Co-Chairperson:</b> Dr. Ramgopal Laha, PS, ICAR RC for NEHR, Meghalaya <b>Rapporteurs:</b> 1 Dr. Pragya Bhadauria, ATARI, Ludhiana 2 Dr. N.P. Malik, Scientist, CSAUAT, Kanpur <b>Lead Paper:</b> 1 Dr. G. Eswarappa, Ex-Director Extension, UAS, Bangalore 2 Dr. K.L Dangi, Ex Professor, MPUAT, Udaipur
<b>Paper Presentations</b>			
10:00am-12:30pm	<b>Special Session: Farmers-Scientist Interface for Transforming Indian Agriculture</b> <b>Convenor: Dr. J.S. Malik, Professor &amp; Head,</b> Extension Education, CoA, CCSHAU, Hisar <b>Chairperson: Dr. K.P. Singh,</b> Hon'ble Vice Chancellor, CCSHAU, Hisar <b>Co-Chairperson: Dr. Rashmi Singh,</b> Principal Scientist, IARI, New Delhi <b>Rapporteur: Dr. Ajay Kumar,</b> Head, KVK, Kaushambi <b>and Dr. Jogender Tomar,</b> DES (EE), KVK, Sonapat		
<b>Lunch</b>			
2:00-05:00 pm (180 min)	<b>Paper Session 7</b>	<b>Paper Session 8</b>	<b>Paper Session 9</b>
	<b>Venue: Room No. 6, CoA</b>	<b>Venue: Room No. 10, CoA</b>	<b>Venue: Committee Room, CoA</b>
3:15-3:30 pm	<b>Theme 2</b> <i>Innovations in Extension research and policy</i> <b>Convenor:</b> Dr. J.S. Malik <b>Chairperson:</b> V.V. Sadamate, Former Advisor Agriculture, Planning Commission, GoI, New Delhi <b>Co-Chairperson:</b> Dr. K.S. Kadian, PS & Head, NDRI, Karnal <b>Rapporteurs:</b> 1. Dr. Angad Prasad, CAU, Imphal 2. Dr. Gaurav Shukla, BUAT, Banda	<b>Theme 7</b> <i>Convergence models for economic prosperity</i> <b>Convenor:</b> Dr. S.K. Mehta <b>Chairperson:</b> Dr. O.S. Verma, <b>Co-Chairperson:</b> Dr. Devendrappa S., Professor, UAS, Dharwad <b>Rapporteurs:</b> 1 Dr. Ragini Ranawat, Rajasthan University, Jaipur 2 Dr. Dheeraj Mishra, BUAT, Banda <b>Lead Paper:</b> 1. Dr. M.S. Nain, PS, IARI, New Delhi	<b>Theme 10</b> <i>Initiatives for Food and Nutritional Security for Rural Communities</i> <b>Convenor:</b> Dr. (Mrs.) Shashikant Verma <b>Chairperson:</b> Dr. G. Eswarappa, Ex-Director Extension, UAS, Bangalore <b>Co-Chairperson:</b> Dr. Arunima Kumari, DRPCA, Samastipur <b>Rapporteurs:</b> 1 Dr. Lalita Vatta, UoR, Jaipur 2 Dr. P.K. Tiwari, IGKV, Raipur 2 Mrs. Kesar Chayal, CCSHAU, Hisar

	<b>Lead Paper:</b> 1. Dr. Alok Kumar, PS, NAARM, Hyderabad 2. Dr. S.K. Jha, PS, NDRI, Karnal	2. Dr. Prabhu Kumar, Former Director, ATARI, Ludhiana	<b>Lead Paper:</b> 1. Dr. M.J. Chandre Gowda, Director, ATARI, Bangalore 2. Dr. S.K. Singh, Director, ATARI, Jodhpur
	<b>Paper Presentations</b>	<b>Paper Presentations</b>	<b>Paper Presentations</b>
<b>3:30-5:00 pm</b>	<b>Poster Session (Venue: Auditorium Basement, CoA)</b> <b>Theme 1 &amp; 2 : Convenor-</b> Dr. Jitendra Chauhan; <b>Co-Convenor-</b> Dr. Sandeep Bhakar <b>Theme 3 &amp; 4 : Convenor-</b> Dr. Beena Yadav; <b>Co-Convenor -</b> Dr. Vandana Verma <b>Theme 5 &amp; 6 : Convenor-</b> Dr. Ram Singh; <b>Co-Convenor-</b> Dr. Rati Mukteshwar <b>Theme 7 &amp; 8 : Convenor-</b> Dr. VPS Yadav; <b>Co-Convenor-</b> Dr. Ella Rani <b>Theme 9 &amp; 10 : Convenor-</b> Dr. G.S. Panwar; <b>Co-Convenor-</b> Dr. Anil Rohilla <b>Theme 11 &amp; 12 : Convenor-</b> Dr. S.V. Dwivedi; <b>Co-Convenor-</b> Dr. Sube Singh		
<b>08:00-09:00 pm</b>	<b>Dinner</b>		
<b>Friday, 22<sup>nd</sup> November, 2019 (3<sup>rd</sup> Day)</b>			
<b>08:00-09:00 am</b>	<b>Lunch</b>		
<b>9:00 am-11:30 am (150 min)</b>	<b>Paper Session 10</b> <b>Venue: Room No. 6, CoA</b>	<b>Paper Session 11</b> <b>Venue: Room No. 10, CoA</b>	<b>Paper Session 12</b> <b>Venue: Committee Room, CoA</b>
<b>10:30-10:45 am</b> Tea Break	<b>Theme 6</b> <i>Smart approaches for technology Assessment and dissemination</i> <b>Chairperson:</b> Dr. K.K. Yadav <b>Co-Chairperson:</b> Dr. Umesh R. Chinchmalatpure, PDKV, Akola <b>Rapporteurs:</b> 1 Dr. Abhishek Kalia, BUAT, Banda <b>Lead Paper:</b> 1. Dr. Hema Tripathi, PS, CIRB, Hisar 2. Dr. Pragya Bhadauria, Scientist, ATARI, Ludhiana	<b>Theme 8</b> <i>Strategies for Entrepreneurship Development in Agriculture</i> <b>Convenor:</b> Dr. Ashok Godara <b>Chairperson:</b> Dr. K.L Dangi, Former Professor & Head, Ext. Edu, MPUAT, Udaipur <b>Co-Chairperson:</b> Dr. S.K. Jha, PS, NDRI, Karnal <b>Rapporteurs:</b> 1 Dr. Samuel D McCarty, SHUATS, Prayagraj <b>Lead Paper:</b> 1. Dr. Surya Rathore, PS, NAARM, Hyderabad 2. Dr. Rashmi Singh, PS, IARI, New Delhi	<b>Theme 12</b> <i>Mechanism for addressing Gender issues in agriculture</i> <b>Convenor:</b> Dr. J.S. Malik <b>Chairperson:</b> Dr. P. Swain, Head, Dept. of Vet. Extension, OUAT, Bhubaneswar <b>Co-Chairperson:</b> Dr. Ratna Nashini, Dean, CARS, Narayanpur <b>Rapporteurs:</b> 1 Dr. S.N. Singh, KVK BHU, Mirzapur 2 Dr. S.K. Goyal, KVK BHU, Mirzapur <b>Lead Paper:</b> 1. Dr. Beena Yadav, Head, CoHS, CCSHAU, Hisar 2. Dr. Yogendra Singh Jadoun, Asstt. Prof., GADVASU, Ludhiana
	<b>Paper Presentations</b>	<b>Paper Presentations</b>	<b>Paper Presentations</b>
<b>11:30:-1:00 pm</b>	<b>Valedictory function (Venue: Auditorium, CoA)</b>		
<b>01:00-02:00 pm</b>	<b>Lunch</b>		



**ISEE NATIONAL SEMINAR-2019**  
**SOCIO-DIGITAL APPROACHES FOR**  
**TRANSFORMING INDIAN AGRICULTURE**

**November 20-22, 2019**

**CCSHAU, HISAR (HARYANA)**

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**PROCEEDINGS AND RECOMMENDATIONS**

**Context**

Agriculture as a primary sector of Indian economy that engages 54.6 per cent of population and contributes 17.4 per cent in its GDP. Since the first five-year plan, we have achieved a milestone in food grain production from 50.8 MT in 1950-51 to 281.37 MT in 2018-19. It is obvious that the appropriate policy making and execution of research and extension programmes led to this great achievement. Extension has always been a key to accelerate the agricultural development since its origin. Although, we have achieved a lot through various traditional extension approaches and recent initiatives in agriculture, but it is also evident that the asymmetric development has given a sharp rise in inequality among rural societies. The non-sustainable use of natural resources, climate change, changing trends in agricultural trade, fragmentation of land holdings and migration of rural youth are the major challenges of Indian agriculture of present times. The recent developments in Information and Communication Technology have created a number of digital platforms for agricultural development including GIS, remote sensing, expert systems, decision support systems, knowledge portals, e-marketing portals, etc. These platforms can support on three fronts, 1) Enhancing Agricultural Production; 2) Improving Market Access; and 3) Capacity-building and Empowerment. On the other hand, emphasis has also been given on development of new social initiatives with the recent concepts of FPOs, Market Federations, FIGs, CIGs, etc.

Hence, there is a need of socially inclusive technological interventions based on new information society, strongly connected with the social and digital platforms. This paradigm shifts in the process of technology generation, their dissemination and adoption has opened limitless possibilities for researchers in agricultural sciences. Are there any efforts made to blend social platforms with recent digital initiatives? If yes, then what is their impact? How much effective are they in dealing with major challenges in agriculture? Are they helpful in mitigating climate change? What constraints do they face? What is the evaluation mechanism?

In the purview of these questions, this national seminar of ISEE was organized to provide a forum to all the researchers and academicians engaged in different facets of agricultural sciences and rural development. The researchers were invited to present their research work on following sub themes:

- Digital Strategies and Approaches for Sustainable Agricultural Development
- Innovations in Extension Research and Policy
- Advances in Capacity Building of Farming Community
- Empowerment of Rural Community through CBOs
- Digital Approaches for Secondary Agriculture
- Smart Approaches for Technology Assessment and Dissemination
- Convergence Models for Economic Prosperity
- Strategies for Entrepreneurship Development in Agriculture
- Technological Interventions for Climate Smart Agriculture
- Initiatives for Food and Nutritional Security for Rural Communities
- Challenges and Opportunities in Digital Marketing
- Mechanism for Addressing Gender Issues in Agriculture



## Inaugural Session



Inaugural Session. He delivered the inaugural address.

Prof. Creg McGill from Messie University, New Zealand and Dr. C. Prasad, Former DDG (Agril. Extension), ICAR were present as the Guests of Honor of the Inaugural Session, which was presided over by Dr. U.S. Gautam, President, Indian Society of Extension Education, New Delhi and Hon'ble Vice Chancellor, Banda University of Agriculture and Technology, Banda (U.P). Dr. Gautam also presented the annual report of society.



Dr. R. Raman Nair, Professor, MG University, Trivendram, Kerala delivered Dr. D.K. Mishra Memorial Lecture on '**National Information Infrastructure for Agricultural Sector in India**'. He was also conferred with prestigious Dr. D.K. Mishra Memorial Award by the society.

Dr. B.K. Singh, National Organising Secretary of the seminar proposed the vote of thanks to the dignitaries and delegates.

Inaugural Session was followed by Felicitation Ceremony of eminent social scientists present on the occasion. In the series, Dr. V.V. Sadamate, Dr. O.S. Verma, Dr. G. Trivedi, Dr. S.K. Kashyap, Dr. G. Eswarappa, Dr. Jitendra Chauhan, Dr. K.L. Dangi and Dr. Prabhu Kumar were felicitated with shawl.

## Plenary Session

Chairperson: **Dr. Veerbhadraiah**, Former Director Extension, UAS, Bangalore  
 Co-Chairperson: **Dr. J.P. Sharma**, Joint Director Extension, IARI, New Delhi  
 Convenor: **Dr. J.S. Malik**, Professor & Head, Department of Extension Education, CCSHAU, Hisar  
 Rapporteurs: **Dr. Shantanu Kumar Dubey**, ATARI, Kanpur  
**Dr. Kiran Singh**, DEE, BAU, Ranchi  
**Dr. Alok Kumar**, PS, NAARM, Hyderabad

### **Key Note Address:**

<i>Innovative Agricultural Extension Reforms for Efficient Programme Delivery: Challenges and Way Ahead</i>	: <b>Dr. V.V. Sadamate</b> , <i>Former Advisor Agriculture, Planning Commission, GoI, New Delhi</i>
<i>Reforming Agricultural Education for Strengthening Competencies of Extension Students</i>	: <b>Dr. S.K. Kashyap</b> , <i>Professor, GBPUAT, Pantnagar, Uttarakhand</i>

### **Recommendations:**

1. Piloting Convergence models in extension delivery, integrating extension efforts of public and private extension service providers at various levels.
2. Analysis of Interplay of Extension Delivery Sub-systems, supplementing and complementing each other for achieving better extension impact in the field.
3. Strategies for streamlining Extension Training Sub-systems, supplementing and complementing each other for achieving better training impact in the field.
4. Redefining role of extension services in promoting market linkages and market integration.
5. Professionalism in Extension services may be recognised and honoured at all levels, especially in job opportunities in frontline and field extension services and even in private extension efforts.
6. Successful extension experiments and models across the production systems need to be supported and up scaled with adequate priorities and funding.
7. National coordinated extension project may be initiated for capturing and integrating extension reforms being generated at various levels.
8. Agricultural curriculum needs a complete reorientation so as to enable extension students to apply theories in field situation.
9. Teaching methodologies of SAUs needs a shift from lecture based methods to experiential learning, problem solving approach, case studies, workshop teaching, rural assignments, action research, field investigation method and project method, so that there is a perfect mix of theory and practical.



10. Teaching and learning infrastructure at SAUs needs drastic improvements since the infrastructural, financial and manpower provisions for social sciences (audio video lab, data bank, communication and IT infrastructure) are far from adequate and there is an urgent need to raise the allocation for these facilities for social sciences in SAUs.

### Session 1

#### Theme 1: *Digital strategies and approaches for sustainable agricultural development*

Chairperson: **Dr. Anjani Kumar**, Director, ATARI, Patna  
Co-Chairperson: **Dr. JPS Dabas**, Director, CATAT, IARI, New Delhi  
Convenor: **Dr. Manju Dahiya**  
Rapporteur: **Dr. Sarvesh Kumar**, KVK, Harda  
**Dr. Umesh Chandra**, BUAT, Banda

#### *Lead Paper:*

*Paradigm shift in role of Extension Educationists in the light of e-Mediated extension services:* **Dr. B. Jirli**  
*BHU, Varanasi*

Oral presentation: **06**

#### **Recommendations:**

1. There is need to redefine extension education and extension services.
2. Lack of marketing facilities may also affect the credibility of extension agents among farming community.
3. Different digital tools like YouTube, mobile apps, face book, whatsapp etc. may be effectively used for effective transfer of technology.
4. Technical and social education on different aspect of farming should be given through Kisan Mobile Advisory and mobile apps to the farmers.

### Session 2

#### Theme 5: *Digital Approaches for secondary Agriculture*

Chairperson: **Dr. H.K. Verma**, Director of Extension Education, GADVASU, Ludhiana  
Co-Chairperson: **Dr. K.S. Kadian**, Head, Division of Dairy Extension, ICAR- NDRI, Karnal  
Convenor: **Dr. Ashok Godara**  
Rapporteurs: **1. Dr. Deepa Roy**, UBKV, Cooch Behar  
**2. Dr. Sithara Balan V.**, TVM, Kerala

#### *Lead Paper:*

*Multisided, Multitier Extension Approaches and Digital Strategies of Veterinary Varsity for Sustainable Livestock Development* : **Dr. HK Verma**  
*GADVASU, Ludhiana*

Oral presentation: **04**

### Recommendations:

1. There is need to fill the vacant post of staff of Department of veterinary and Animal husbandry for effective delivery of broad based extension services to the farmers.
2. There is need to enhance farmers' awareness about the feeding of balance ration and mineral mixture by providing them fodder calendar.
3. Efforts should be made to improve the information delivery system through deploying combinations of different extension methods.
4. There is need to develop digital database for easy follow up activities.
5. Farmers should be encouraged, educated and inculcated the habit of record keeping in their farms.
6. There is need to have multilevel analysis like, call analysis, query analysis and solution analysis.
7. The information disseminated by multimedia had positive impact on knowledge level of farmers about clean milk production, this technique should be widely used to create awareness and enhance knowledge of farmers.

### Session 3

#### Theme 3: *Advances in Capacity Building of Farming Community*

Chairperson:	<b>Dr. C. Prasad</b> , Former DDG Agril. Extension, ICAR, New Delhi
Co-Chairperson:	<b>Dr. Gopal Sankhala</b> , PS, ICAR-NDRI, Karnal
Convenor:	<b>Dr. P.S. Shehrawat</b>
Rapporteurs:	1. <b>Dr. M.P. Singh</b> , KVK, Mahoba 2. <b>Dr. Diksha Patel</b> , KVK, Banda

#### Lead Paper:

*Transforming Indian Agriculture through Digital Platforms: Status, Support Systems & Strategies* : **Dr. Lakhan Singh**  
Director, ATARI, Pune

Oral Presentations: 06

### Recommendations:

1. Convergence with different extension agencies like state departments, organizations, institutions, NGOs, farmers' organizations etc. should be established for creating broad based impact. Socio-religious agencies and student community may also be involved in such efforts.
2. Farm Mechanisation should be promoted for effective crop residual management. Happy Seeder is one of the successful example in this context.
3. KVKs should organize different environment building and capacity building activities to sensitize all the stakeholders.
4. Climate Smart technologies such as Climate Smart Housing for Livestock (CSH), Improved Crop Varieties (ICV), Seed and Fodder Banks (SFB), Agro Forestry (AF), Inter-cropping with Legumes (ICL), Zero Tillage/Minimum Tillage (ZT/MT) and Furrow Irrigated Bed Planting (FIBP) must be the integral part of farm advisory services.

## DAY-2 (21<sup>st</sup> Nov, 2019)

### Session 4

#### Theme 11: *Challenges and Opportunities in Digital Marketing*

Chairperson: **Dr. Prabhu Kumar**, Former Director, ATARI, Ludhiana  
Co-Chairperson: **Dr. B.S. Meena**, PS, ICAR-NDRI, Karnal  
Convenor: **Dr. Manju Dahiya**  
Rapporteurs: **1. Dr. Ritu Kumari**, KVK, Delhi  
**2. Dr. Sarvesh Tripathi**, KVK, Ratlam

#### *Lead Paper:*

*Innovation Platforms: A New Paradigm for Production, Marketing and Policy environment in Agricultural Sector* : *Dr. Jancy Gupta*  
*NDRI, Karnal*

*Opportunities and Challenges of Digital Marketing In India* : *Dr. U.K. Sharma*  
*KVK, Jhajjar*

Oral Presentations: 07

#### **Recommendations:**

1. Innovation platforms are dynamic learning spaces that brings together multi-stakeholders in a value chain, who work towards achieving a common goal or finds a solution to a common problem in an innovative way. Such spaces should be established through various academic institutions.
2. Different online platforms like e-NAM, e-Mandi, etc. should be utilized for agricultural marketing.

### Session 5

#### Theme 9: *Technological Interventions for Climate Smart Agriculture*

Chairperson: **Dr. B. Jirli**, Professor, BHU, Varanasi  
Co-Chairperson: **Dr. P.P. Pal**, PS, ATARI, Kolkata  
Convenor: **Dr. Beena Yadav**  
Rapporteurs: **1. Dr. Ratna Nashine**, Dean, COA Narayanpur, IGKV, Raipur  
**2. Dr. S.K. Goyal**, KVK, Mirzapur

#### *Lead Paper:*

*Climate Change Workforce Development for Extension* : *Dr. Kalyan Ghadei*  
*BHU, Varanasi*

Oral presentation: 06

### Recommendations:

1. Extension education can play an important role in handling the issue of Climate change.
2. Many technological interventions have been used to tackle the climate change but social issues and work force remain untouched so better education should be given to increase the awareness regarding impact of climate changes.
3. Farmers should act as producer-cum seller means agri-preneurs.
4. Happy seeder should be utilized for effective management of crop residues.
5. Small Rain water harvesting structures should be effectively utilized for managing drought problems
6. Sowing of wheat before 10 November is easy method which will help to conserve the soil moisture.
7. Climate resilient technologies should be utilized to transform climate vulnerable agriculture to Climate Smart agriculture.
8. NICRA technological modules of KVK Chittoor can be replicated in other parts of country.
9. Marginal, Small and landless farmers should be encouraged for adoption of IFS model

### Session 6

#### Theme 4: *Empowerment of rural community through CBOs*

Chairperson:	<b>Dr. G. Trivedi</b> , Former VC, RAU, Samastipur
Co-Chairperson:	<b>Dr. Ramgopal Laha</b> , PS, ICAR RC for NEHR, Meghalaya
Convenor:	<b>Dr. P.S. Shehrawat</b>
Rapporteurs:	<b>1. Dr. Pragya Bhaduria</b> , ATARI, Ludhiana <b>2. Dr. N.P. Malik</b> , Scientist, CSAUAT, Kanpur

#### Lead Paper:

<i>Farmers' Empowerment Through Farmer Producers Organizations – A Community Initiative for Entrepreneurship</i>	: <i>Dr. G. Eswarappa</i> <i>UAS, Dharwad</i>
<i>Futuristic Agricultural Extension Models and Approaches</i>	: <i>Dr. K.L. Dangi</i> <i>MPUAT, Udaipur</i>

Oral presentation: **04**

### Recommendations:

1. A National seminar should be organized on CBOs. Cases, problems, procedures and management aspects of CBOs must be discussed.
2. Research problems on CBOs/FPOs must be given to M.Sc./ Ph.D. students
3. Community Radio programmes must be split into small duration programmes.
4. Folk songs must also be broadcasted through Community Radio.

## Session 7

### Theme 2: *Innovations in Extension Research and Policy Issues*

Chairman: **Dr. V.V. Sadamate**, Former Adviser Agriculture, Planning Commission, GOI  
Co- Chairman: **Dr. K.S. Kadian**, Head, Extension, NDRI, Karnal  
Convenor: **Dr. J.S. Malik**  
Rapporteurs: 1. **Dr. Angad Prasad**, CAU, Imphal  
2. **Dr. Gaurav Shukla**, BUAT, Banda

#### **Lead Papers:**

*Extension at the Crossroads!?* : *Dr. S.K. Jha*  
*NDRI, Karnal*

*Competency Framework for Agricultural Research and Extension Scientists in NARES* : *Dr. Alok Kumar,*  
*NAARM, Hyderabad*

Oral presentation: 06

#### **Recommendations:**

1. Application of ICT / Social media in Extension Strategies at various levels and across the production systems.
2. Strategies for promoting outreach of extension services for wider coverage down the line addressing extension needs of various categories of the farmers and clientele groups.
3. Extension Strategies for disadvantaged areas, groups and agriculturally distressed settings.
4. Promoting Farmer, Farm Women and Farm youth empowerment models and their sustainability.
5. Extension strategies for Promoting agri-business and agri-entrepreneurship models and providing adequate role space for such empowered bodies in the extension operations.
6. Extension Strategies for Feedback management (collating, documentation, analysis of feedback from the farmers and field functionaries) and enabling the system in drawing demand driven interventions for the policy makers, research institutes and management systems.
7. Improving Monitoring and Evaluation (M&E) of Extension services at various levels and providing scope for midcourse corrections in improving the extension delivery based on the M&E findings.
8. Provision of need based investments for extension services in agriculture and allied areas suiting to the emerging priorities and challenges.
9. Provision of requisite manpower for strengthening extension delivery at various levels and as recommended by various high power committees and reports.
10. A suitable mechanism may be considered and developed for international collaboration on advances in extension services and ploughing back such reforms into the national and regional operations with necessary modifications.

11. Need for developing mechanism to capture the recommendations coming out of institutional and PG / Doctoral research studies in extension discipline, prioritizing them and using the same for improving the extension services.
12. Need for sharing the outcome and recommendations coming out of various extension deliberations and conferences organized by the various professional extension platforms.
13. Need for strengthening M&E of extension services. A strong M&E unit may be established at State Agricultural Management & Extension Training Institutes (SAMETIs) having suitable linkages with the frontline extension system. This unit may be facilitated for independent operation and flexibilities in reporting the findings of its studies to the research and policy management for their interventions in improving the extension services further.

### Session 8

#### Theme 7: *Convergence models for economic prosperity*

Chairman:	<b>Dr. O.S. Verma</b> , Ex President, ISEE
Co- Chairman:	<b>Dr. Devendrappa S.</b> , Professor, UAS, Dharwad
Convenor:	<b>Dr. S.K. Mehta</b>
Rappoteurs:	1. <b>Dr. Ragini Ranawat</b> , Rajasthan University, Jaipur 2. <b>Dr. Dheeraj Mishra</b> , BUAT, Banda

#### *Lead Papers:*

<i>Convergence of Farmer Led Innovations and Agripreneurship for Profitable Farming: Prospects and Experiences</i>	: <i>Dr. M.S. Nain</i> <i>IARI, New Delhi</i>
<i>Strategies for Efficiency Enhancement of Small Farmer Production Systems</i>	: <i>Dr. Prabhu Kumar,</i> <i>Ex Dir., ATARI, Ludhiana</i>

Oral presentation: 04

#### **Recommendations:**

1. The backward and forward linkages in the form of advisory services, input supply, marketing of the produce, financial backstopping and the support and convergence of various stakeholders may bring positive impact in the form of initiation of income generating activities out of their own innovations.
2. Awareness campaigns at village level should be organized for inclusion of large number of farmers in digital marketing platforms.

### Session 9

#### Theme 10: *Initiatives for Food and Nutritional Security for Rural Communities*

Chairman:	<b>Dr. G. Eswarappa</b> , Ex-Director Extension, UAS, Bangalore
Co- Chairman:	<b>Dr. Arunima Kumari</b> , DRPCA, Samastipur
Convenor:	<b>Dr. (Mrs.) Shashikant Verma</b>
Rapporteur:	1. <b>Dr. P.K. Tiwari</b> , IGKV, Raipur 2. <b>Dr. Lalita Vatta</b> , Rajasthan University, Jaipur



### 3. Mrs. Kesar Chayal, CCSHAU, Hisar

Oral presentation: 08

#### Recommendations:

1. ICT application is the emerged need and should be adequately focussed
2. Chabro (poultry) are better than local chicken in all the measured parameters and should be promoted.
3. Kitchen garden is a low cost sustainable approach to overcome malnutrition among rural community
4. Proper management of bio-waste can be contributing factor for good health
5. FLD is good method to motivate farmers for higher production and productivity which ultimately motivate farmers to adopt new technology.
6. Lack of education is the main factor for less use of new technology. Hence, modern ICT tool like mobile, face book, YouTube should be effectively utilized.
7. Seasonality of agriculture, employment diversification, high share of dairy farming income and non-farm income are reported as the major causes of push factors of employment diversification.
8. Improving the soil nutrition to increase productivity is one of the best intervention.
9. To increase employment of agricultural personnel; we need to explore the alternative approaches of jobs linking agriculture based skills with other sectors
10. Digital communication is the emerging platform for small and marginal entrepreneurs for marketing their products.

#### Session 10

#### Theme 06: *Smart approaches for technology Assessment and Dissemination*

Chairperson: **Dr. K.K. Yadav**, Asso. Director Extension, CCSHAU, Hisar  
Co-Chairperson: **Dr. U.R. Chinchmalatpure**, Associate Professor, PDKV, Akola  
Rapporteur: **Dr. Abhishek Kalia**, Asst. Professor, BUAT, Banda

#### Lead Paper:

*Development and field testing of need based mobile app on buffalo reproduction: An educational tool for information dissemination* : *Dr. Hema Tripathi*  
*CIRB, Hisar*

*Ensuring Food and Nutritional Security through Livestock Farming* : *Dr. Pragya Bhadauria*  
*ATARI, Ludhiana*

Oral presentation: 06

### Recommendations:

1. Appropriate extension strategies should be formulated to reduce the yield gap and technological gap of major crops.
2. Cluster front line demonstration was effective for promoting latest technology among farmers.
3. PAU Happy seeder should be promoted for effective crop residue management.
4. Awareness about IFS, INM, Zero tillage, ICT, crop insurance will enhance the production and productivity of agriculture produce.

### Session 11

#### Theme 08: *Strategies for Entrepreneurship Development in Agriculture*

Chairperson: **Dr. K.L Dangi**, Former Professor & Head, Ext. Edu, MPUAT, Udaipur  
Co-Chairperson: **Dr. S.K. Jha**, PS, NDRI, Karnal  
Convenor: **Dr. Ashok Godara**  
Rapporteurs: **1. Dr. Samuel D McCarty**, SHUATS, Prayagraj  
**2. Dr. Ragini Ranawat**, UoR, Jaipur

#### Lead Paper:

*Nurturing Entrepreneurial Ecosystem in Agricultural Universities* : *Dr. Surya Rathore*  
*NAARM, Hyderabad*

*Ensuring Food and Nutritional Security through Livestock Farming* : *Dr. Rashmi Singh*  
*IARI, New Delhi*

Oral Presentation:

### Recommendations:

1. Importance should be given to banking knowledge addressing the financial need of the upcoming graduates by making them aware of the financial policies of the country and processes involved in retrieving loan facilities to the farmers and other important requirements.
2. Success stories of Agri-graduates turned entrepreneurs should be documented to assess some sort of institutional backup behind their success.
3. The Success Stories of Agri-graduates should be shared with budding Agri-graduates by means of providing them with literature of success stories, video films and Face-to-Face interactions with successful entrepreneurs.
4. Language skills should be given a special to boost business marketing capabilities of upcoming entrepreneurs.

### Session 12

#### Theme 12: *Mechanism for Addressing Gender Issues in Agriculture*

Chairperson: **Dr. Pitamber Swain**, Professor, OUAT, Bhubanswar, Orissa

Co-Chairperson: **Dr. Ratna Nashine**, Dean COA, Narayanpur, IGKV, Raipur  
Rapporteur: **1. Dr. S.N. Singh, Scientist**, BHU-KVK, Mirzapur (U.P.)  
**2. Dr. S.K. Goyal, Scientist**, BHU-KVK, Mirzapur (U.P.)

**Lead Paper:**

<i>Addressing Gender Issues in Agriculture for Sustainability</i>	: <i>Dr. Beena Yadav</i> <i>CCSHAU, Hisar</i>
<i>Gender Mainstreaming through Livestock Preneurship</i>	: <i>Dr. Yogendra S. Jadoun</i> <i>GADVASU, Ludhiana</i>

Oral presentation: **03**

**Recommendations:**

1. Promoting high yielding pulse varieties through form women organisations at village level.
2. Pulse based cropping system should be accepted for climate smart agriculture.
3. Gender issues should be addressed on priority basis for sustainable agriculture development at policy making level.
4. Attempt should be made at Govt. and Non-govt. level to promote women entrepreneurs in Agriculture and allied sector.
5. More Women Extension workers should be appointed at block level.
6. KVK should take up employment generating activities based on group approach.
7. Gender equality is the necessary foundation for sustainable development.
8. Social capital is the important tool for empowering rural women.
9. Extension education efforts are essential in gaining confidence and self-esteem among farm women.
10. Sorghum nutri cereal bar be promoted for combating malnutrition and provide nutritional security among farming community.