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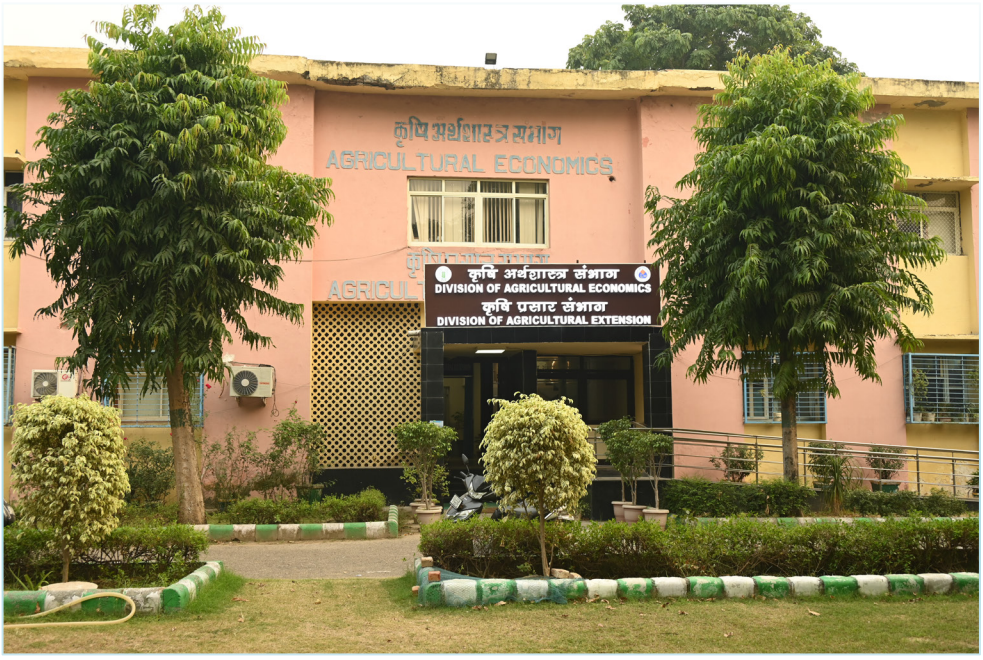

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Contents

1. कार्यकारी सारांश

कृषि अर्थशास्त्र संभाग, भारतीय कृषि अनुसंधान परिषद- भारतीय कृषि अनुसंधान संस्थान (ICAR-IARI) में सामाजिक विज्ञान स्कूल का एक प्रमुख महत्वपूर्ण हिस्सा है जिसकी स्थापना वर्ष 1960 में की गयी। संभाग ने अनुसंधान और स्नातकोत्तर शिक्षा में उत्कृष्टता प्राप्त करने व प्रदान करने के साथ-साथ बुनियादी और व्यावहारिक अनुसंधान दोनों के माध्यम से कृषि नीतियों में अपना महत्वपूर्ण योगदान दिया है। तथा वर्ष 1995 से ICAR, सेंटर ऑफ एडवांस्ड फैकल्टी ट्रेनिंग (CAFT) उन्नत संकाय प्रशिक्षण केंद्र के रूप में मान्यता प्राप्त कर कृषि अर्थशास्त्र और नीति अनुसंधान क्षमता को मजबूत किया है। जिससे समसामयिक विषयों पर 34 प्रशिक्षण कार्यक्रमों के माध्यम से 657 शोधकर्ताओं को लाभ प्राप्त हुआ है। कृषि अर्थशास्त्र संभाग को मुख्य अनुसंधान के साथ-साथ कृषि में उभरती चुनौतियों का समाधान करने के लक्ष्य से विकसित किया गया है। जिनमें कृषि व्यवसाय विश्लेषण और संसाधन आवंटन पर प्रारंभिक अध्ययनों से लेकर कृषि प्रौद्योगिकियों, नीतियों, नवाचारों के प्रभाव, मूल्य पूर्वानुमान, बाजार दृष्टिकोण, माध्यमिक कृषि,व्यापार की क्षमता, कृषि उत्पादन प्रणालियाँ, प्राकृतिक संसाधन उपयोग, जलवायु परिवर्तन प्रभाव, शमन और अनुकूलन आदि शामिल हैं। इसके अलावा, वर्ष 2024 के दौरान कृषि अर्थशास्त्र संभाग में किए गए शोध कार्यों का सारांश यहां आगे दिया गया है।

ई-नाम प्लेटफॉर्म पर एक अध्ययन से पता चला कि इसने किसानों की बाजारों तक पहुंच को बढ़ाया हैं। वर्ष 2021-22 से 2022-23 तक इसके द्वारा व्यापार की मात्रा और मूल्य में वृद्धि देखी गयी व इसके पश्चात 2023-24 में गिरावट दर्ज की गयी। हालाँकि, किसानों की कीमत प्राप्ति एगमार्कनेट की कीमतों से कम रही, जिससे ई-नाम के लाभों को अधिकतम करने के लिए बेहतर बुनियादी ढांचे, प्रौद्योगिकी एकीकरण और किसान जागरूकता की आवश्यकता पर बल दिया गया। कृषि अवसंरचना कोष (AIF)को आत्मनिर्भर भारत की योजना के तहत जुलाई 2020 को लॉन्च किया गया जिसके अंतर्गत इस योजना को ₹1 लाख करोड़ का बजट किसानों को ऋण प्रदान करने के लिए दिया गया, लेकिन मार्च 2024 तक केवल 27.5% धनराशि का उपयोग किया गया। जिसका कारण जटिल दस्तावेज़ीकरण को बताया गया, व साथ-साथ इसकी प्रभावशीलता को बढ़ाने के लिए सुव्यवस्थित प्रक्रियाओं की आवश्यकता पर बल दिया गया ।निवेश और प्रौद्योगिकी, लागत कम करने और प्रतिस्पर्धात्मकता में सुधार के कारण खाद्य प्रसंस्करण क्षेत्र में कुल कारक उत्पादकता (TFP) की वृद्धि 1980 से 2022 तक सालाना 2.73% होने का अनुमान लगाया गया था। विशेष रूप से मांस, मछली और कपड़ा जैसे उच्च विकास वाले क्षेत्रों में मूल्य संवर्धन का विस्तार, आर्थिक विकास और रोजगार को और बढ़ावा दे सकता है। एक अन्य अध्ययन में 77 वें NSSO सर्वेक्षण के आंकड़ों का उपयोग करते हुए,14 फसलों के लिए बाजार पहुंच और मूल्य प्राप्ति का विश्लेषण किया गया। गैर-नाशवान वस्तुएं मुख्य रूप से औपचारिक बाजारों में बेची गईं, जबकि जल्दी खराब होने वाली वस्तुएं अपने अल्प शेल्फ जीवन के कारण

स्थानीय स्तर पर बेची गईं। APMC बाजारों ने गैर-नाशवान वस्तुओं के लिए बेहतर कीमतों की पेशकश की, जबकि स्थानीय बाजारों ने जल्दी खराब होने वाली वस्तुओं के लिए उच्च रिटर्न प्रदान किया, जो बेहतर बुनियादी ढांचे और बाजार संबंधों की आवश्यकता पर प्रकाश डालता है।

भारत वैश्विक श्री अन्न उत्पादन में महत्वपूर्ण योगदान देता है, लेकिन निर्यात में इसका स्थान सीमित है। रागी के निर्यात और समाल मिलेट्स की मूल्य प्राप्ति में वर्ष 2018 से वृद्धि हुई है, जबकि बाजरा निर्यात में सुधार की उम्मीद वर्ष 2023 के बाद हुई है। खाद्य तेल का आयात 60% घरेलू मांग को पूरा करता है, जिसमें पाम तेल प्रमुख है, और आपूर्ति में व्यवधान के कारण कीमतों में वृद्धि हुई है। जिससे घरेलू उत्पादन और विविधीकरण में वृद्धि की आवश्यकता पर प्रकाश डाला गया है। यूरोपीय संघ को भारतीय कृषि निर्यात को अक्सर अस्वीकृति का सामना करना पड़ता है, मुख्य रूप से मसालों, तिल के बीज और बासमती चावल में कीटनाशक अवशेषों की उपस्थितियों के कारण, सख्त गुणवत्ता नियंत्रण की आवश्यकता महसूस की गयी।

एक अध्ययन में किसान क्रेडिट कार्ड (KCC) योजना की जांच से क्षेत्रीय असमानताएं सामने आईं, जिसमें मध्य और दक्षिणी क्षेत्रों में कवरेज सबसे अधिक थी, जबकि पहुंच केवल 19.12% कृषि परिवारों तक थी। विशेष रूप से वंचित हाशिए पर रहने वाले समूहों और महिला प्रधान परिवारों तक पहुंच थी। महाराष्ट्र के लातूर जिले में एक केस अध्ययन में पाया गया कि किसान क्रेडिट कार्ड अपनाने से कृषि आय में वृद्धि हुई। लाभार्थियों को बेहतर ऋण उपयोग के कारण उच्च फसल पैदावार प्राप्त हुई और पशुधन आय में वृद्धि हुई। एक अध्ययन में NFHS-5 डेटा का उपयोग करके महिला सशक्तिकरण पर व कुपोषण में सुधार पर प्रकाश डाला गया, लेकिन बचपन में एनीमिया और मोटापे में वृद्धि हुई, जिसमे लक्षित पोषण हस्तक्षेप की आवश्यकता पर जोर दिया गया। उत्तर प्रदेश के लखनऊ जिले में, किसान उत्पादक संगठनों (FPOs) में शामिल आम किसानों ने मूल्य संवर्धन के माध्यम से 28.5% अधिक आय अर्जित की, जिससे छोटे किसानों की स्थिरता के लिए FPO नेटवर्क को मजबूत करने की आवश्यकता स्पष्ट हुई।

ICAR-IARI की जलवायु-लचीली चावल और गेहूं की किस्में वर्ष 2035 तक 30,830.45 करोड़ रुपये का आर्थिक अधिशेष उत्पन्न करने की क्षमता रखती हैं। चना (Pusa JG 16) और सरसों (PM 28) की किस्मों से 2030 तक क्रमशः ₹13,007.34 करोड़ और ₹10,023.13 करोड़ के आर्थिक योगदान का अनुमान है। और GM सरसों (DMH-11)किस्म वर्ष 2034 तक ₹6 लाख करोड़ का आर्थिक अधिशेष उत्पन्न करने की संभावनाएं रखती है। ओडिशा में किए गए एक लिंग-आधारित अध्ययन से पता चला कि चावल किसानों में पुरुष और महिलाएं दोनों ही उच्च उपज और कम परिपक्वता अवधि को प्राथमिकता देते हैं, जबकि महिलाएं सूखा प्रतिरोधक क्षमता और सुगंध को भी महत्वपूर्ण मानती हैं।

बीज सुरक्षा पर एक अध्ययन में समग्र रूप से कोई बड़ा लिंग अंतर नहीं पाया गया। फिर भी, इसने बीज की कीमतों, स्रोतों और बाजार पहुंच में असमानताओं को उजागर किया, जिसमें जानकारी

के लिए पुरुष विस्तार सेवाओं और महिलाओं को पड़ोसी किसानों पर निर्भर थे। NSSO सर्वेक्षण डेटा का उपयोग करते हुए एक अध्ययन में पाया गया कि रासायनिक आदानों के साथ संयुक्त होने पर जैवउर्वरक बेहतर उपज लाभ देते हैं। सभी टिकाऊ और रासायनिक आदानों को एकीकृत करने से पैदावार में सुधार हुआ है, जो उत्पादकता और स्थिरता को बढ़ाने के लिए बेहतर समर्थन की आवश्यकता पर प्रकाश डालती हैं। सिंधु-गंगा के मैदानी इलाकों में 906 चावल किसानों के एक सर्वेक्षण में राज्य-वार विविधताओं के साथ बड़े पैमाने पर उर्वरक का उपयोग पाया गया, जिससे किसानों की विशेषताओं को प्रमुख अपनाने वाले कारकों के रूप में पहचाना गया। साथ ही, स्टोकेस्टिक फ्रंटियर मॉडलिंग ने तकनीकी दक्षता (0.65) में सुधार और पैदावार को अनुकूलित करने के लिए संतुलित नाइट्रोजन प्रबंधन (100-200 किग्रा/हेक्टेयर) की आवश्यकता पर प्रकाश डाला। पैनल ARDL का उपयोग करके भारतीय फसल की पैदावार (1970-2023) पर जलवायु परिवर्तन के प्रभावों के विश्लेषण में पाया गया कि बढ़ते अधिकतम तापमान से उत्पादन में 0.13% की कमी आई, जबकि CO_2 उत्सर्जन में 0.26% की वृद्धि हुई। हालाँकि, तापमान के प्रभाव ने लाभ को कम कर दिया, जिससे तनाव-सहिष्णु फसलों, फसल बीमा और बेहतर मौसम संबंधी पहुंच की आवश्यकता पर प्रकाश डाला गया। इसके अलावा, एक व्यापक समीक्षा से संकेत मिलता है कि सीमित संसाधन और जानकारी, महिलाओं द्वारा जलवायु-स्मार्ट कृषि को अपनाने में बाधा डालती है, जो लिंग-समावेशी समर्थन और अनुरूप हस्तक्षेप की आवश्यकता पर प्रकाश डालती है। एक ग्रंथसूची अध्ययन रिपोर्ट में कहा गया है कि कृषि में सौर ऊर्जा अनुसंधान बढ़ रहा है, जिसमें भारत का प्रमुख योगदान स्थिरता और उत्पादकता बढ़ाने के लिए सिंचाई और खेती में नवीकरणीय ऊर्जा अनुप्रयोगों पर ध्यान केंद्रित करना है।

कृषि अर्थशास्त्र संभाग ने वर्ष 2023 में, शैक्षणिक और अनुसंधान प्रगति में उल्लेखनीय उपलब्धियां हासिल की। जिनमें सोलह छात्रों ने(6 पीएच॰डी॰ और 6 एम॰एससी॰) प्रौद्योगिकी और संस्थागत नवाचार, संसाधन उपयोग, जलवायु परिवर्तन, खाद्य प्रणाली विश्लेषण और सामान्य संतुलन मॉडलिंग जैसे क्षेत्रों में सफलतापूर्वक अनुसंधान पूरा किया। कुल 34 पीएच.डी.और 14 एम.एससी. छात्रों का इस वर्ष के दौरान नामांकन किया गया। कई छात्रों को ।AR। फ़ेलोशिप के अलावा ।CAR-JRF/SRF और UGC-JRF सहित फ़ेलोशिप प्राप्त हुई। छात्रों और शिक्षकों ने राष्ट्रीय और अंतर्राष्ट्रीय सम्मेलनों, कार्यशालाओं जैसे विभिन्न शैक्षणिक कार्यक्रमों में सक्रिय रूप से भाग लिया और अपने उल्लेखनीय योगदान के लिए विभिन्न पुरस्कार प्राप्त किये। संभाग के कर्मचारियो ने पूसा कृषि विज्ञान मेला, पूसा समाचार और MGMG कार्यक्रम दौरों में सक्रिय रूप से भाग लेकर विस्तार-प्रसार गतिविधियों में भी अपना उल्लेखनीय योगदान दिया। कृषि अर्थशास्त्र संभाग द्वारा सहकर्मी-समीक्षित नास (NAAS)-रेटेड पत्रिकाओं में 17 शोध लेख भी प्रकाशित किए गये, जिनमें 6 से ऊपर रेटिंग वाले 6 पेपर शामिल हैं। इसके अतिरिक्त, संभाग द्वारा 6 पुस्तक अध्याय,1 प्रशिक्षण मैनुअल और 4 लोकप्रिय लेखों को भी तैयार किया गया हैं।

2. EXECUTIVE SUMMARY

The Division of Agricultural Economics, established in 1960, is a key constituent of the School of Social Sciences at the Indian Council of Agricultural Research-Indian Agricultural Research Institute (ICAR-IARI) with a mandate to excel in research and postgraduate education, the division has made significant contributions to agricultural policy through both basic and applied research. Recognised as an ICAR Centre of Advanced Faculty Training (CAFT) since 1995, the Division has strengthened agricultural economics and policy research capacity, benefiting 657 researchers through 34 training programs on contemporary topics. Its research focus has evolved to address emerging challenges in agriculture, transitioning from early studies on farm business analysis and resource allocation to contemporary areas such as the impact of agricultural technologies, policies and innovations, price forecasting and market outlooks, the potential of secondary agriculture and trade, agricultural production systems and natural resource use, and climate change effects, mitigation, and adaptations. The research works undertaken in the division during 2024 are summarised here.

A study on e-NAM performance revealed that the e-NAM platform boosted market access, with trade volumes and values rising from 2021-22 to 2022-23 before declining in 2023-24. However, farmers' price realisation remained lower than AGMARKNET prices, underscoring the need for better infrastructure, technology integration, and farmer awareness to maximise its benefits. Another study on the Agriculture Infrastructure Fund (AIF), launched in July 2020 under Atmanirbhar Bharat, found that while it offers ₹1 lakh crore in loans for post-harvest infrastructure, only 27.5% of the funds had been utilised by March 2024. The study highlighted complex documentation as a key barrier, emphasising the need for streamlined processes to enhance its effectiveness. The Total Factor Productivity (TFP) growth in the food processing sector was estimated to be 2.73% annually from 1980 to 2022, driven by investment and technology, lowering costs and improving competitiveness. Expanding value addition, particularly in high-growth sectors like meat, fish, and textiles, can further boost economic growth and employment. Using data from the 77th NSSO survey, another study analysed market access and price realisation for 14 crops. Non-perishables were mainly sold in formal markets, while perishables were sold locally due to their short shelf life. APMC markets offered better prices for non-perishables, while local markets provided higher returns for perishables, highlighting the need for better infrastructure and market linkages.

India contributes significantly to global millet production but remains a minor exporter, with rising ragi exports and value realisation for minor millets since 2018, while bajra exports are expected to rebound post-2023. Edible oil imports meet 60% of domestic demand, with palm oil dominating, and supply disruptions have led to price surges, highlighting the need for increased domestic production and diversification. Indian agricultural exports to the EU face frequent rejections, mainly due to pesticide residues in spices, sesame seeds, and basmati rice, underscoring the need for stricter quality control. A study using CGE modelling revealed that temporary rice export bans negatively impacted farmer incomes and widened inequality, suggesting reopening exports is crucial for economic growth. A study utilised deep learning models, such as stacked LSTM, for

groundnut price forecasting and achieved greater accuracy than traditional methods. Hybrid models, such as ARIMAX–LSTM, which incorporate irrigated areas as an exogenous variable, outperformed standalone models, highlighting their potential for improved agricultural planning and food security.

An examination of the Kisan Credit Card (KCC) scheme showed regional disparities, with central and southern regions having the highest coverage. In contrast, only 19.12% of agricultural households had access, particularly disadvantaging marginalised groups and female-headed households. A case study in Maharashtra's Latur district found that KCC adoption increased farm income, with beneficiaries achieving higher crop yields and livestock earnings due to better loan utilisation. A study on women's empowerment using NFHS-5 data highlighted improvements in malnutrition but rising childhood anaemia and obesity, emphasising the need for targeted nutrition interventions. In Uttar Pradesh's Lucknow district, mango farmers in Farmer-Producer Organisations (FPOs) saw a 28.5% income increase through value addition, underscoring the benefits of strengthening FPO networks for smallholder resilience.

ICAR-IARI's climate-resilient rice and wheat varieties are projected to generate Rs. 30,830.45 crore in economic surplus by 2035. Chickpea (Pusa JG 16) and mustard varieties (PM 28) are estimated to generate Rs. 13,007.34 crore and Rs. 10,023.13 crore, respectively, by 2030. GM mustard (DMH-11) could create Rs. 6 lakhs million in surplus by 2034. A gender-based study among rice farmers in Odisha found that both men and women prioritise high yield and short maturity, while women also value drought resistance and aroma. ◦A study on seed security found no major gender differences overall. Still, it highlighted disparities in seed prices, sources, and market access, with men relying on extension services and women on neighbouring farmers for information. A study using NSSO survey data found that biofertilisers result in better yield benefits when combined with chemical inputs. While integrating all sustainable and chemical inputs improved yields, limited advisory services hinder optimal adoption, highlighting the need for better support to enhance productivity and sustainability. A survey of 906 rice farmers in the Indo-Gangetic Plains found widespread fertiliser use with state-wise variations, identifying farmer characteristics as key adoption drivers. At the same time, stochastic frontier modelling highlighted the need for balanced nitrogen management (100–200 kg/ha) to improve technical efficiency (0.65) and optimise yields. A state-wise nitrogen budget analysis in India found chemical fertilisers as the primary nitrogen source, with cereal-centric states like Punjab, Haryana, and Bihar showing the highest surpluses, emphasising the need for balanced fertiliser use and efficient nitrogen management for sustainability.

An analysis using the CGE approach found that reductions in urea subsidies in India negatively impact the economy, including the agricultural and manufacturing sectors. Redirecting subsidy savings to rural farm households partially offsets income losses but harms rural non-farm and urban households, highlighting the need for balanced policy interventions. A study on DSR adoption in Haryana found that it reduced labour hours (50.47%), irrigation water use (42.6%), cultivation costs (13%), and CO_2 emissions (2,638.39 kg/ha) compared to PTR, but challenges like weed infestations and limited seed drill availability hinder adoption, highlighting the need for

incentives to promote its sustainability benefits. Urban expansion in Maharashtra has led to a significant loss of agricultural land, thereby reducing the provision of ecosystem services. At the same time, farmers show interest in conservation agriculture, and a valuation of Kerala's Kole Wetlands highlights their high annual benefits (₹12,83,964/ha), emphasising the need for sustainable land management. An analysis of climate change impacts on Indian crop yields (1970–2023) using Panel ARDL found that rising maximum temperatures reduced production by 0.13%, while CO_2 emissions increased it by 0.26%. However, temperature effects outweighed the benefits, highlighting the need for stress-tolerant crops, crop insurance, and improved meteorological access. Furthermore, a scoping review revealed that limited resources and information hinder women's adoption of climate-smart agriculture, underscoring the need for gender-inclusive support and tailored interventions. A bibliometric study reports that research on solar energy in agriculture is increasing, with India making significant contributions, particularly in renewable energy applications for irrigation and farming, aimed at enhancing sustainability and productivity.

In 2024, the division achieved notable milestones in academic and research advancements. Twelve students (6 PhD and 6 M.Sc.) completed research in areas like technology and institutional innovations, agricultural trade, climate change, ecosystem services and natural resource management. A total of 34 Ph.D. and 14 M.Sc. students were enrolled during the year. Several students received fellowships in addition to the IARI fellowship, including ICAR-JRF/SRF and UGC JRF. Students and faculty actively participated in various academic events, such as national and international conferences and workshops, and secured different awards for their remarkable contributions. The staff of the division also contributes to extension activities by actively participating in Pusa Krishi Vigyan Mela, Pusa Samachar and MGMG program visits. The division also published 17 research articles in peer-reviewed NAAS-rated journals, including six papers rated above 6. Additionally, the division produced six book chapters, eight popular articles, and one training manual.

3. OVERVIEW OF DIVISION OF AGRICULTURAL ECONOMICS

3.1 Introduction

The Division of Agricultural Economics, a constituent of the School of Social Sciences of the Indian Council of Agricultural Research-Indian Agricultural Research Institute, was established in 1960. The mandate of the division is to conduct research in frontier areas and serve as a centre for academic excellence in postgraduate education. Since its inception, the division has made significant contributions to both basic and applied research, with implications for agricultural policy. The division has achieved excellence in postgraduate education and research as an ICAR-UNDP Centre of Excellence through a faculty exchange program for human resource development and the strengthening of infrastructure facilities. Since 1995, it has been functioning as an ICAR Centre of Advanced Faculty Training (CAFT) to strengthen the capacity for agricultural economics and policy research in the national agricultural research system. Since then, the division has conducted 34 training programs for early-stage researchers in the National Agricultural Research System. The training has covered a variety of contemporary topics in agricultural economics, with a special focus on empowering the trainees with methodological advances in the field. So far, 657 Researchers have benefited from the CAFT program.

The research contributions of the division have been globally recognised, and many of the alumni hold reputed positions in national and international organisations. The division has maintained good academic liaison with other divisions at IARI and other national and global agricultural research institutions. The division's research focus has been continuously reoriented to address contemporary development challenges. The early research of the division focused on farm business analysis, efficient allocation of resources, supply response, input demand analysis, and marketing efficiency. To address the challenges and opportunities of the Green Revolution, research on capital formation, labour employment, farm mechanisation, rural credit needs, yield gap analysis, price policy and subsidy issues, and efficient management of natural resources was undertaken. However, in keeping pace with changes in the country's and the world's agricultural landscapes, research areas are reoriented from time to time.

Current research thrust areas of the division include,

- *Impact of agricultural technologies, policies and innovations:* Impact assessment of agricultural technologies developed by NARS, impact analysis of policies and government flagship programs like e-NAM, crop insurance, agriculture credit policy, market regulations, collective action, etc.

- *Price forecasting and market outlooks:* Price forecasting using advanced time series techniques and developing demand-supply projections for selected commodities.

- *The potential of secondary agriculture and trade*: Identifying the secondary agriculture drivers and assessing its potential. Analysis of the changing landscape of agricultural trade and its implications for the agriculture sector.

- *Agricultural production systems and Natural resource use:* Sustainability in the use of natural resources like water, energy and soil in different agricultural production systems and their implications, quantification of services offered by agro-eco systems and designing payment strategies for ecosystem services.

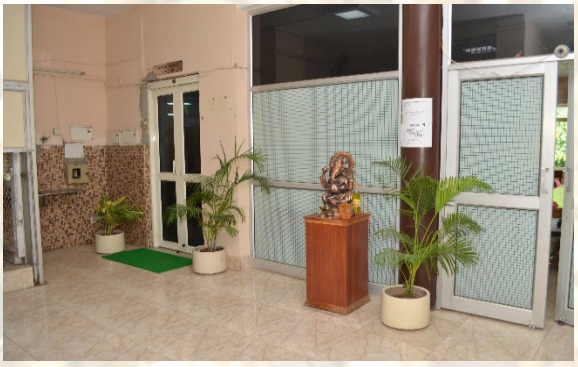
- *Climate change effects, mitigation, and adaptations:* Modelling the impact of climate change on agriculture, assessing the risks, mapping the vulnerabilities and adaptation strategies against climate change.

Facilities in the Division

The division is equipped with facilities, including a smart classroom, postgraduate lab, computer lab, seminar room, committee room, and library, all designed to support research, teaching, and various other activities.

PG Lab

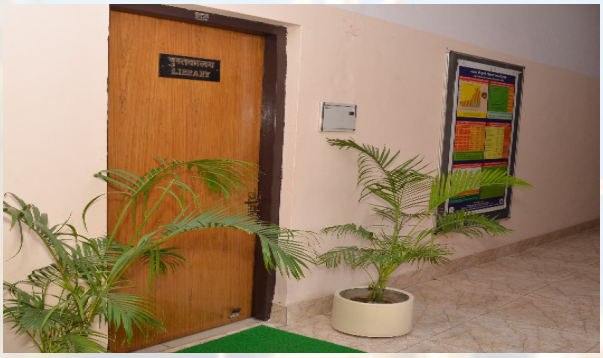
The PG lab is a facility provided in the division, allowing M.Sc. and Ph.D. students to work on their research under the guidance of faculty. Currently, it has four computers with internet facilities, each connected to a printer. The software available on the computers includes Microsoft Office (Word, PowerPoint, Excel, and Access), STATA, and SPSS. The lab also features a separate cabin facility, allowing students to work undisturbed and use their laptops.

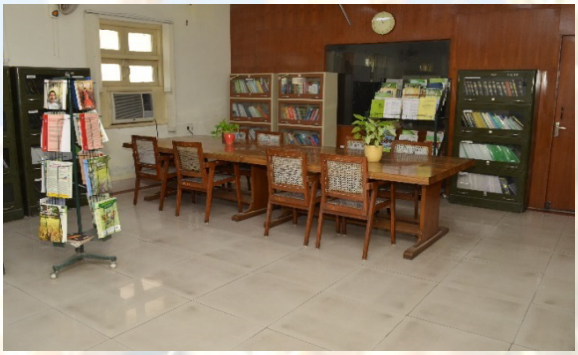


Library

The divisional library is a hub of resources, having 5679 books and eight journals and magazines. These include the Indian Journal of Agricultural Economics, Indian Journal of Agricultural Marketing, Agricultural Economics Research Review, Agricultural Statistics at a Glance, Agricultural Situation in India, Fertiliser Statistics, Economic Survey and National Account

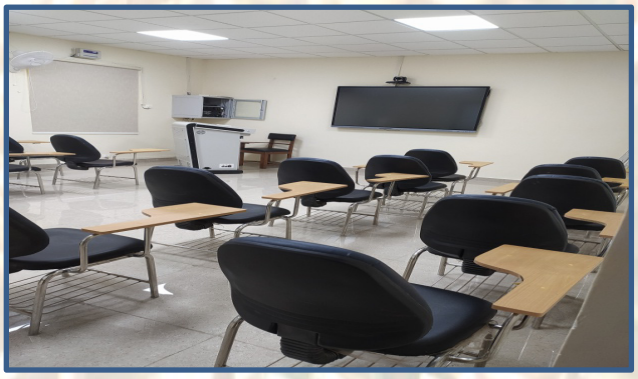
Statistics. The library has a collection of theses and research work from both M.Sc. and Ph.D. students from 1964 to date.





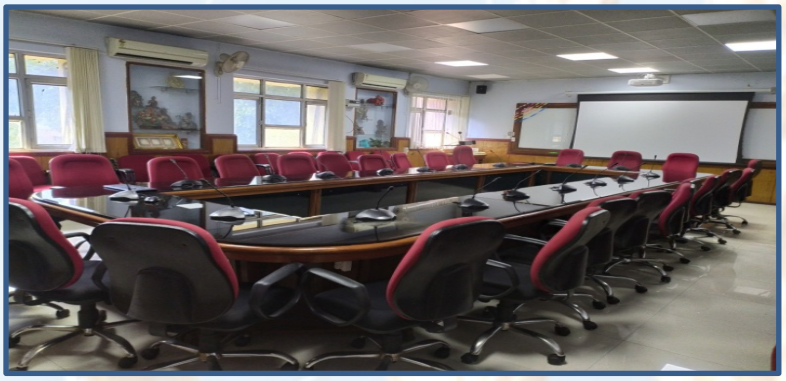
Smart classroom:

The smart classroom has a TV panel and a digital podium. The faculty can conduct online classes with two-way communication with the students.

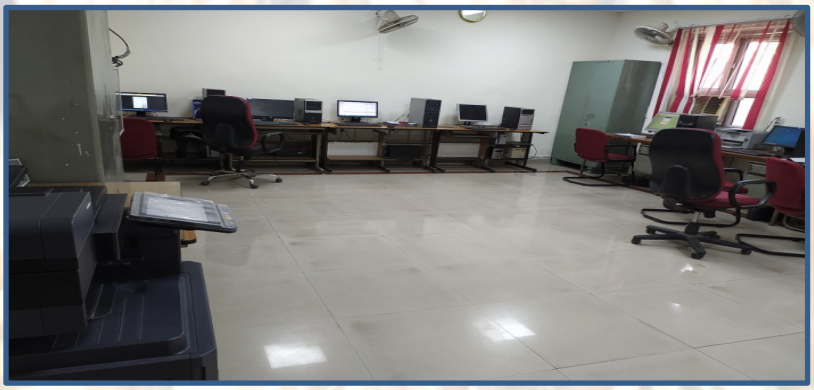


Seminar room: The seminar room is equipped with one touchscreen panel, one projector, an effective sound system and online connectivity for video conferencing. The seating capacity is around 55.

Committee Room: The committee room features a projector, one computer, and internet connectivity. The seating capacity is around 15.



Computer lab: The computer lab features six computers, each equipped with printers and internet connectivity, allowing students to browse information and work on their research projects.



3.1.1 Divisional Projects

The Division manages three institute-funded research projects focusing on themes of *Agricultural Markets and Value Chain, Institutional Innovations and Rural Livelihood, and Technology, Resources and Environment.*

Project 1: Innovations in Agricultural Marketing and Institutional Arrangements for Enhancing Farmers' Income in India

Objectives

- To leverage the potential of agricultural markets under the new institutional environment.
- To identify the drivers of secondary agriculture and assess its potential.
- To analyse and forecast the demand, supply and prices of selected agricultural commodities.
- To understand the changing landscape of agricultural trade and its implications for the agriculture sector.

Project 2: Social, Economic and Environmental Impact Assessment of Technology, Policy and Institutional Innovation in Agriculture

Objectives

- To examine the extent of adoption and benefits of improved technologies of IARI/NARS.
- To analyse the impact of knowledge-intensive technologies in mitigating risk and enhancing profitability.
- To study the government policies and institutional innovations for the enhancement of farm income.

Project 3: Exploring Linkages of Agricultural Production Systems and Ecosystem Services for Sustainability

Objectives

- To study interactions between agricultural production systems and natural resources in the context of sustainability and farm income.
- To quantify the value of ecosystem services of selected agricultural production systems and formulation incentive structures.
- To examine the technologies, institutions and policy initiatives on sustainable agriculture production and their implications.

3.2 AGRICULTURAL MARKETS AND VALUE CHAIN

3.2.1 e-NAM: Current Status and Its Impact on Price Realisation

The e-NAM platform has facilitated greater market access, with substantial growth in trade volumes and values from 2021-22 to 2022-23, but saw a decline in 2023-24. Farmers' price realisation on e-NAM remained below AGMARKNET prices for most commodities, raising concerns about uniform benefits. To maximise its potential, e-NAM requires enhanced infrastructure, technology integration, and farmer education.

3.2.2 Evaluation of the Agriculture Infrastructure Fund Scheme for Market Infrastructure and Its Role in Enhancing Farm Income

The Government of India launched the Central Sector Scheme 'Agriculture Infrastructure Fund (AIF)' under the Aatmanirbhar Bharat initiative in July 2020 to develop post-harvest infrastructure. The scheme aims to provide ₹1 lakh crore in loans for creating post-harvest management facilities and community farming assets by FY 2025-26, along with interest subvention and credit guarantee assistance until 2032-33. A key policy decision enabling APMCs to access AIF funds for multiple infrastructure projects within their market areas aims to strengthen supply chain logistics. However, an assessment of state-wise beneficiaries and disbursements revealed that only 27.5% of the allocated funds had been utilised by March 2024. Challenges such as lengthy documentation and detailed project report requirements were identified as barriers to the utilisation of funds. The

AIF has the potential to improve storage capacity, reduce post-harvest losses, enhance market connectivity, and benefit farmers by ensuring better price realisation. However, the effectiveness depends on fund utilisation, project implementation, and region-specific factors.

3.2.3. Assessment of Total Factor Productivity Growth and Employment Potential in the Agro-Industry Sector

Total Factor Productivity (TFP) is a key productivity indicator reflecting technological advancements, input efficiency, and capacity utilisation. Between 1980 and 2022, TFP in the food processing sector grew at an annual rate of 2.73%, driven by capital investments and increased input use. States with higher technological progress demonstrated faster growth in value addition. The rising TFP indicates reduced production costs and improved competitiveness, which supports industrial development and the affordability of consumer products.

Indian agriculture supports over 50% of households, but value addition through processing has become critical for economic growth and job creation. A study of agro-industry value addition from 1980-81 to 2020-21 revealed significant post-2000 growth in high-value sectors, including the meat, fish, and feed industries. Employment elasticity analysis revealed that a 1% increase in gross value addition could boost employment by 0.18%. Enhancing value addition, particularly in high-value and non-food sectors like textiles and apparel, can further stimulate employment growth.

3.2.4 Examining Differences in Market Access and Price Realisation Among Crops with Varying Perishability

The study analysed market access and price realisation across crops with varying perishability, utilising data from the 77th NSSO survey on "Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India." Fourteen crops were selected and categorised into non-perishables (rice, wheat, maise, jowar, bajra, gram, arhar, rapeseed & mustard, soybean), semi-perishables (onion, potato), and perishables (brinjal, tomato, mango, banana). Farmers relied more on formal market channels, such as APMC markets and government agencies, for non-perishables. At the same time, perishables were primarily sold in local markets due to their limited shelf life. Larger farmers with higher sales volumes preferred formal market channels, while smaller farmers faced constraints in accessing these markets. Pricerealisation varied across market channels; for non-perishables, APMC markets offered competitive or higher prices compared to local markets, whereas for perishables, local markets provided better price returns. Soybean prices remained stable across all channels, while semi-perishables and perishables exhibited higher price volatility. Perishables, such as mangoes, had a higher share of produce sold to Farmer Producer Organisations (FPOs), private processors, and contractual farming arrangements due to their processing potential. Enhancing formal market access for perishables and reducing price volatility through improved infrastructure and strengthened market linkages could benefit farmers.

3.2.5 Export Potential of Millets: Trends and Short-Term Projections

India accounts for 17% of global millet cultivation and 18% of production, but contributes less than 2% to global millet exports. Trend analysis and short-term export forecast using the Time Delay Neural Network (TDNN) model highlighted an increase in ragi exports and value realisation for minor millets since 2018, despite declining exports of sorghum and bajra due to rising domestic consumption. Projections indicate a rebound in bajra exports post-2023, while other millet exports remain stable. India must focus on market exploration, export promotion, and competitiveness enhancement for bajra and minor millets.

3.2.6 Edible Oil Production and Imports: A Comprehensive Analysis

Edible oil imports, constituting 40% of India's agricultural import bills, meet 60% of domestic demand. Palm oil dominates imports, followed by soybean and sunflower oils. Post-pandemic price surges, resulting from supply chain disruptions and limited production in exporting countries, have impacted domestic consumers. India has expanded oilseed cultivation and improved yields, but faces a widening production-import gap. The enhanced adoption of technologies, expanded oil palm production, and diversification with alternative oils, such as rice bran, could reduce import dependency and widen consumption options.

3.2.7 EU Rejections of India's Agricultural Commodities: Causes and Implications

The European Union is a significant export destination for Indian agricultural products; however, Indian exports frequently face rejection due to food safety and quality standards. From 2020-23, 75% of EU border rejections involved pesticide residues, particularly in spices, sesame seeds, and basmati rice. Comparative analysis revealed that India's basmati rice faced higher pesticide residue rejections than Pakistan's, emphasising the need for stricter quality control measures to sustain and grow exports.

3.2.8 Export Ban on Rice and Its Impact on the Indian Economy: A CGE Approach

India's temporary rice export bans, including in 2023, aimed to curb price surges but adversely impacted rural farming households' incomes and consumption levels. Computable General Equilibrium (CGE) modelling based on India's 2019-20 Social Accounting Matrix indicated that bans suppress innovation and widen income inequality. Reopening exports is crucial to revitalise the agricultural sector and stimulate economic growth.

3.2.9 Application of Deep Learning Models and Hybrid models for price forecasting and yield predictions of crops

This study utilised Deep Learning (DL) models, such as Stacked LSTM, for groundnut price forecasting, outperforming traditional methods with superior accuracy metrics (e.g., RMSE, MAPE). Accurate price predictions help farmers optimise production schedules and enable policymakers and traders to stabilise markets. Hybrid models, such as ARIMAX–LSTM,

combining linear and non-linear forecasting techniques, were evaluated for major crops. The inclusion of irrigated area as an exogenous variable significantly improved prediction accuracy, with ARIMAX–LSTM outperforming standalone models. These findings highlight the potential of hybrid approaches for agricultural planning and food security.

3.3 INSTITUTIONAL INNOVATIONS AND RURAL LIVELIHOOD

3.3.1 Effectiveness of Financial Inclusion Programs: A Case of Kisan Credit Card (KCC) Scheme in India

An assessment of the Kisan Credit Card (KCC) scheme revealed significant regional disparities in its outreach and access among agricultural households. Data from the NSSO 77th round Survey indicated that the central and southern regions had the highest KCC coverage, accounting for 26% of active cards each. In comparison, the northern region had the highest share of outstanding credit (35%). Despite good access to institutional credit in terms of bank account ownership, only 19.12% of agricultural households had KCC access, with disadvantaged groups and female-headed households particularly underserved. A probit model identified factors influencing KCC access, including the age, education, and gender of the household head, landholding size, access to extension services, and major economic activities. To enhance the scheme's outreach, targeted efforts are needed to support marginalised groups and underperforming regions.

3.3.2 Economic Evaluation of the KCC Scheme in Latur District of Maharashtra

A case study in Maharashtra's Latur district highlighted the economic impact of KCC adoption on farm income. Beneficiaries achieved higher yields and net returns in crop farming, such as an additional Rs. 10,035.64 per hectare for soybean, compared to non-beneficiaries. In livestock farming, KCC adoption increased net annual income per animal by Rs. 12,219.11. Beneficiaries allocated more loans to productive investments, whereas non-beneficiaries faced higher financial strain and diverted loans to debt repayment. Effective KCC utilisation, combined with cost management, significantly enhanced farm profitability, underscoring the need for expanded adoption and efficient implementation.

3.3.3 Exploring Women's Empowerment and Nutritional Outcomes in India

A study on women's empowerment and its impact on health and nutrition outcomes in India highlighted significant findings using NFHS-5 data from 2019–2021. While malnutrition indicators like stunting and underweight showed improvement, childhood anaemia and obesity among women increased, revealing emerging public health challenges. Double and triple burdens of malnutrition were particularly prevalent in affluent urban households and southern states. Key factors influencing malnutrition included children's age, birth weight, maternal education, household wealth, and geographic location. The findings emphasised the need for targeted interventions to address regional disparities and promote nutrition education.

3.3.4 Economic Assessment of Institutional Interventions for Mango Farmers in Lucknow

An economic assessment of institutional interventions in mango farming in Uttar Pradesh's Lucknow district demonstrated that participation in Farmer-Producer Organisations (FPOs) significantly boosted smallholder incomes. Value addition through packing and grading activities increased annual income by 28.5%. Econometric models revealed that FPO membership improved market surplus value and bargaining power, which can be attributed to economies of scale and better value chain integration. Strengthening FPO networks and ensuring inclusivity for smallholders could further enhance incomes and economic resilience among mango producers.

3.4 TECHNOLOGY, RESOURCES AND ENVIRONMENT

3.4.1 Impact of Agricultural Technology: Climate-Resilient Varieties of Rice, Wheat, Mustard, and Chickpea

Economic Impact of Climate-Resilient Rice and Wheat Varieties of ICAR-IARI

Climate-resilient agricultural technologies are critical in addressing the challenges of climate change, enhancing food security, and fostering economic growth in countries like India. This study evaluates the economic and poverty-reduction impacts of climate-resilient rice and wheat varieties developed by ICAR-IARI. Using an ex-ante economic surplus approach, the benefits for both producers and consumers were projected, emphasising their contributions to agricultural productivity and rural poverty alleviation.

The study analysed two wheat varieties (HD 3385 and HD 3406) and four rice varieties (Pusa Basmati 1979, Pusa Basmati 1985, Pusa Basmati 1885, and Pusa Basmati 1882), released between 2021 and 2023. Data were collected through breeder feedback, seed indent records, and agricultural literature, while elasticity coefficients for demand and supply were sourced from established research. Wheat varieties are projected to generate a total economic surplus (TES) of Rs. 4,318.88 crore by 2035, with consumer and producer surpluses growing substantially. Rice varieties are expected to yield a cumulative surplus of Rs. 26,511.57 crore by 2035, benefiting both producers and consumers significantly. Together, these varieties are projected to contribute Rs. 30,830.45 crore in TES by 2035, positively influencing rural incomes, food security, and poverty reduction. An estimated 0.39 crore people may escape poverty due to these advancements.

Economic Impact of Climate-Resilient Chickpea and Mustard Varieties of ICAR-IARI

The economic surplus model (ESM) was employed to estimate the socio-economic impact of ICAR-IARI's chickpea (Pusa JG 16 and Pusa Manav) and mustard (PM 28 and PDZM 33) varieties. Both ex-post and ex-ante frameworks were used to evaluate their impacts. Chickpea Variety Pusa JG 16 is projected to generate Rs. 13,007.34 crore in cumulative surplus by 2035, with a significant poverty-reduction impact (0.061 crore people escaping poverty). Another chickpea variety, Pusa Manav, is expected to contribute Rs. 5,149.75 crore in surplus by 2035.

Meanwhile, the mustard variety PM 28, released in 2012, is estimated to generate a cumulative surplus of Rs. 10,023.13 crore by 2030, lifting 0.057 crore people out of poverty.

Ex-Ante Impact Assessment of GM Mustard in India

India's first genetically modified (GM) food crop, Dhara Mustard Hybrid-11 (DMH-11), was analysed using ESM for its potential economic impacts. The total economic surplus (TES) was estimated to be Rs. 6 lakh million by 2034 with a Net Present Value (NPV) of Rs. 2.72 lakh million, Internal Rate of Return (IRR) of 264% and Benefit-Cost Ratio (BCR) of 353. These figures underscore the significant economic potential of GM mustard in enhancing agricultural productivity and societal welfare, though market dynamics and policy considerations remain critical.

3.4.2 Gender-Based Study on Seed system, Varietal Adoption and Trait Preferences among rice farmers in Odisha

Rice remains central to Odisha's agriculture, and understanding gender-specific preferences is vital for promoting equitable adoption of high-yielding varieties. In trait preferences, both genders prioritise high yield and short maturity duration. Female farmers favour traits such as drought resistance, aroma, and suitability for specific rice products, reflecting their focus on both culinary and sustainability aspects. The challenges in varietal adoption include low adoption rates stemming from socio-economic barriers, limited access to resources and gender-specific aversions that include concerns about seed certification and climate stress susceptibility.

A study on seed security among male and female rice farmers in Odisha revealed no significant gender differences in overall seed security but highlighted disparities in seed prices, sources, and distance to markets. Informal seed systems dominate, with extension services and neighbouring farmers serving as primary information sources for male and female farmers, respectively.

3.4.3 Analysing the Utilisation of Sustainable Inputs in Cereal Cultivation and Their Effect on Farm Outcomes

Global priorities around food security, environmental conservation, and sustainability have emphasised the adoption of sustainable inputs such as organic manure, biofertilisers, and biopesticides. Despite their recognised benefits, adoption rates remain low. This study examines the determinants and impacts of adopting multiple sustainable inputs among paddy and wheat farmers in India, as well as the drivers of adoption intensity and technical efficiency. Using survey data from the 77th NSSO round (2018–2019), analytical methods, including Multivariate Probit, Ordered Probit models, Seemingly Unrelated Regression, Regression Adjustment models, and the Stochastic Frontier method, were employed. Findings reveal that the age and education of household heads, household size, and access to extension services significantly influence the adoption and intensity of sustainable inputs. Adoption yields notable benefits, such as increased harvest value, though limitations in advisory services hinder optimal expenditure on sustainable

inputs. Technical efficiency analysis underscores the potential for improvement through optimal input utilisation.

Among wheat farmers, bio-pesticides were the least used input (9.8%), followed by biofertilisers (16.9%) and manures (42.6%). Regression adjustment models indicated that combining biofertilisers with chemical inputs increased wheat yields by 12.9 kg/ha, enhancing profitability. However, biopesticides and manure, when used alongside chemical inputs, did not significantly improve yields, likely due to reduced chemical fertiliser use—integrating all three sustainable inputs led to higher yields for both paddy and wheat. Ordinal Probit regression identified critical determinants of adoption, including age, gender, social group, land size, training, and organisational membership. These findings support the promotion of sustainable inputs to enhance cereal productivity and sustainability.

3.4.4 Assessing Fertiliser Use Patterns Among Rice Farmers in the Indo-Gangetic Plains

A survey of 906 rice farmers across five states in the Indo-Gangetic Plains revealed widespread use of urea (91.17%) and Diammonium Phosphate (66.78%), with significant variations in fertiliser and organic manure usage across states. Multivariate regression analysis identified factors such as farmer age, experience, and participation in training programs as key drivers of fertiliser use. Stochastic frontier modelling revealed that nitrogen, pesticides, labour, and land preparation significantly enhanced productivity, while excessive phosphorus application and irrigation negatively impacted yields. The mean technical efficiency score of 0.65 highlights the potential for improving rice yields through balanced fertiliser use, with optimal nitrogen application identified at 100–200 kg/ha. Strategies to manage overuse and ensure balanced nitrogen management are critical for achieving agricultural efficiency and sustainability.

3.4.5 Evaluating the Nitrogen Budget of Indian Agriculture: A State-Wise Analysis

This study provides a state-wise nitrogen budget analysis across India, assessing nitrogen inputs (chemical fertilisers, manures, biological nitrogen fixation, and atmospheric deposition) against crop nitrogen uptake and losses. Data sources included fertiliser usage, coefficients for nitrogen fixation, and crop production statistics. Results show that chemical fertilisers are the primary contributor to nitrogen inputs across all states, with cereal-centric cropping systems exhibiting the highest nitrogen surpluses. Punjab recorded the largest surplus, followed by Haryana, Bihar, Andhra Pradesh, and Tamil Nadu, highlighting the need for balanced fertiliser applications tailored to crop and soil requirements. Efficient nitrogen management practices are crucial for addressing regional imbalances and promoting sustainable agriculture.

3.4.6 Analysing the Implications of Urea Subsidy Reduction on the Indian Economy

Using the IFPRI CGE model and 2019–2020 social accounting matrix data, this study analysed the economy-wide effects of urea subsidy reductions in India under various scenarios (10%, 30%, and 50%). Our findings reveal that while cutting subsidies can ease fiscal pressure, it also has a

negative impact on key economic sectors, particularly agriculture. GDP declines across all major sectors, even when savings from subsidy reductions are redirected to rural farm households. However, these transfers help cushion the blow for farmers, mitigating some of the income and consumption losses that result. In contrast, rural non-farm and urban households experience a decline in their real incomes.

3.4.7 Analysing Economic and Environmental Benefits of Direct-Seeded Rice (DSR) in Haryana

A study on DSR adoption in Haryana revealed significant cost and environmental benefits. DSR plots reduced labour hours by 50.47%, irrigation water by 42.6%, and cultivation costs by 13% compared to Puddled Transplanted Rice (PTR). Additionally, DSR reduced CO_2 emissions by 2,638.39 kg/ha. However, challenges such as weed infestations and limited seed drill availability hinder broader adoption. Incentivising farmers based on their contributions to ecosystem services, such as carbon and water savings, could promote DSR as a viable alternative to PTR, enhancing sustainability in rice cultivation.

3.4.8 Estimating the Value of Ecosystem Services in Maharashtra and Kerala

Studies in Maharashtra have revealed significant agricultural land loss (40,000 ha between 2005 and 2020) due to urban expansion, resulting in reduced carbon sequestration and increased soil erosion. Farmers expressed a strong willingness to adopt conservation agriculture with adequate incentives, reflecting opportunities to enhance carbon stocks and reduce greenhouse gas emissions. Similarly, an economic valuation of the Kole Wetlands in Kerala estimated annual ecosystem service benefits at ₹12,83,964/ha, with regulating services contributing 75.79% of the total value. These findings underscore the need for sustainable land-use management and conservation strategies to preserve critical ecosystem services.

3.4.9 Impact of Climate Change on Yield of Major Crops: An Empirical Analysis

A comprehensive empirical analysis was conducted to investigate the impact of climate change on the yields of major crops in India, spanning the period from 1970 to 2023. Data on climatic variables, such as maximum and minimum temperatures and average precipitation, were obtained from the World Bank Climate Change Knowledge Portal. In contrast, CO_2 emissions data were sourced from "Our World in Data." Crop production and cultivation area data were retrieved from the Reserve Bank of India. Using the Panel Autoregressive Distributed Lag (ARDL) technique, the study assessed both short- and long-term impacts of climatic variables on crops, including rice, wheat, maise, bajra, jowar, sugarcane, groundnut, and cotton. In the long term, a 1% rise in maximum temperature reduced crop production by 0.13%, highlighting the detrimental effects of rising temperatures. Conversely, a 1% increase in CO_2 emissions led to a 0.26% production increase, though the adverse impact of temperature rises overshadowed this benefit. Short-term dynamics revealed that maximum temperature and precipitation positively influenced yields, while a rise in minimum temperature had a negative effect. Non-climatic factors, such as increased

cultivation area, significantly boosted productivity, emphasising the role of land management in mitigating climate risks. The study recommended developing stress-tolerant crop varieties, promoting crop insurance schemes, and enhancing access to meteorological information to safeguard agricultural productivity against the impacts of climate change.

3.4.10 Enhancing Adoption of Climate-Smart Agriculture by Women

A scoping review identified significant barriers to women's adoption of climate-smart agricultural (CSA) technologies, including limited access to resources, tools, and information. Women's resilience and adaptability were evident in off-farm strategies, emphasising the need for tailored interventions that empower women and reduce resource gaps. Prioritising gender-inclusive approaches and providing targeted support for CSA technologies can enhance adoption rates and contribute to climate resilience among women farmers.

3.4.11 Examining Emerging Research on Solar Energy in Agriculture

Bibliometric analysis of solar energy research in agriculture revealed an upward trend in publications, with India leading in contributions. Emerging themes include the application of renewable energy in irrigation and agriculture. Promoting solar energy adoption in agriculture could address energy needs sustainably while enhancing productivity, highlighting a growing global research priority.

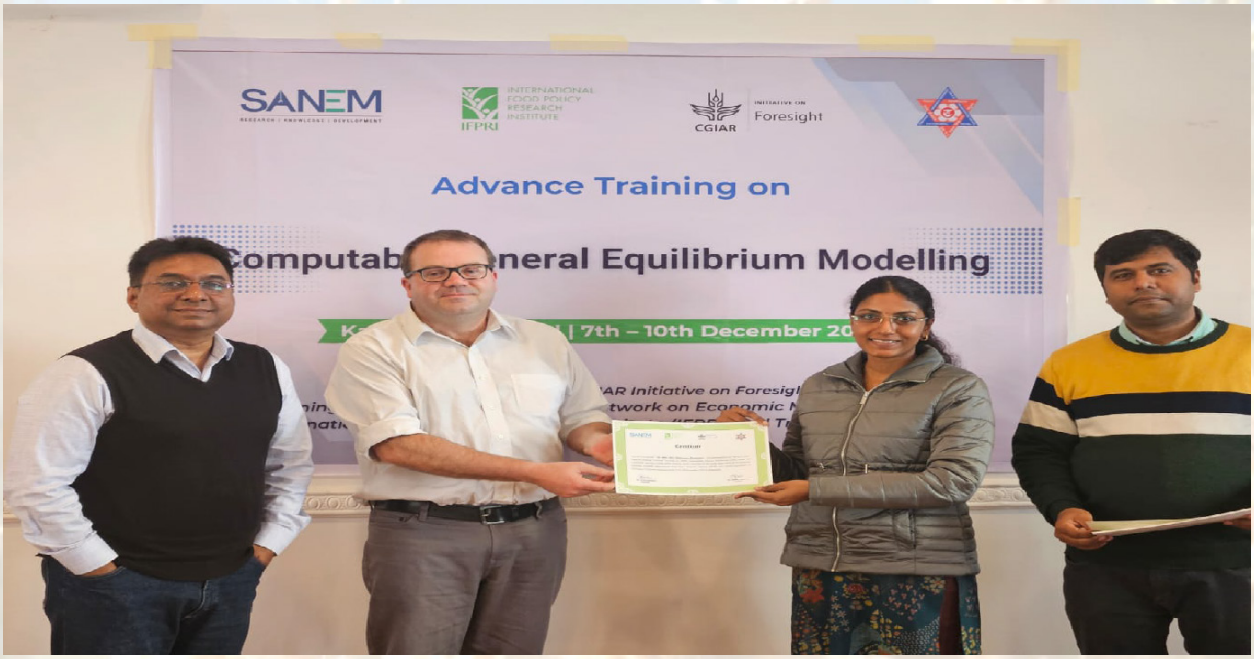
4. CAPACITY BUILDING PROGRAMS

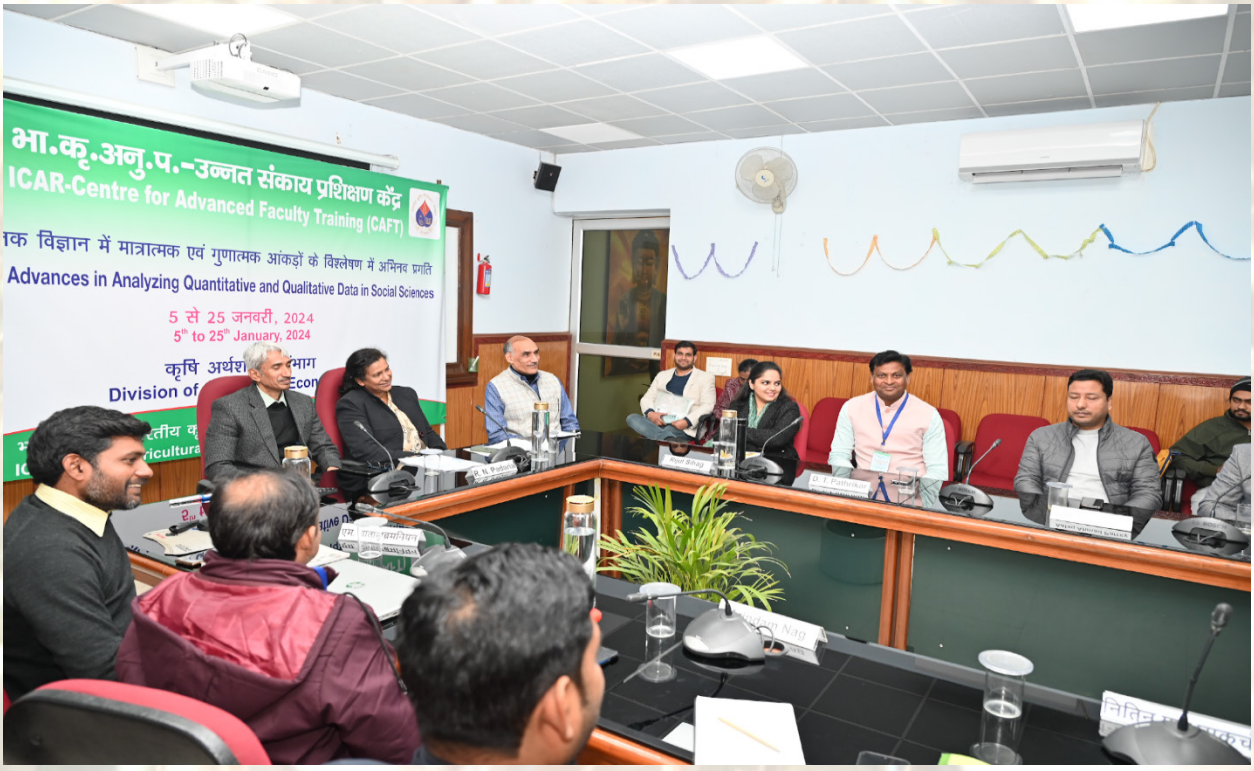
Capacity-building programs are comprehensive initiatives designed to enhance the skills, knowledge, and competencies of individuals, organisations, or systems to improve their performance and effectiveness in achieving specific objectives. These programs aim to empower participants by strengthening their technical expertise, promoting innovative practices, and enhancing their decision-making and problem-solving capabilities. They often include key components such as training sessions, hands-on workshops, skill development activities, access to necessary resources and tools, and continuous monitoring and evaluation to ensure progress and impact. Capacity-building programs delivered through various methods, including online platforms, in-person workshops, and hybrid models, cater to a wide range of audiences, including students, researchers, professionals, and rural communities. Their scope can range from technical areas, such as statistical analysis, econometrics, and machine learning, to broader themes, including climate-smart agriculture, sustainable development, and leadership training. These programs play a critical role in addressing skill gaps, promoting knowledge sharing, and enabling participants to adapt to emerging challenges. By equipping individuals and organisations with the tools and insights needed to innovate and collaborate effectively, capacity-building programs contribute significantly to long-term development, improved project implementation, and enhanced productivity across diverse fields.

The Division of Agricultural Economics, ICAR-IARI, successfully organised two notable training programs, and the details are as follows.

Table 1: Details of training programs conducted in the division

Trainings	Duration	No. of Participants		
		Male	Female	Total
International Capacity Building Program on Computable General Equilibrium (CGE) Modelling for Economic Policy Analysis	April 29-May 3, 2024	19	11	30
Recent advances in analysing quantitative and qualitative data in the social sciences	5-25 January,2024	15	4	19


SANEM
IFPRI
CGIAR
Foresight
Advance Training on


भा.कृ.अनु.प.-उन्नत संकाय प्रशिक्षण केंद्र
ICAR-Centre for Advanced Faculty Training (CAFT)
Advances in Analyzing Quantitative and Qualitative Data in Social Sciences
5 से 25 जनवरी, 2024
5th to 25th January, 2024

Capacity-building programs attended by the scientists

S. No	Name of the Scientist	Name of Training Program Attended
1	Dr. Chiranjit Mazumder	International Capacity Building Program on Computable General Equilibrium (CGE) Modelling for Economic Policy Analysis, organised by IFPRI and SANEM in the Division of Agricultural Economics, ICAR-IARI, from 29 April to 03 May, 2024.
2	Dr. Renjini V R	International Capacity Building Program on Computable General Equilibrium (CGE) Modelling for Economic Policy Analysis organised by IFPRI and SANEM in the division of agricultural economics, ICAR-IARI, from 29 April to 03 May, 2024.
3	Dr. Praveen KV	• Attended training on Data Visualisation using R syring 4-8th March 2024, organised by ICAR-NAARM, Hyderabad.
4	Dr. Asha Devi	International Capacity Building Program on Computable General Equilibrium (CGE) Modelling for Economic Policy Analysis organised by IFPRI and SANEM in the division of agricultural economics, ICAR-IARI, from 29 April to 03 May, 2024. Advanced-Level Capacity Building Training focusing on IFPRI's CGE model for sustainable agri-food system policy analysis, organised by IFPRI and SANEM from 4 to 7 December 2024 in Nepal.

5. THE GRADUATE SCHOOL ACTIVITY

5.1 Courses offered in the academic session 2024

I[st] Semester

S. No.	Course No.	Course Title	Credits
1	AEC-501*	Microeconomic Theory and Applications	3+0
2	AEC-502*	Agricultural Production Economics	1+1
3	AEC-504*	Macro Economics and Policy	2+0
4	AEC-506	Agricultural Development and Policy Analysis	2+0
5	AEC-509*	Research Methodology for Social Sciences	1+1
6	AEC-603**	Advanced Econometrics	2+1
7	AEC-605	Operations Research	2+1
7	AEC-607**	Quantitative Development Policy Analysis	1+1
8	AEC-608	Natural Resource Management	2+1
9	AEC-591/691	Seminar	1+0

II[nd] Semester

S. No.	Course No.	Course Title	Credits
1	AEC-503*	Agricultural Marketing and Price Analysis	2+1
2	AEC-505*	Econometrics	2+1
3	AEC-507*	Agricultural Finance and Project Management	2+1
4	AEC-508*	Linear Programming	1+1
5	AEC-511*	International Economics	1+1
6	AEC-515***	Development Economics	2+0
7	AEC-601**	Advanced Microeconomic Analysis	1+1
7	AEC-602**	Advanced Macro Economic Analysis	2+0
8	AEC-604**	Advanced Production Economics	2+1
9	AEC-606***	Advanced Agricultural Marketing and Price Analysis	2+1
10	AEC-591/692	Master's & Doctoral Seminar	1+0

5.2 Number of students enrolled during the year 2024

Name of the Degree Programme	No of students
Ph.D.	
I st Year	10
IInd Year	8
IIIrd Year	7
IVth Year onwards	9
MSc.	
I st Year	8
IInd Year	6
Total	**48**

5.3 List of degree recipient students and chairpersons of their advisory committee

S. No.	Name of the student & Roll No.	M.Sc./ Ph.D.	Title of the thesis	Chairperson
1.	Mr. Harshit Gupta 21833	M.Sc	Potential Impact of the Free Trade Agreement Between India and the UK on Indian Agriculture	Dr. Shiv Kumar
2.	Ms. Athulya S. 21834	M.Sc	A gender-based study on varietal adoption, trait preference and value addition by paddy farmers: A case of selected stress-prone districts of Odisha	Dr. Praveen K.V.
3.	Mr. Sagar Umesh Kolkur 21835	M.Sc	Impact Assessment of SaaS based Startups on Price Realisation by Indian Farmers.	Dr. Akriti Sharma
4.	Ms. Anukriti Raj 21836	M.Sc	An Analysis of Electricity Tariff Policies for Irrigation and its Implications on Groundwater Use and Irrigation Cost in India	Dr. Shivendra Kumar Srivastava
5.	Mr. Vishwanath 21837	M.Sc	Economic evaluation of the Kisan Credit Card scheme in Latur district of Maharashtra	Dr. P. Anbukkani
6.	Ms. Neha Sannyasi 21838	M.Sc	India's trade policies on cereals: Economic assessment of its effects on export and welfare	Dr. Kingsly Immanuelraj
7.	Ms. Pavithra Srinivasamurthy 11388	Ph.D	Agricultural Credit, Indebtedness and Farm Income Linkages in India	Dr. Alka Singh
8.	Mr Jobin Sebastian 10732	Ph.D	Impact of Climate Change on Rice-Based Cropping Systems: An Analysis in the East Coastal Zone of Andhra Pradesh	Dr. Pramod Kumar

9.	Omprakash Naik N. 11385	Ph.D	A Study on Land Use Change and Ecosystem Services Valuation in Maharashtra	Dr. P. Venkatesh
10.	Geetha M.L. 11381	Ph.D	Economics of Contract Farming in India: A case of vegetable production in Karnataka	Dr. Pramod Kumar
11.	Ajmal S 11669	Ph.D	Economic Valuation of Kole Wetland Agroecosystem in Kerala	Dr. P. Venkatesh
12.	Jamaludheen A. 10940	Ph.D	Climate change and Food security of farm households: A case study of the Kuttanad region of Kerala	Dr. Nalini Ranjan Kumar

5.4 Students Achievements

Name and roll no. of student.	**M.Sc./ M.Tech./ Ph.D.**	**Name of the award**	**Year**	**Agency**
Neha Sanyasi 21838	M.Sc.	Received First Prize in the Drawing competition during the IARI Foundation day April, 2024	2024	ICAR-IARI, New Delhi
Sukhendu Nandi 12583	Ph.D.	Best Paper Presentation Award by the 84th ISAE Annual Conference, Karaikal, from 10-13 November 2024	2024	84th ISAE Annual Conference, Karaikal
Pavan Kumar Kumawat 12580	Ph. D	Best Research Scholar Award for Oral presentation at the International Conference (CITAAS 2024) on 29th to 31 August 2024, Guru Kashi University, Bathinda, Punjab	2024	Gurukashi University, Bathinda, Punjab

5.5. Fellowships (other than IARI) received by the students

Name of the Fellowship	Name of students		Funding Source
	M.Sc./ M.Tech.	Ph.D.	
ICAR-JRF	Surya Pratap Singh Nagdali Kodipaka Srividya Anusha BS Harish B Harshit Gupta Athulya S. Sagar Umesh Kolkar Anukriti Raj Vishwanath Neha Sannyasi		ICAR
ICAR-SRF	NA	Pavan Kumar Kumawat Sukhendu Nandi Ajay Anto Soy Popavath Bhargav Naik Shreya S. Hanji Aryakrishnan J.U. Seema Arya Cheela Soumya Raj Ratan Panday S. Harshitha Nayak Indrajit Mondal Hemanth DB	ICAR
IARI	NA	Yoihenba Naorem Konda Ramanjaneya Reddy Sahin Aktar Munshi Haritha K. Arun D. Gaurav Mattoo Rajnish Pandey Kartikeya Rai Anusree Krishna K	IARI
UGC-JRF	NA	Shubho Paul Subrata Barman Amit Singh Chauhan	UGC

		Padigapati Venkata Naga Sindhuja S. Rohith Arya Krishnan J.U. Neelakantappa P. Srinath TN Jagdeesh MS Ajmal S. Adrita Dam Sunil Naik Ragini P. Jambagi	

6. OFFICIAL LANGUAGE (RAJ BHASHA) IMPLEMENTATION

(क) जारी कागजात की कुल संख्या : 107

(ख) द्विभाषी रूप में जारी कागजात की संख्या : 107

हिंदी में प्राप्त पत्र (राजभाषा नियम 5) जिनके उत्तर अनिवार्यत: हिन्दी में दिए जाने हैं:

(क) हिंदी में प्राप्त कुल पत्रों की संख्या : 214

(ख) इनमें से कितनों के उत्तर हिंदी में दिए गए : 103

(ग) इनमें से कितनों के उत्तर दिए जाने अपेक्षित नहीं थे : 111

अंग्रेजी में प्राप्त पत्रों के उत्तर हिंदी में दिए जाने की स्थिति (केवल 'क' एवं 'ख' क्षेत्र में स्थित कार्यालयों के लिए):

	अंग्रेजी में प्राप्त पत्रों की संख्या	इनमें से कितनों के उत्तर हिंदी में दिए गए	इनमें से कितनों के उत्तर अंग्रेजी में दिए गए	इनमें से कितनों के उत्तर दिए जाने अपेक्षित नहीं थे
	1	2	3	4
'क' क्षेत्र के लिए	123	39	कोई नहीं	84

भेजे गए मूल पत्रों का ब्यौरा:

	हिंदी/द्विभाषी	केवल अंग्रेजी में	भेजे गए पत्रों की कुल संख्या	हिंदी/द्विभाषी में भेजे गए पत्रों का प्रतिशत
	1	2	3	4
'क' क्षेत्र के लिए	61	कोई नहीं	61	100 प्रतिशत

तिमाही के दौरान फाइलों/दस्तावेजों पर हिंदी में लिखी गई टिप्पणियों का ब्यौरा:

(क) हिंदी में लिखी गई टिप्पणियों के पृष्ठों की संख्या : 61

(ख) कुल टिप्पणियों के पृष्ठों की संख्या : 61

(ग) हिंदी में प्रकाशित प्रसार साहित्य (पैम्फलेट आदि) : 5

संभागीय राजभाषा कार्यान्वयन समिति की आयोजित बैठक दिनांक 27.02.2024 को अपराहन 3:30 बजे

संभागीय राजभाषा कार्यान्वयन समिति की आयोजित बैठक दिनांक 29.05.2024 को अपराहन 3:30 बजे

संभागीय राजभाषा कार्यान्वयन समिति की आयोजित बैठक दिनांक 20.09.2024 को अपराहन 3:30 बजे

संभागीय राजभाषा कार्यान्वयन समिति की आयोजित बैठक दिनांक 30.11.2024 को अपराहन 3:30 बजे

राजभाषा समिति द्वारा आयोजित बैठकें

दिनांक 29.03.2024 को ऑनलाइन आयोजित

दिनांक 30.06.2024 को ऑनलाइन आयोजित

दिनांक 27.09.2024 को ऑनलाइन आयोजित

दिनांक 28.12.2024 को ऑनलाइन आयोजित

कृषि अर्थशास्त्र संभाग में हिंदी दिवस का आयोजन

प्रतिवर्ष की भांति इस वर्ष भी कृषि अर्थशास्त्र संभाग में हिंदी दिवस का आयोजन किया गया। संभाग में हिंदी के प्रचार-प्रसार एवं हिंदी में अधिक से अधिक सरकारी कार्य करने के लिए सुलेख, श्रुतलेख एवं प्रश्नोत्तरी, अपना परिचय, काव्य-पाठ आदि प्रतियोगिताओं का आयोजन दिनांक 13 सितम्बर, 2024 को किया गया। इससे संभाग के वैज्ञानिक, तकनीकी अधिकारी, छात्र एवं अनुबंध पर अनुसंधान कार्य करने वाले (वाईपी-1, एसआरएफ़) ने भाग लिया और विभिन्न पुरस्कार प्राप्त किए। संभाग में पुरस्कार वितरण 13 सितम्बर, 2024 को किया गया, जिसमें मुख्य अतिथि डॉ. अतुल कुमार (बीज विज्ञान एवं प्रौद्योगिकी विभाग), संभागाध्यक्ष डॉ. अलका सिंह एवं राजभाषा नोडल अधिकारी श्री पवन कुमार मलिक के द्वारा सभी प्रतियोगिताओं में प्रथम, द्वितीय, तृतीय एवं सांत्वना विजेताओं को स्मृति चिन्ह एवं प्रमाण-पत्र प्रदान कर सम्मानित किया गया। मुख्य अतिथि एवं संभागाध्यक्ष ने हिंदी राजभाषा को बढ़ावा देने के लिए इस प्रकार के आयोजन की प्रशंसा की और भविष्य में कुछ और प्रतियोगिताओं को कराने के लिए प्रेरित किया। हिंदी में सर्वाधिक कार्य करने के लिए भी श्री नन्दन कुमार, सहायक प्रशासनिक अधिकारी को निदेशक महोदय द्वारा पुरस्कृत किए जाने पर अध्यक्ष महोदया ने उनको बधाई दी एवं संभाग को हिंदी में कार्य करने के लिए प्रोत्साहित किया।

7. PUBLICATIONS

Research papers

- Korekallu, S. A., & Mithöfer, D. (2024). Unpacking stakeholder perceptions on challenges for increasing adoption of solar-powered irrigation systems in India: A Q methodology study. *Q Open*. https://doi.org/10.1093/qopen/qoae020.

- Padigapati, V. N. S., Singh, A., Praveen, K. V., Perumal, A., & Ramalingam, S. (2024). *Examining the prevalence and predictors of stunting in Indian children: A spatial and multilevel analysis approach*. Agricultural Research, 13(3). https://doi.org/10.1007/s40003-024-00757-z

- Praveen, K. V., Devi, A., Renjini, V. R., & Kumar, D. (2024). *Technology dis-adoption in agriculture: The case of biofertilisers in the Indo-Gangetic Plains region*. National Academy Science Letters. https://doi.org/10.1007/s40009-024-01556-4

- Asha Devi, Anbukkani P, Alka Singh, S K Malhotra, Girish K Jha and Pradeep Pangal (2024) Study on production and utilisation of minor millets in Madhya Pradesh, Indian Journal of Agricultural Sciences 94 (3): 303–307. NAAS Rating:6.3

- Arun, D., Renjini, V. R., Venkatesh, P., Devi, A., Kumar, P., & Sharma, A. (2024). *Exploring rice export competitiveness in India: A comparative analysis of rice products*. Indian Journal of Economics and Development, 20(4). https://doi.org/10.35716/IJED-23240

- Renjini, V. R., Kumar, R. R., Devi, A. S., Balasubramanian, M., Nithyashree, M. L., Mazumder, C., & Singh, H. (2024). *Export potential of millets from India: Current status and short-term forecast*. Indian Journal of Economics and Development, 20(3). https://doi.org/10.35716/IJED-24079

- Balasubramanian, M., Venkatesh, P., Renjini, V. R., Asha Devi, S. S., Anbukkani, P., & Niranjan, S. (2024). Status and performance of farmer-producer organisation (FPO) in Maharashtra: A case study of pulses. *Indian Journal of Economics and Development*, 20(4), 760–767. https://doi.org/10.35716/IJED-24077

- Raghavendra, K. J., Kiran Kumara, T. M., Gowda, C., Kandpal, A., Bhat, S., Amrutha, T., Shivaswamy, G. P., Nithyashree, M. L., & Ravisankar, N. (2024). *Meta-analysis on the economic performance of organic vis-à-vis conventional farming in India*. Clean Technologies and Environmental Policy. https://doi.org/10.1007/s10098-024-03053-0

- Jha, G. K., Praveen, K. V., Bhatia, A., Laishram, C., Kumar, D., Begho, T., & Eory, V. (2024). *Transitioning towards sustainable agriculture: Analysing the factors and impact*

of adopting multiple sustainable inputs by paddy farmers in India. Frontiers in Sustainable Food Systems, 8. https://doi.org/10.3389/fsufs.2024.1447936.

- Surendran Padmaja, S., Korekallu Srinivasa, A., Trivedi, P., & Srinivas, K. Aditya (2024). Women self-help groups and intra-household decision-making in agriculture. Annals of Public and Cooperative Economics, 94(3), 857-876.

- Naveen Kumar Naik, P Venkatesh, DR Singh, Alka Singh, GK Jha, V Sangeetha, DK Sharma, M Balasubramanian (2024). Performance of human-wildlife conflicts compensation scheme in Karnataka, India. Current Science, 126(4).

- Prakash G Athare, Dharam Raj Singh, Nalini Ranjan Kumar, Girish Kumar Jha, P Venkatesh (2024). A spatial assessment of agricultural vulnerability to climate change using multidimensional data in Maharashtra state of India.The Indian Journal of Agricultural Sciences, 94(11), 1246–1252.

- Renjini, V. R. (2024). *Export of fruits from India: Status and challenges*. Indian Journal of Agricultural Marketing, 38(2).

- Kumar, P., Jha, G. K., Kumar, R. R., Lama, A., & Mazumder, C. (2024). Leveraging singular spectrum analysis and time delay neural network for improved potato price forecasting. *Potato Research*. https://doi.org/10.1007/s11540-024-09806-0

- Perumal, A., Chiranjit, M., Srinatha, T. N., Rath, S., & Likhitha, S. (2024). Mitigating climate impact: A machine learning approach to forecast methane emissions from Indian livestock. *Indian Journal of Agricultural Economics*, 79(3), 610–620.

- Likhitha, S., Anbukkani, P., Nithyashree, M. L., Kumar, P., & Jha, G. K. (2024). Maise in India – A case study of FPO-led marketing in Karnataka. *Journal of Community Mobilisation and Sustainable Development*, 9(3), 1–6.

- Likhitha, S., Anbukkani, P., Kumar, P., Nithyashree, M. L., & Jha, G. K. (2024). Price and trade performance of maise in India: A case of marketing channel of maise in Karnataka. *Journal of Cereal Research*, 16(2), 170–176.

- Arun, S., Malaisamy, A., Balasubramanian, M., Parimalarangan, R., Prabakaran, K., Padma Rani, S., & Balaji, R. (2024). The role of farmer-producer organisations in raising smallholder farmers' income: A comprehensive review. *Indian Journal of Economics and Development*, 20(3), 243–258. https://doi.org/10.35716/IJED-24104

- Shiv Kumar, SS Yeligar, P Venkatesh, I Kingsly, Manjeet Singh Nain, RK Paul, U Madhurima, SM Mouzam (2024). Impact Analysis of the India-EU Free Trade Agreement on Indian Horticulture, Indian Journal of Agricultural Economics, 79 (3), 341-348.

- Kumar, Deepak, Praveen KV, and Chinglembi Laishram. (2024). Trends and Evolution of Research on Genetic Modification: A Bibliometric Analysis of Scientific Literature During 2000-2020 Journal of Scientific Research and Reports, 30 (7), 843-853.

- Jamaludheen, A., Kumar, N. R., Singh, A., Praveen, K. V., & Jha, G. K. (2024). Climate Dynamics over Kerala, India: Insight from a Century-long Temperature and Rainfall Data Analysis. International Journal of Environment and Climate Change, 14(5), 404-417.

- Sneha, S. B., Srivastava, S. K., Ray, M., Praveen, K. V., & Singh, A. (2024). Agricultural wages in India: Trends and structural changes. Agricultural Economics Research Review, 37(1), 1-11.

- A Haritha, K., Sharma, A., Venkatesh P., Devi,A.,Perumal,A., and Kumar (2024). Rise of Agritech: A landscape of technology-driven agricultural sector in India Agricultural Economics Research Review, 36(2), 145-154.

- Kumawat, P. K., Sharma, A., Singh, A., Praveen, K. V., Jha, G. K., & Singh, S. (2024). Landscaping of Indian Startups Ecosystem with a Special Focus on Agriculture Journal of Community Mobilisation and Sustainable Development, 19(3), 712-723.

- Kolkur, S. U., Sharma, A., Gouda, M. R., Praveen, K. V., & Singh, A. (2024). CRISPR in Agriculture and it's Ethical Implications: A Bibliometric Analysis. Food and Humanity, 100322,

- K.V. Praveen, Alka Singh and G.K. Jha. (2024). Moving Towards Sustainable Production through Access to Extension Services: Evidence from Rice Growing States. Indian Journal of Agricultural Economics Volume 79 Number 1, January-March 2024: 148-157.

Popular articles

- Anupama Singh, Shakeel Ahmed Khan and Akriti Sharma (2024). Role of Agri Entrepreneurship Education for economic upliftment under Amrit Kaal. Pusa Krishi Mela Souvenir, 2024.

- Athulya S., Praveen K.V., Asha Devi S.S. and Renjini V.R. (2024). Water Footprint of Paddy Cultivation: Concepts and Approaches for Estimation. Agri Articles. Volume: 04, Issue: 02 (2024): 398-400.

- K.V. Praveen, Alka Singh** and G.K. Jha (2024). Moving Towards Sustainable Production through Access to Extension Services: Evidence from Rice Growing States.

- Mazumder, C. (2024). Basic concepts regarding regression analysis. Recent Advances in Analysing Quantitative and Qualitative Data in Social Sciences (pp. 15-19), Training Manual, Division of Agricultural Economics, ICAR-IARI, New Delhi. TB-ICN:338/2024.

- Mazumder, C. (2025). Artificial Intelligence in agriculture: Advances, challenges, and future directions. Vigyan Varta, Special Issue 5, 12–19.

- Praveen K.V., Rajna S, Asha Devi S. S and Renjini V. R. (2024). Markets For Green Agriculture: Ecolabelling Approach. Agri-India TODAY. Volume 04. Issue 05: 1-3.

- Praveen K.V., Renjini V.R. and Asha Devi S.S. (2024). Certification of Agricultural Commodities for Better Export Prospects. Agro Science Today. Volume 5 Issue 4 Page: 0830 – 0836.

Book Chapters:

- Thakur A, Tiwari U and Kumar D (2024). Value chain management of fruits through the use of digital technologies. Available at: https://www.researchgate.net/publication/380890943_Value_chain_management_of_fruits_through_use_of_digital_technologies

- Thakur A., Raina, M., Joshi, A., Tiwari, U and Kumar D (2024). Soaking kinetics of green chickpea variety. Pusa 112. Available at: https://www.researchgate.net/publication/380890939_Soaking_kinetics_of_green_chickpea_var_Pusa_112

8. HONORS/ AWARDS

S. No	Scientist	Honors & Awards
1	Dr. Alka Singh	• Resource person and Discussant for technical session on "Prioritising public expenditure towards inclusive • Agricultural Transformation in South Asia" by IFPRI South Asia on 13 June 2024, in Colombo, Sri Lanka • Chairperson, Registration and Reception Committee for organising the International Conference of Agricultural Economists, August 2-7, 2024. Around 800 international delegates from all over the world participated in the conference, along with 700 delegates from different parts of India. • Member, Programme Steering and Monitoring Committee (PSMC) under Biotech-Krishi Innovation Science Application Network (Biotech-KISAN) DBT, Govt of India, New Delhi • Member, BIRAC Apex Committee for Investment Schemes constituted by DBT, Govt of India • Member Expert Group for CSIR Project on Digitisation of Traditional Agricultural Practices of India, constituted by CSIR, Govt of India.
2	Dr. Harbir Singh	• Reviewer, Frontiers in Sustainable Food Systems, 2024. • Co-Chair, Printing & Publications Committee, ICAE 2024. • Member, FAD34 Panel-VIII on 'Market Linkages' for preparing National Agriculture Code(NAC) • External Examiner, PhD Thesis & Expert, Comprehensive Viva Voce (SAU) • Co-convenor, Technical session on 'Agricultural Marketing and Export', Pusa Krishi Vigyan Mela, 23 February 2025.
3	Dr. P. Anbukkani	• Best presentation award in the 6th CWSS International Conference on 'Agricultural Innovations for Sustainable Development Goals with Special Focus on Natural Farming' (AISDGONF-2023), Karnataka. • Co-Convenor of the 83rd Annual Conference of the Society held in Odisha University of Agriculture and Technology, Bhubaneswar, December 18-20, 2023.
4	Dr. Praveen K.V.	• Young Social Scientist Award of ICAR-IARI 2024-25 • Review Editor of Pantnagar Journal of Research

		• Received the ICAE 2024 Local Organising Committee (LoC) Conference Participation Grant to register and make an oral presentation at the 32nd International Conference of Agricultural Economists. • Received first prize in the quiz competition organised in the Division of Agricultural Economics as part of the Hindi Chetna Maas.
5	Dr. Akriti Sharma	• R T Doshi award for best Oral presentation on the topic, SaaS-based agri solutions and their impact on farmers' price realisation in India- a case study of potato growers of Haryana on the 32nd Annual Conference of Agricultural Economics Research Association (India) during 11-13 December 2024 • Registered copyright (L-146415/2024) for the publication 'Indian Agricultural Research Institute: Cradling Sustainable Agricultural Innovation' (2024). Edited by A K Singh, Anupama Singh, Viswanathan Chinnusamy, R N Padaria, K K Vinod, Gyan P Mishra, Akriti Sharma, Published by ICAR-IARI, Pusa, New Delhi. • Entrepreneurship Leadership Award at the UP State Agriculture Conclave 2024, organised by the Indian Chamber of Food & Agriculture (ICFA) in Lucknow on 31 August 2024.
6	Dr. Nithyashree M. L.	• Best oral presentation Pattern of Market Linkages and its Impact on Price Realisation of Maize Producers in India National Conference on Maize: A Crop for Food, Feed, Nutritional and Bioenergy Security with Environmental Sustainability, 23-25 August, 2024, Maize Technologists Association of India, ICAR-Indian Institute of Maize Research, Punjab Agricultural University, Ludhiana.
7	Dr. Renjini V.R.	• N.A Mujumdar prize award for the best paper, Oral presentation on the topic, "Impact of Pesticide Residues on India-EU Agricultural Trade: Evidence and Implications," in the 84th Annual Conference of the Indian Society of Agricultural Economics, from 11-13 Nov, 2024 at (PAJANCOA&RI), Karaikal, Puducherry. • Uma Lele Mentorship award, 2024, by Agricultural & Applied Economics Association (AAEA) & Agricultural Economics Research Association (India) for undertaking studies on Evaluating the Economic Impact of Reducing

		Sugar Subsidies in India by employing IFPRI CGE modelling
8	Dr Asha Devi S S	• First Best Research Article Award for the article published in the Indian Journal of Dairy Science in the category of Dairy Economics, Extension and Management for the year 2023, by the Indian Dairy Association. • Dr. N A Mujumdar Award (As a co-author) for the best presentation by the Indian Society of Agricultural Economics
9.	Dr. Chiranjit Mazumder	• Awarded Certificate for 1st place in Question answer session for Hindi Chetna Maas 2024 on 15/10/2024.
10.	Dr. Aditya K. S.	• The Role of Water in Agri-food Systems Transformation Prize 2024(Finalist), World Food Forum, Rome, Italy
11.	Dr. Utkarsh Tiwari	• हिंदी चेतना मॉस के दौरान आयोजित काव्य पाठ प्रतियोगिता में “देखो आसमां में वो जो उड़ रहा है” शीर्षक कविता के लिए प्रोत्साहन पुरूस्कार प्राप्त किया

9. BUDGET

9.1. Head-wise budget received and expenditure (Rs in Lakhs)

Head-wise	Allotted (in Lakh)	Expenditure (in Lakh)
Research	-	-
Operational	-	-
Repair & Main.	2.50	2.40
Others	19.00	18.00
HRD	0.50	0.55
Misc.	0.50	0.80
Publication	-	-
Capital	4.00	4.00
Total	**26.50**	**25.75**

9.2 External Grants 2024-25

S. No	Project Title	PI	Funding Agency	Budget (in lakhs)
1	Production Systems, Agri-business, and Institutions – Component 1: Impact Evaluation of Agricultural Technologies	Dr. Pramod Kumar / Dr. Praveen K.V.	ICAR-NIAP	7.29
2	Production Systems, Agri-business and Institutions – Component 3: Agricultural Market Intelligence and Commodity Outlook	Dr. Girish K Jha / Dr. Asha Devi S.S.	ICAR-NIAP	7.69
3	Production Systems, Agri-business, and Institutions – Component 4: Farmers Income, Governance Impacts, and Agricultural Trade	Dr. P. Venkatesh / Dr. Nithyashree M.L.	ICAR-NIAP	7.69
4	Characterising, Reviving, Supporting, Monitoring and Managing Sustainable Food Systems to address malnutrition in Indigenous tribal communities of India also known as CARISMMA sustainable food system study	Dr. M. Balasubramanian	DBT Wellcome Alliance	25.0
5	Biofortification for Nutrition Security: Bridging the Micronutrient Gap in India	Dr. Alka Singh	CSR (Corteva Agriscience)	25.0

6	Bridging Technology and Agriculture: Understanding the spread of Precision Farming in India	Dr. Alka Singh	CSR (Corteva Agriscience)	25.0
7	Economic Survey on stakeholder's preferences in target crops - Under the Project Translational Genomics in Crop Plants	Dr. Alka Singh	ICAR- NIPB	6.75
8	Unpacking Gender and social dynamics of seed systems and harnessing equality for women's resilience.	Dr. Alka Singh	IRRI	24.9
9	UK Research and Innovation Global Challenges Research Fund (UKRI GCRF) South Asian Nitrogen Hub	Dr. Girish K. Jha	UKRI	30.0

10. CADRE STRENGTH

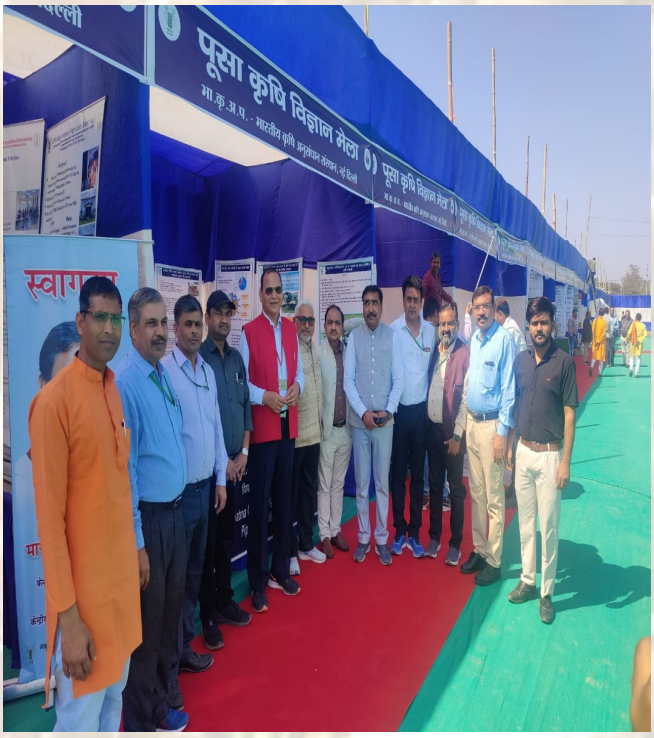
Staff Category	Sanctioned	Existing
Scientific staff	19	14 (1 Deputation, 1 Study leave)
Technical Staff	9	6
Administrative	5	4
Supporting staff	3	3

11. MISCELLANY

Krishi Vigyan Mela 2024

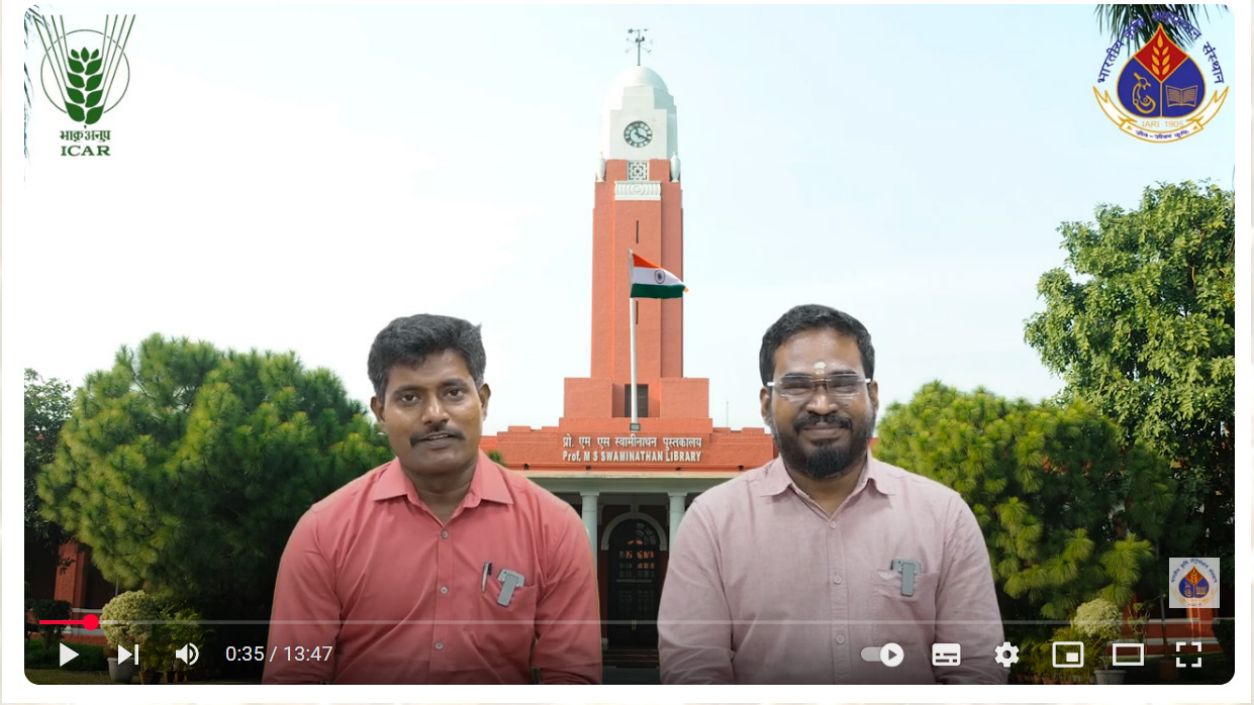
The staff of the Division of Agricultural Economics actively participated in the Pusa Krishi Vigyan Mela Held on Simdega, Jharkhand, during 9-13 March 2024.

Participation in Pusa Krishi Vigyan Mela in Simdega, Jharkhand From



Pusa Samachar

The scientists of the division contributed in developing videos for Pusa Samachar.



ICAR SPORTS MEET

The scientists also participated in sports meet organised by ICAR.

Divisional Committees

Divisional Budget & Research Committee

Dr. Harbir Singh - Principal Scientist & Head (Chairperson)
Dr. Alka Singh - Professor (Member)
Dr. Girish Kumar Jha - Principal Scientist (Member)
Dr. Pramod Kumar - Principal Scientist (Member)
Dr. P. Venkatesh - Senior Scientist (Member)
Dr. P. Anbukkarasi - Senior Scientist (Member)
Dr. Praveen K.V. - Scientist (Member Secretary)

Divisional Stores Purchase Committee

Dr. Girish Kumar Jha - Principal Scientist (Chairperson)
Dr. M. Balasubramanian - Scientist (Member)
Dr. Chiranjit Mazumder - Scientist (Member)
Mr. Narender Mohan Singh - ACTO (Member)
Mr. Narendra Singh Tomar - ACTO (Member & Stores Officer)
Mr. Nandan Kumar - AAO/DDO (Member Secretary)

Reporting of the Divisional Research and Publication Committee

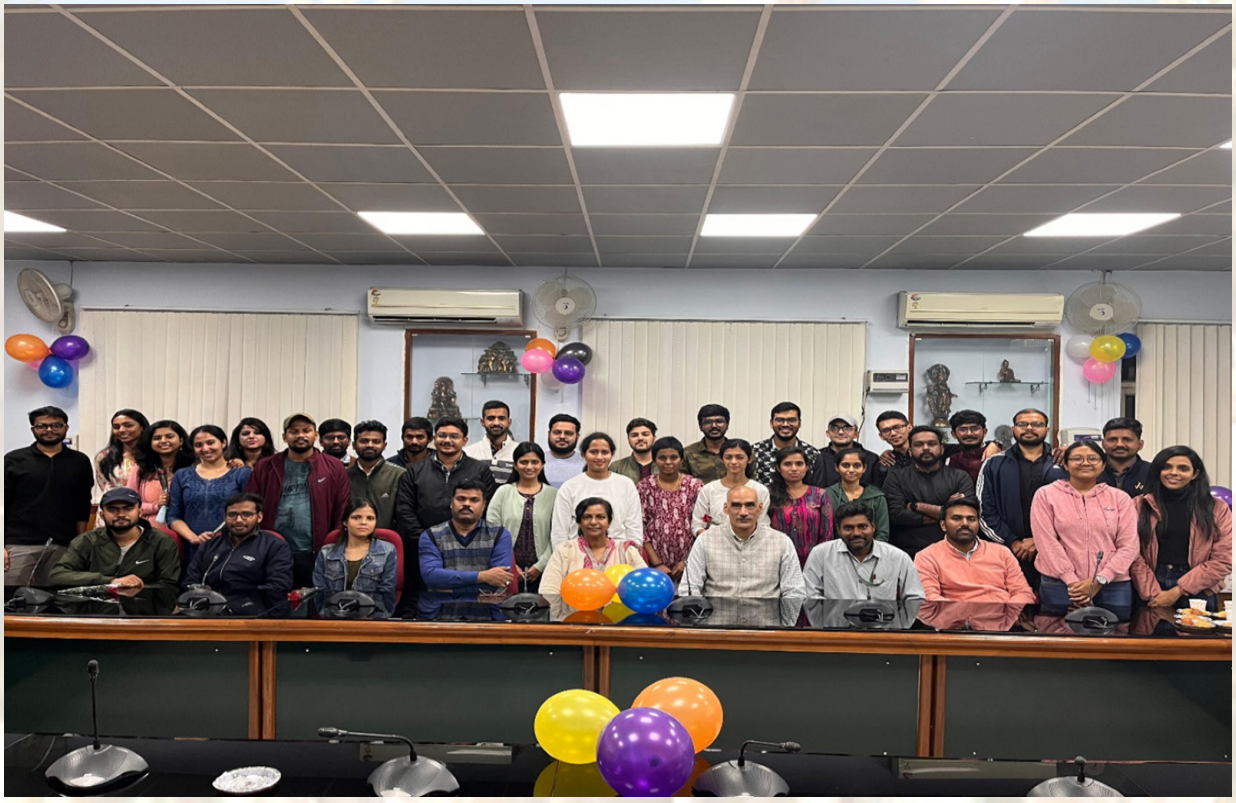
Dr. Alka Singh - Professor (Chairperson)
Dr. Nithyashree M.L. - Scientist (Member)
Dr. Renjini V.R. - Scientist (Member)
Dr. Praveen K.V. - Scientist (Member)
Dr. Asha Devi S.S. - Scientist (Member)
Mrs. P. Supriya - Sr. Technical Assistant (Member Secretary)

Hindi Rajbhasha Upsamiti

Dr. Harbir Singh - Principal Scientist & Head (Chairperson)
Dr. Girish Kumar Jha - Principal Scientist (Member)
Dr. Utkarsh Tiwari - Scientist (Member)
Mr. Narendra Singh Tomar - ACTO (Member)
Mr. Narender Mohan Singh - ACTO (Member)
Mr. Pavan Kumar Malik - TO (Nodal Officer)
Mr. Nandan Kumar - AAO/DDO (Member - Check Point)
Mr. R.B. Meena - Sr. Technical Assistant (Member Secretary)

Common Facilities and Staff Welfare Committee

Dr. Harbir Singh - Principal Scientist & Head (Chairperson)
Dr. P. Anbukkarasi - Senior Scientist (Member)
Dr. Asha Devi S.S. - Scientist (Member)
Mr. Nandan Kumar - AAO/DDO (Member)
Mr. Narendra Mohan Singh - ACTO (Member)
Mr. Harpal Singh Verma - PS to Professor & Head (Member)
Mrs. P. Supriya - Sr. Technical Assistant (Member)
Mr. Kundan Kumar - Technical Assistant (Member)
Mr. Sagar Sood - Technician (Member)
Mr. Joginder Singh - LDC (Member)
Mr. Kamal Rajora - Technical Officer (Member Secretary)



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