

## 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.

### Identifying disease risk hotspots in buffalo meat (Carabeef) value chain in Bareilly districts of Uttar Pradesh

The study showed how the major carabeef value chains function. All the chains originated from highly fragmented back end – smallholder, mixed crop farming systems and peri-urban and urban dairies. The study provided qualitative evidence of importance of adopting value chain approach in disease risk mitigation, by identifying structural deficiencies and vulnerabilities.

### Governance issues in agriculture

Environmental governance relating to agriculture had been the prime issue followed by water, food, and land governance. It was followed by river, coastal, and forest governance relating to agriculture.

### Nutritional Security

Vegetable seeds for the *Rabi* season were distributed in the selected villages of Panipat and Jaipur districts under SC sub plan. The beneficiaries reported that in household food expenses, the vegetables constitute major portion. Due to self-cultivation, expenses have been reduced and saved money is being used for other productive purposes. Major constraint in vegetable cultivation is non-availability of good planting material locally.

### Agrobiodiversity indicators for Indo-Gangetic Plains of India

An assessment of agrobiodiversity is critical for making agriculture and food production sustainable. The Institute developed an Agroecosystem Diversity Index to show the status, challenges and offer suggestions to conserve and enrich agrobiodiversity. The index for the Indo-Gangetic Plains of India show a moderate degree of agrobiodiversity in the region with an index of 0.39 and a range of 0.32 to 0.45 across the districts. The increasing threat to agrobiodiversity and inadequate policy response to address the problem are the primary concerns. For sustainable management of agroecosystems in the region, it is necessary to introduce legumes to diversify the rice-wheat system, promote agroforestry to enhance landscape diversity and encourage optimum use of agrochemicals to enrich the soil microbiome.

### Groundwater Irrigation in Bihar and West Bengal

This study has empirically examined ecological, economic and social dimensions of sustainable groundwater use in irrigation in Bihar and West Bengal states. There exists an ample scope in these states to diversify from costlier diesel towards alternative energy sources (such as electricity) by improving infrastructure and suitable energy policies. Amidst the rising diesel prices and improving supply of electricity, farmers in both the states are gradually shifting from diesel to electricity for energizing pumps. There exists a trade-off between economic and equity aspects of groundwater use which needs to be optimized.

## Agricultural Extension and Advisory Services (EAS)

Study highlighted the functional and dysfunctional components which can be strengthened for improving assistance to farmers. A system level evaluation of EAS to determine its functional nature would add to the existing body of literature on institutional analysis and the performance of EAS at the macro level.

### Evolutionary Computing for Optimization of Crop Plans

The evolutionary computing is a viable and convenient alternative for crop planning at a regional level and should be explored further for crop planning at a farm and country level.

### Growth TFP for Wheat

During the period 1979-2019, TFP growth in wheat at all-India was 0.89 %. The existing trend in TFP growth shows that research is contributing to production growth.

### Organic Turmeric Cultivation

The higher yield and better quality of the turmeric in the organic state of Sikkim is due to easy accessed bio-control measures and bio-fertilizers. Besides lower cost of processing of raw turmeric into powder was observed as compared to non-organic states. There is a need for replication of organic model of Sikkim in other states.

### Oilseeds production

The study estimated that a TFP growth of 3% per year in oilseeds for a period of fifteen years, should increase the country's domestic oilseeds production by 19% and this should reduce our edible oil import by around 10%.

### Irrigation water policies in Punjab

The findings revealed that the current rate of groundwater withdrawal could not sustain the agricultural intensification in the state. The study showed that differentiated water pricing would be more effective in halting groundwater depletion in the state to encourage low water requiring crops like maize and oilseeds.

### Export advantages in Horticulture

Cucumbers, onions (fresh and dried), preserved vegetables, fresh grapes, shelled cashews, guavas, mangoes, and tamarinds emerged as the most favorable horticultural products based on the competitiveness and trade balance. Commodity-specific value chain studies to explore macro-economic factors together with export dimensions to augment export competitiveness.

## MEETINGS

### Institute Research Committee

Institute Research Committee Meeting was held on May 28, 2022. All scientists presented their progress and work plan.

## EVENTS/CELEBRATIONS

### Symposium on data-driven agriculture

ICAR-NIAP organized International symposium on Data driven agriculture and natural resource management-opportunities and challenges with Indian Society of Agricultural Information Technology during January 21-22, 2022.

## Annual Day

The ICAR-NIAP celebrated its 31<sup>st</sup> Annual Day on May 2, 2022. On this occasion, Prof. C. Ramasamy, former Vice-Chancellor, TNAU delivered Professor Dayanatha Jha memorial lecture on "Journey Towards Strengthening Sustainability in Indian Agriculture: The Roadblocks and Transformative Solutions".

## Azadi Ka Amrut Mahotsav Lecture

As part of the Azadi Ka Amrut Mahotsav to commemorate 75 years of independence, ICAR-NIAP organized a lecture on Vedic Ecosystem based Research for Sustainable Agriculture on May 26, 2022 in a virtual mode. The lecture was delivered by Mr. Akhilesh C Srivastava, Senior Consultant- standards and IPR, Tata Consultancy Services (TCS) Limited, Mumbai.

## Anti-Terrorism Day

ICAR-NIAP observed Anti-Terrorism Day on May 21, 2022.

## Winter School

ICAR-NIAP organized 21 days long winter School on "Analytical Techniques for Decision Making in Agriculture" from 5-25 February under SCSP Scheme in interactive mode. 180 participants were selected for the training. 47 lectures along with 24 practical sessions related to the training scope were delivered.

## कार्यशालाएँ

राजभाषा के नियम अधिनियम, हिन्दी पत्राचार एवं टिप्पणी लेखन के बढ़ाने के उपाय हेतु 14 मार्च 2022 एवं राजभाषा कार्यान्वयन में सूचना प्रौद्योगिकी का उपयोग विषय पर 28 जून 2022 को हिन्दी कार्यशालाओं का आयोजन नियामक परिसर में किया गया। इन कार्यशालाओं में संस्थान के समस्त कर्मचारियों ने भाग लिया।

## International Yoga Day

ICAR-NIAP celebrated International Yoga Day on June 21, 2022. All staff of the institute exercised yoga asans and pranayama to keep body fit and active.



## OUTREARCH

under the project "Database development for agricultural rural households with special focus on weaker sections" six scientist-farmers Interactions were organized by ICAR-NIAP project team at villages of Bulandshahr and Jaipur during March to June 2022. Farmers got benefited from these interactions.

Under the consultancy project Pradhan Mantri Fasal Bima Yojana (PMFBY) interaction meetings were organized with farmers,

national stakeholders, representatives of Insurance companies and agriculture/horticulture Directors at state level along with NRAA officials. Various issues/challenges and problems related to working and implementation of PMFBY were discussed during April-May 2022. The role of different agencies and solutions in PMFBY scheme implementation is also conferred.

## OTHER ACTIVITIES

- Provided parliament reply to questions related to Agricultural Research and Development, New Technology in Agricultural Research, R&D Centres for Development of Agriculture.
- Agricultural development issues and strategies for Region-1 (Himachal Pradesh, Jammu & Kashmir and Uttarakhand) were discussed during Regional Committee Meeting, Region-1, 22<sup>nd</sup> April, 2022
- Compiled and submitted "state-wise public spending on agricultural research & education for the period 1999-00 to 2019-20" (21 years data for 31 states and all states)
- Provided inputs for Regional Committee Meeting II
- Providing inputs to ICAR and DA&FW for agriculture export facilitation
- Provided reply to questions related to Agricultural Research and Innovation and Decline in Budget in Agricultural Research and Education

## OTHER INFORMATION

- Prabhat Kishore was awarded Degree of Doctor of Philosophy in the discipline of Agricultural Economics on February 11, 2022.
- Dr. Prem Chand, Dr. Vikas Kumar, Dr. Kingsly Immanuelraj T., Dr. Shivendra Kumar Srivastava, Mr. Balaji S.J., Mr Subash S.P., Dr. Abimanyu Jhajhria and Dr. Prabhat Kishore were promoted to next higher grade under the CAS.
- Director, NIAP attended Kisan Mela at Agricultural University, Jodhpur on March 19, 2022, and Agricultural University, Bikaner on March 20, 2022.

## SUPERANNUATION

- Dr. Suresh Pal, Director, ICAR-NIAP on March 31, 2022.
- Shri. Chander Vallabh, AO, ICAR-NIAP on 30 April, 2022.

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