ICAR-NIAP

A Profile

भाकृअनुप – राष्ट्रीय कृषि आर्थिकी एवं नीति अनुसंधान संस्थान

ICAR – NATIONAL INSTITUTE OF AGRICULTURAL ECONOMICS AND POLICY RESEARCH

ICAR-National Institute (formerly Centre) of Agricultural Economics and Policy Research (NIAP) was established by the Indian Council of Agricultural Research (ICAR) in March 1991 to strengthen agricultural economics and policy research in the national agricultural research system. Application of principles of economics in planning and evaluation of agricultural R&D and policy research to promote science-led agricultural and rural development have been the main goals of ICAR-NIAP. The Institute is committed to provide a leadership role in strengthening agricultural policy research, undertaking empirically sound policy research, and providing knowledge-based input for policy decisions. The Institute also acts as a think tank of ICAR and helps the Council to actively participate in policy making.

VISION

Leveraging innovations for attaining efficient, inclusive and eco-friendly agricultural development through agricultural economics and policy research.

Mandate

The mandate of the Institute is:

- To conduct policy-oriented research in network mode on:
  - Technology generation, diffusion and impact
  - Sustainable agricultural production systems
  - Interaction between technology and other policy instruments like incentives, investments, institutions and trade, and
  - Agricultural growth and development with focus on the role of technology
- To strengthen capacity in agricultural economics and policy research in the National Agricultural Research System (NARS)
- To enhance the participation of ICAR in agricultural policy decisions through policy-oriented research and professional interactions

To accomplish its vision and mandate, NIAP follows a three-pronged strategy encompassing (i) strong policy research in network mode with (a) NARS; (b) mainstream economics research institutes; and (c) international organizations; (ii) capacity strengthening programs in agricultural economics, policy analysis and policy communication; and (iii) interface with policy makers through effective policy communication.

Research Activities

The research activities of the Institute are organized under three Divisions, viz. (i) Technology and Sustainable Agriculture (ii) Markets, Trade and Institutions and (iii) Agricultural Growth and Development.

Technology and Sustainable Agriculture

This Division deals with research and development (R&D) policies, innovative institutions and policies fostering sustainable agricultural development. Research under this theme provides future R&D policy to meet the emerging challenges. This theme also focuses on improving resource use efficiency, saving and conserving natural resources, and rehabilitation of degraded natural resources.

Markets, Trade and Institutions

The focus of this Division is on issues related to market reforms, international trade, prices, distribution and value addition. Innovative institutions in the supply chain, input markets, and delivery of farm services are also covered. The key issue is to evolve mechanisms so that smallholders' share in emerging opportunities is maximum in the entire value chain.

Agricultural Growth and Development

Agricultural growth is driven by technologies, policies, incentive structures, investment and resource endowments. Agricultural growth and development needs to be studied in the long-run perspective emphasizing farm and non-farm linkages, structural changes in agriculture and other adjustment processes. The research areas under this theme include

future sources of growth, risk in agriculture, agricultural diversification, investment and subsidy in agriculture, investment priorities, and role of infrastructure in poverty alleviation.

Significant Achievements

Technology policy: India spends only 0.4 percent of its agricultural gross domestic product on agricultural research, much lower than in the developed countries. There is sufficient evidence to show that the payoff from investment in agricultural R&D is very attractive. Higher investment in agricultural research is required to keep yield frontiers upward, to reduce cost of production and to break yield barriers in several crops.

The study on total factor productivity (TFP) for major crops indicates that the highest growth in TFP has been reported for wheat and maize (1.6 per cent) for the period 1996-2005. Share of TFP in the output growth was 60 per cent in wheat and 30 per cent in maize. The growth in TFP for crop sector accelerated during the period 2002-12, and almost entire growth in the output was attributed to the growth in TFP.

Irrigation : Equity in the use of surface water has improved over time in most of the states. Donor driven institutional initiatives can't be sustained for management of water resources. Streamlining of accounting procedure to link cost recovery and O&M funding is essential. Irrigation department should be empowered to identify water user categories, enforce water supply measurement and charge the bulk users.

Although physical performance of irrigation projects showed a substantial growth during successive five year plans, it coexists with increasing gap between irrigation potential created and utilized. Improving utilization of already created irrigation infrastructure by removing existing operational and maintenance inefficiencies will contribute positively to agricultural growth. There is a need to switch from traditional (furrow, border and flood irrigation) to modern irrigation technologies (drip, sprinklers), along with institutional and policy support for improving irrigation efficiency.

Unsustainable groundwater development is the outcome of inter-regional disparities, provision of subsidized electricity and pumps, and excessive private investment in groundwater without considering suitable recharge mechanisms. Efficient groundwater governance by regulating excessive withdrawal (in overexploited regions) and promoting

its utilization (in less developed eastern region) through effective legislation and policy intervention, is of prime importance for sustainable growth.

Diversification and poverty: Diversification of agriculture towards high-value enterprises such as horticulture and animal husbandry that generate higher returns matches with resource endowments and income requirements of smallholder farmers who allocate larger area to high-value crops, and are also more efficient in their production, compared to larger farmers. The incidence of poverty is less among those engaged in these enterprises, the biggest impact being on marginal and small farmers. Thus, diversification, supported by technology, markets and policies can be an important pathway to enhance farmers' income, create employment opportunities, sustain agricultural growth and reduce poverty.

Reforming markets: Price policy and market reforms should (i) enhance competition in the marketplace by linking farmers to markets through institutional innovations such as contract farming and producer associations; (ii) promote investment in public infrastructure (roads, electricity, and communication) that reduces transportation and transaction costs, (iii) induce the private sector to invest in agro-processing, cold storage facilities, refrigerated transportation, and retail chains to enhance efficiency of the value chains and minimize post-harvest losses; and (iv) improve farmers' access to credit, inputs, information, and services.

Food demand : By 2050 availability of resources for agriculture will increase but at a slower rate as compared to the growth in food demand. This underlines importance of improving resource use efficiency and technological breakthroughs. In order to strike a balance between the future demand and supply of agricultural products, the Institute has suggested to target a) significant increase in land productivity, b) twofold increase in water productivity, c) doubling energy use efficiency, and d) five times increase in labour productivity by 2050.

Trade : In order to benefit from globalisation, emphasis on food safety measures and compliance with various SPS measures are essential. This is essential to harness the untapped potential of dairy product exports to developed countries like USA, EU and Japan. The cost of compliance, investment required, handling and processing, and traceability of the products were identified as important issues that need attention for enhancing livestock exports.

Livestock policy: Livestock sector despite its considerable potential to enhance and sustain agricultural growth has remained underinvested and neglected by financial institutions (credit and insurance) and support services. The sector currently receives hardly 10% of the public spending and 5% of credit to agricultural sector. Further, our estimates of feed demand would help in reorienting food management policy, and also towards optimization of livestock population. The estimates of the positive contribution of livestock to environment justify more resources for livestock development.

Land reforms: Tenancy laws of various states should be suitably amended keeping in view the region-specific needs. As far as possible, leasing-in of land only by small and marginal farmers should be allowed, while large farmers should be encouraged to take up non-farm enterprises.

Labour market : There are profound changes with labour moving from agriculture towards non-farm sectors. The diversification of the rural labour market is influenced by a set of factors such as the pattern of economic growth, inter-sectoral wage rate and labour productivity differentials, education, rural employment schemes and socio-cultural factors. Employment diversification has led to narrowing of large variations in real wages across different sectors in the rural economy. Increase in wage rate increases the cost of production and prices, and therefore, farm mechanization and custom hiring arrangements for small farmers should be promoted.

Future Thrust Areas

To realize the vision of 'leveraging innovations and policy for agricultural development,' the Institute focuses on the following key areas.

Technology and Sustainable Agriculture : The Institute will concentrate its research primarily on climate change, natural resource management and environment, risk in agriculture, valuation of environmental services, agro-climatic zonal planning and resource use efficiency, impact of agricultural technology, and performance evaluation of agricultural extension system.

Agricultural Growth and Development : Agricultural growth being the outcome of an inter-play of technologies, institutions and policies, NIAP research portfolio will comprise structural transformation of agriculture (income and employment) and disparities in development, agricultural diversification and drivers of growth, farm and non-farm linkages for enhancing farmers' income, property rights, gender, and agriculture-nutrition-health linkages.

Significant achievements and impacts

1. Assessment of agricultural R&D intensity and higher allocation of public funds, raising the intensity to 0.6% of AgGDP.
2. Development and application of research priority setting framework and rationalization of resource allocations.
3. Analysis of total factor productivity and impact of investment in R&D (IRR 42%, 1990-2007).
4. Innovation and information flow in the extension system and impact of access to information (12% higher farm income).
5. IPRs, seed market and access of farmers to quality seed; promote market competitiveness.
6. Drivers of agricultural growth and diversification for higher farm income and poverty reduction.
7. Demand projections and measures to bridge the demand-supply gap.
8. Development and application of commodity market outlook and price forecasting models with forecast accuracy 80-90%.
9. Acceleration and convergence in agricultural growth due to better governance, technology and institutional innovations.
10. Evaluation of surface water irrigation efficiency across the states.

Capacity building

1. Hands-on training of scientists for research priority setting and impact assessment.
2. Training of social scientists in agricultural policy research and networking.
3. Orientation training of 157 Indian Economic Service (IES) probationers.
4. Association with Post-Graduate program of IARI in agricultural economics.

The Institute will continue to undertake studies on short-term and medium-term outlook for agriculture.

Markets, Trade and Institutions : The thrust will be on policy studies on market reforms, infrastructure development, marketing efficiency, commodity outlook, price forecasts, price transmission, mapping value chains and price policy for perishables, food industry, food quality and food safety, agricultural trade pattern, and international agreements. Innovations in input markets, credit and farm services shall also be studied.

Capacity Building: NIAP will continue to play a key role in strengthening capacity and human resource development in the field of agricultural economics and policy research. It will also forge linkages with advanced research institutions in India and abroad for capacity strengthening of its own faculty. Association with PG program of IARI and curriculum improvement shall be other capacity development activity of the Institute.

Partners

NIAP maintains close linkages with national and international organizations involved in agricultural research, development and policy analysis. Collaborative research projects, seminars, workshops, publications and participations in policymaking bodies are the usual modes of policy interface which help in improving the outreach activities of NIAP. Key partners of the Institute are listed below:

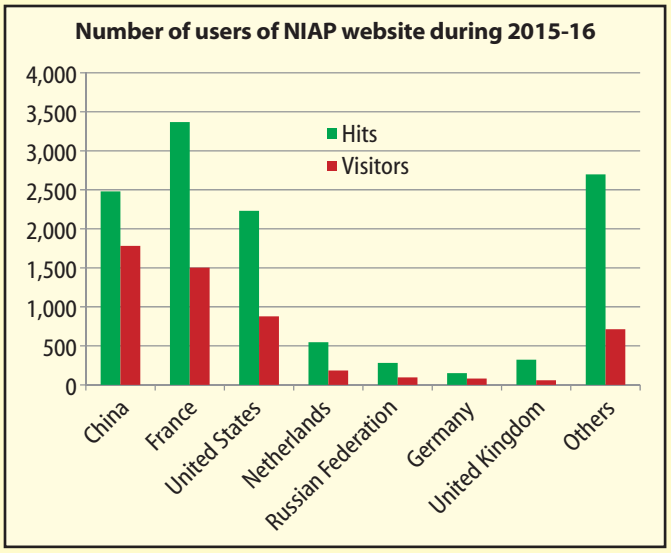
- **National**
  - IASRI, IARI, NAARM and other ICAR institutes and State Agricultural Universities
  - ISEC, CESS, ISI, IGIDR, IIM-A, ICRIER, NAFED, NFDB, NISTADS
  - NITI Ayog, Ministry of Agriculture and Farmers Welfare, NABARD, Ministry of Food, Ministry of Environment and Forest and Climate Change
  - NAAS, MSSRF, TAAS
- **International**
  - CGIAR Centres :
    - ICRISAT, ILRI, IFPRI, ICRAF, CIMMYT, ICARDA, IRRI, IWMI
  - UN Organizations:
    - FAO, UN-CAPSA
  - The World Bank, SAARC Agriculture Centre, BRICS
  - ODI, Universities in developed countries
- **Corporate and agri-business sector**
  - YES BANK, BAIF
  - Agriculture Insurance Corporation, SFAC

Publications

NIAP regularly brings out publications like Policy Papers, Policy Briefs and Conference Proceedings. These serve as the main agents for dissemination of its research findings. During a short span of its existence, the Institute has established a track record of impressive research studies. So far, 392 research papers, 29 Policy Papers and 41 Policy Briefs are published.

Infrastructural Facilities

Library : NIAP library has a specialized collection, comprising of 3434 reference books, 125 CD-ROMs, 2321 database publications, 812 reports and 124 SAARC publications and other reference material. Presently, Institute has subscription of 15 international and 10 national journals and important electronic databases.



Agricultural Knowledge Management Unit : The AKMU is well equipped with latest computers, servers, firewall (Fortigate 80c) and analytical software like SPSS 23, STATA 12, LIMDEP 9.0, GAMS, Stella and SAS 9.3. A dedicated leased line of 100 MBPS is being supported by National Knowledge Network. All employees of the Institute have been provided with latest hardware, software, local area network and internet facilities. Further, E-governance initiative like ICAR MIS-FMS has been implemented in the Institute.

NIAP Website : NIAP website (http:// www.ncap.res.in) provides latest information about activities of the Institute, particularly collaborations, its staff, infrastructure, research projects, publications and procurement. The website is being accessed worldwide and its outreach is increasing to more countries.

Recognition

The Institute is recognized for its significant contributions and the scientists are recognized by the national and international organizations. National Professorships, Rafi Ahmed Kidwai Award, Fulbright Fellowship, and Borlaug International Science Fellowship are the notable awards and recognitions received by the scientists. Many scientists are members of the editorial boards and executive committees of professional journals and societies. Seven scientists of the Institute were awarded the Fellowship of the National Academy of Agricultural Sciences. NIAP as a team was recognized by national and international organizations. ICRISAT included NIAP in its Millennium Science Award 2007 as an Outstanding Partner for the excellent contribution in strategic partnership for demonstrating high quality science and innovations in social science research.

QRT Assessment

NIAP's contributions in its mandated areas are well recognized and applauded by the Quinquennial Review Teams (QRT).

First QRT Chaired by Dr V S Vyas (2000)

"….The Centre has provided adequate justification for its establishment by creditable academic research, serious efforts in dissemination and advocacy of its research output, right environment for high quality and relevant research is created…"

Second QRT Chaired by Dr S S Johl (2007)

"….The Centre has established its credibility in the NARS through its scientific excellence and purpose-oriented focused agricultural economics research. …. healthy institutional traditions, motivated staff, dynamic leadership and support of the Council are the key strengths…"

Third QRT Chaired by Dr S S Acharya (2012)

"….The Centre has come out with new research-based knowledge……., performed exceedingly well and contributed immensely in generating research-based policy outputs……."

ISO 9001:2008 Certification

The Institute is regularly assessed for ISO 9001:2008 certification. Following the successful assessments for ISO certification, British Standard Institute (BSI) has awarded ISO 9001:2008 certificate bearing number FS 615169 to NIAP.

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