

RESEARCH

On-going projects focus on agricultural price forecasting, research priorities and policies for climate resilient agriculture, water management, sustainable intensification of agriculture, farm mechanization, artificial intelligence, farmer producer organizations, commodity outlook models, crop insurance and doubling farmers' income (DFI), export growth and policy reforms. Some new initiatives are:

- Institutions and technology for agricultural water management.
- Agricultural price analysis and forecasting.
- Database development for agricultural rural households with special focus on weaker sections under Schedule Caste Sub Plan (SCSP).
- Inclusive agricultural development (hill and arid agriculture)

Structural Transformation

The state and district level observations indicate that the factors, namely terms of trade, capital intensity and technology expedited structural transformation in Indian agriculture. The influence of agricultural terms of trade is relatively higher.

Ecosystem Services

The study indicated that macro watersheds accomplished their objectives better than micro watersheds in terms of soil retention and water augmentation. All the services provided by watersheds are significantly higher where people's participation is high.

Infrastructural Adequacy Index

A state-level analysis showed that spatial variation was observed in irrigation, markets, road, extension, credit, and storage infrastructure. Composite infrastructural classes highlighted that majority of the states in the country have infrastructural inadequacy in one or more parameters. Improvement in agricultural infrastructure in the country calls for huge investments to enhance the income of the farmers.

Micro Irrigation

In Rajasthan, a total of 12.5 Mha (18%) of potential area under MI (69.5 Mha) has been brought till the year 2020. The key factors like tubewell irrigated area, groundwater depth, labour availability, public subsidy, electricity use in agriculture and pump set intensity significantly influenced the adoption of MI technologies at macro level (states). It has helped in introducing new crops like isabgol, methi and onion and increasing returns per unit area in Rajasthan. It is also noted that instability in crop yield has reduced after adoption of sprinkler system.

Groundwater Irrigation under Alternate Energy Regimes

The majority of the groundwater pumps in Bihar are dependent on diesel energy which is more than four times costlier than the electric pumps. The farmers can significantly reduce irrigation costs by shifting to electric pumps. Among the electric pump owners, farmers with metered pricing (pro-rata) incur less energy cost as compared to flat-rate pricing.

Water Saving using Crop Planning in Punjab

Adoption of resource conservation technologies, viz. wheat sowing with Happy Seeder, direct-seeding of rice and short-duration varieties of paddy have the potential to save the water

and marginal increase in the returns. Incentivizing farmers for saving water and the environment in the form of payment for ecosystem services can divert towards other alternative crops with low irrigation requirements.

Doubling Farmers' Income by 2021-22

The Situational Assessment Survey (2018-19) revealed that in nominal terms, average monthly income of an agricultural household for the year 2018-19 was Rs. 10,218, and the comparable figures for 2012-13 and 2002-03 were Rs 6426 and Rs 2115, respectively. An agricultural household derived income 50:50 from farm and non-farm sources in 2002-03. The share of farm income increased to 60 per cent in 2012-13, however, it declined to 52 per cent in 2018-19. Several leading agricultural states have reported deceleration in terms of income from crop production. The survey also revealed that progressive farmers, input dealers and electronic & print media were main sources of technical advice and information for agricultural households. Majority of the agricultural households (65-95%) adopted the advice on their activities.

Boosting Horticulture Exports

The country needs to focus on commodity specific strategies to enhance the exports. Fruits like fresh grapes, watermelons, melons, tamarinds, peaches, and others are highly seasonal. Grapes exhibit strong seasonal advantage and indicate more than 50 per cent untapped export potential. Effective global market intelligence and stable domestic trade policy is required for sustained and enhanced horticulture exports. Export oriented value chains need to be promoted and strengthened in terms of agri-logistics, product traceability and safety compliances.

MEETINGS

Annual IRC Meeting

All scientists presented the progress of research during 2020-21 and research plans for the current year on 12 October 2021 in Annual IRC.

RAC Meeting

First meeting of Tenth newly constituted RAC was held on 17 November 2021 under the chairmanship of Dr Harsh K. Bhanwala to review the research progress (2020-21) and proposed research programmes in hybrid mode. The committee expressed satisfaction and provided useful comments for further improvement.

Institute Management Committee (IMC)

IMC meeting was on December 4, 2021 under the chairmanship of the Director, NIAP. SFC and procurement related issues were discussed.

OUTREACH

Training Cum Workshops under SC sub plan

Workshops on "Nutritional security through backyard vegetable cultivation in many villages of Sithana, Madlauda block of Panipat, Haryana on 26 October, 2021 and Rajasthan on 11-12 November 2021. Lectures were delivered by ICAR-NIAP team and also local experts. More than 786 farmers were benefitted with majority of women farmers. The team also spread awareness about various government schemes and opportunities to increase the farmer's income etc.



Workshop in Panipat, Haryana

AWARDS AND RECOGNITION

- Dr Prem Chand, Young Agricultural Economist Award-2021, Agricultural Economics Research Association
- Dr. Vinayak R. Nikam received 1st prize in the 1st Case Documentation Drive 2019-20 by VAMNICOM, Pune, Maharashtra, for a case study on KASAM: A Driver of Sustainable Agricultural Development in the Tribal Regions of Odisha.

EVENTS

Foundation Day Lecture on July 19, 2021

The lecture on "Assessing the Economic Impact of Agricultural Research" was delivered by Dr. Derek Byerlee, formerly World Bank and Adjunct Professor, Georgetown University (Washington, DC). The foundation day award was conferred upon Dr Smita Sirohi, Adviser (Agri and Marine Products), Embassy of India, Brussels. The event was attended by 195 participants on zoom webinar and watched by more than 700 persons through Facebook page of the institute.

Azadi ka Amrut Mahotsav

A webinar on "Tools at workplace for personal efficiency" on August 7, 2021 by Sh Satinder Chawla, a renowned scientologist.

A webinar on "Space technologies in agriculture" on September 18, 2021 by Dr. Prakash Chauhan, Director, Indian Institute of Remote Sensing, ISRO



Lecture on space technologies

Workshops

- A workshop on "Farmers' income and impact assessment of agricultural technologies" was conducted on 29 November

2021. 126 participants attended and got benefitted. The workshop was chaired by Secretary, DARE and DG ICAR.

- A workshop on "Assessing the Economic Impact of Agricultural Research" on 17 December 2021 by Dr. Keith Fuglie, Senior Economist, Economic Research Service, USDA.

Vigilance Awareness Week

During 26 October to 1 November 2021, poster and essay writing competitions were organized to spread awareness about the Independent India @ 75: Self-Reliance with Equity.



Poster in vigilance awareness week

Other Events

- Hindi Pakhwara during 14-28 Sept, 2021
- Dr T. Mohapatra, Secretary (DARE) and DG, ICAR addressed the scientists on 28 October 2021 in virtual mode and discussed research and administration related policy matters. All scientists participated in the event.
- Constitution Day on 26 November 2021
- Prime Minister Narendra Modi addressed a conference on "Natural Farming" on December 16 in virtual mode. NIAP scientists also participated in the event.
- Swachhata pakhwara during 16-31 December, 2021
- Kisan Diwas on 23 December, 2021
- 32nd ICAE workshop shall be held in New Delhi in 2024.
- A training programme will be organized under SC/SP scheme during 5-25 February, 2022

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