



ICAR - DPR



Mission with Vision



भाकृअनुप - कुक्कुट अनुसंधान निदेशालय  
ICAR-DIRECTORATE OF POULTRY RESEARCH

Sardar Patel ICAR outstanding institution 2013



## Directorate of Poultry Research

The Directorate of Poultry Research is a premier institute in poultry science, established on 1<sup>st</sup> March 1988 at Rajendranagar, Hyderabad under the aegis of the Indian Council of Agricultural Research. The institute was originated under the flagship of All India Coordinated Research Project (AICRP) on Poultry Breeding, an All India Network Project launched by the Indian Council of Agricultural Research during IV five year plan with the objective of augmenting commercial poultry production and achieving self-sufficiency in the country. Initially, the coordinating unit of AICRP was located at the Poultry Research Division of Indian Veterinary Research Institute, Izatnagar till 1979, which monitored the activities of the AICRP centres located in different State Agricultural Universities (SAUs) and ICAR Institutes. Later on, it functioned from Central Avian Research Institute, Izatnagar till its elevation to Project Directorate on Poultry in 1988, and Directorate of Poultry Research in 2013.

The institute is situated in a strategic location at Hyderabad,

the poultry hub of India. The Directorate has been playing a vital role in addressing the issues related to commercial and rural poultry farmers across the country. Keeping in view the contribution to the poultry farmers and poultry industry, the institute has been elevated to the status of Directorate of Poultry Research in 2013. Presently the institute's activities are spread across 12 AICRP centres and 12 Poultry Seed Project centres covering the entire country. The primary focus of AICRP centres is to develop location specific rural chicken varieties and their propagation in the region along with conservation and improvement of local native and elite chicken germplasm. The Poultry Seed Project centres are propagating the improved rural chicken germplasm developed at this Directorate. The institute is supplying both parent stocks and commercial birds (4 to 5 lakhs per year) to different states in addition to the supply from the centres.

The main activity of this Directorate is to develop varieties suitable for rural poultry with supportive research in nutrition, health and molecular genetics. This Directorate coordinate and monitor ICAR sponsored network research programs

### Vision

- ◆ To enhance productivity of chicken for household nutritional security, income and employment generation.

### Mission

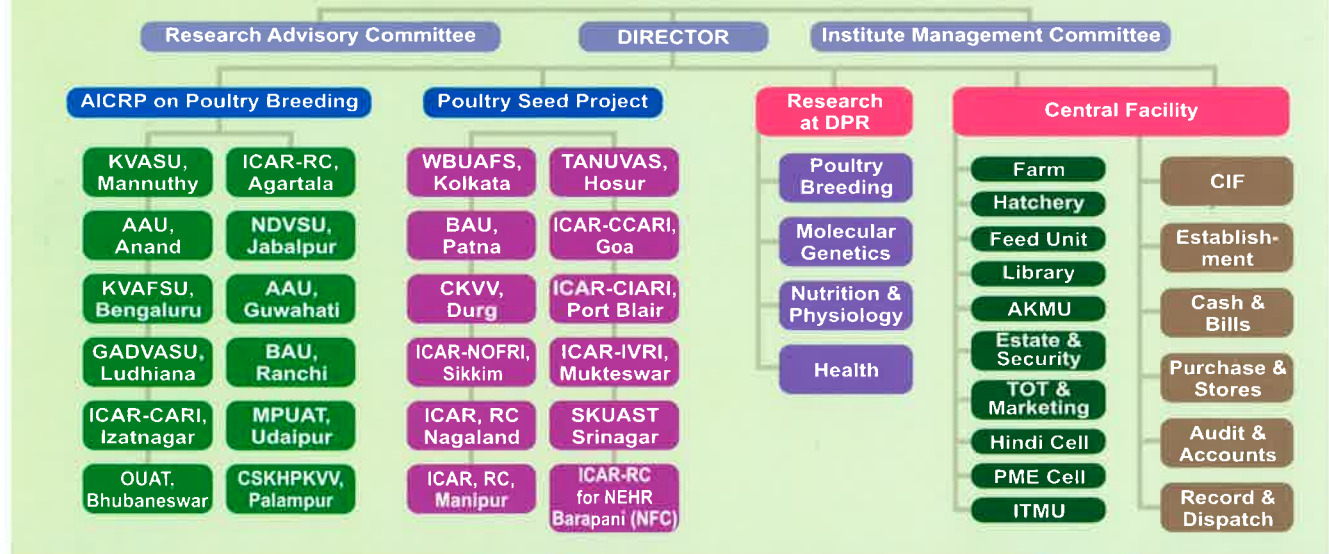
- ◆ To develop and propagate improved varieties of chicken for sustainable production under intensive and extensive systems.

### Mandate

- ◆ Basic and applied research to enhance productivity of poultry
- ◆ Development of new germplasm for rural poultry husbandry
- ◆ Capacity building

## ORGANOGRAM

### DIRECTORATE OF POULTRY RESEARCH



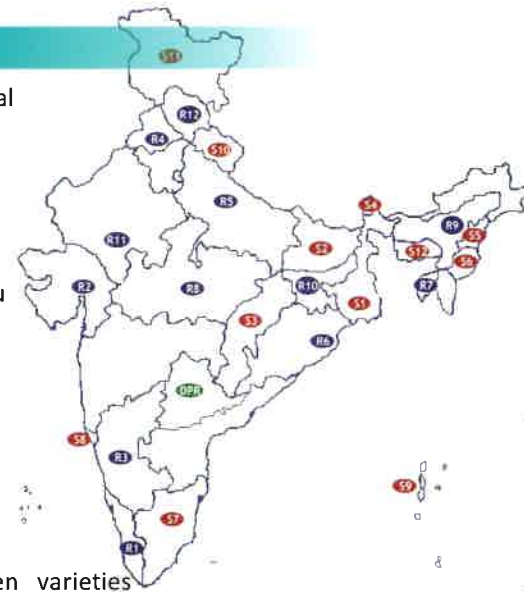
## All India Coordinated Research Project on Poultry Breeding

The AICRP on Poultry Breeding is being operated at the following centres for developing location specific varieties for rural poultry farming.

- ◆ Kerala Veterinary & Animal Sciences University, Mannuthy, Kerala
- ◆ Anand Agricultural University, Anand, Gujarat
- ◆ Karnataka Veterinary, Animal and Fishery Sciences University, Bengaluru, Karnataka
- ◆ Orissa University of Agricultural Technology, Bhubaneswar, Orissa
- ◆ Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab
- ◆ ICAR-Central Avian Research Institute, Izatnagar, Uttar Pradesh
- ◆ Madhya Pradesh Pashu Chikitsa evam Vigyan Viswa Vidyalaya, Jabalpur, Madhya Pradesh
- ◆ ICAR-Research Complex for NEH, Agartala, Tripura
- ◆ Maharana Pratap University of Agricultural Science and Technology, Udaipur, Rajasthan
- ◆ CSK Himachal Pradesh Krishi Viswavidyalaya, Palampur, Himachal Pradesh
- ◆ Assam Agricultural University, Guwahati, Assam
- ◆ Birsa Agricultural University, Ranchi, Jharkand

## Poultry Seed Project

- ◆ West Bengal University of Animal and Fishery Sciences, Kolkata, West Bengal
- ◆ Bihar Agricultural University, Patna, Bihar
- ◆ Chattisgarh Kamadhenu Viswa Vidyalaya, Raipur, Chattisgarh
- ◆ ICAR-Research complex, Nagaland Regional Centre, Jharnapani; Nagaland
- ◆ ICAR-National Organic Farming Research Institute, Gangtok; Sikkim
- ◆ ICAR-Research complex, Manipur Regional Centre, Imphal, Manipur
- ◆ Tamil Nadu Veterinary and Animal Sciences University, Chennai, Tamil Nadu
- ◆ ICAR-Central Coastal Agricultural Research Institute, Goa
- ◆ ICAR-Central Island Agricultural Research Institute, Port Blair, Andaman & Nicobar Islands
- ◆ ICAR-IVRI, Regional campus, Mukteswar, Uttarakhand
- ◆ SKUAST, Srinagar, Jammu & Kashmir
- ◆ ICAR-Research Complex for NEH region, Umiam, Meghalaya



The main focused research at the Directorate is in the field of genetics and breeding for varietal development suitable for rural and tribal areas with supportive research on physiology, nutrition and health. In addition to this, research work on molecular genetics, functional genomics, contract research in health and nutrition is being carried out. Climate change, NICRA and value addition are other areas of research.

The Directorate has developed excellent chicken varieties namely Vanaraja, Gramapriya, Srinidhi, Swethasri, Krishibro and Krishilayer for backyard and intensive poultry production, which gained wider acceptability particularly among the rural and tribal population in different agro-climatic regions of the country. The rural germplasm reached every nook and corner of the country spreading across 29 states including all the 7 states of NE region, Andaman & Nicobar Islands and Jammu & Kashmir. These

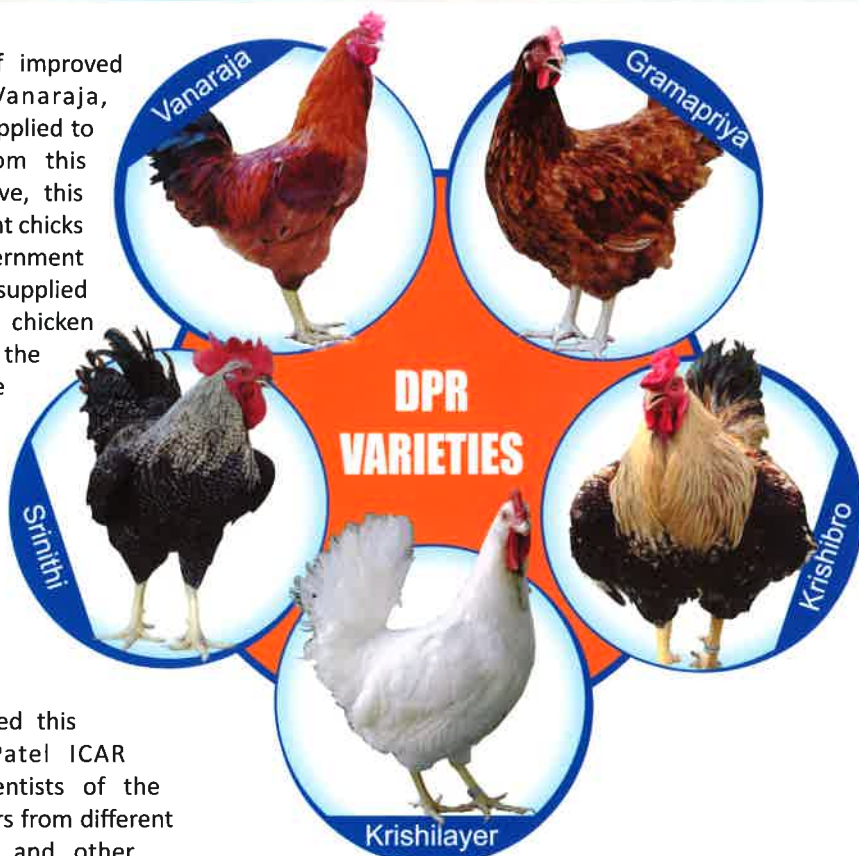
rural chicken varieties have potential to lay about 110 to 180 eggs and weigh up to 1.0-1.5 kg at 12 weeks of age, utilizing the natural food base available under scavenging conditions. Package of practices in nutrition and health care for both intensive and backyard chicken varieties were developed, which are being used by the respective stakeholders. Training to rural / tribal farmers across the country was imparted on various aspects of poultry farming. The Directorate has been actively involved in disseminating and popularizing the technologies developed for the benefit of the farmers and stake holders through various extension activities.

The AICRP on poultry breeding centers developed 4 location specific rural poultry varieties viz Pratapdhan (Udaipur) Narmadanidhi (Jabalpur), Kamrupa (Assam) and Jharsim (Ranchi) suitable for their local regions. Utilizing the limited



facilities available, about 70 lakhs of improved chicken germplasm, mainly of Vanaraja, Gramapriya and Krishibro have been supplied to the farmers across the country from this Directorate alone. In addition to above, this institute has supplied 2.50 lakhs of parent chicks of the rural germplasm to different government organizations which in turn might have supplied more than 1.6 crores of improved chicken varieties to the farmers. Keeping in view the ever growing demand and to meet the requirement of the farmers, the Directorate has intensified the rural germplasm propagation through organized net work i.e. Poultry Seed Project, by establishing parent units in 12 different states. In addition, about 92 lakhs and 15 lakhs of improved germplasm has been distributed from AICRP & PSP centers.

In recognition of the services rendered this institute was bestowed Sardar Patel ICAR Outstanding Institute 2013, the scientists of the Directorate received awards and honours from different national and international scientific and other organizations. Few of them include the prestigious ICAR Team Research Award, ICAR Hari Om Trust Award,



National Productivity Award, World Poultry Science Association Award, Compound Livestock Feed Manufacturers Association Award, etc.

### Future thrust

- The research in genetics and breeding for varietal development suitable for rural and tribal areas has been strengthened with supportive research in nutrition, health and molecular genetics. In addition to this, research work on climate change, value addition and contract research in health and nutrition will be focused. The AICRP on Poultry breeding is reoriented towards the rural/village poultry in a mission mode to develop the location specific varieties suitable for village poultry across the different agro-climatic regions of the country.
- The Poultry Seed Project is strengthened with some more centres during the XII plan for efficient and timely distribution of the improved rural chicken germplasm across the country. Special emphasis will be given towards the development of poultry farming activities in the North Eastern states of the country.
- Strengthening public private partnership linkages with commercial poultry industry and other stakeholders for





augmenting poultry production through economizing feed cost and managing the emerging and re-emerging diseases.

### Infrastructure

The Directorate is having state of the art facilities for carrying out research in the areas of Breeding, Biotechnology, Nutrition and Disease diagnosis. Laboratories are well equipped with highly sophisticated instruments like Thermoecycler, Real Time PCR, Gel Documentation System, Microplate Enabled Spectrophotometry, Southern Hybridization Apparatus, Electrophoresis Apparatus, Gas Chromatography, Atomic Absorption Spectrophotometer, High Speed Centrifuge, HPTLC, Densitometer, ELISA Reader, Flourescent Microscopy, Cryo Microtome, Nanodrop, Chicken isolators, Egg Analyzer etc. In the breeding farm, about 10,000 adult birds can be individually housed in cages and 15,000 chicks in brooder and grower houses. Additionally, battery cage facilities are available to conduct



sophisticated nutrition and health experiments. Besides, a feed processing unit to compound about 70-80MT of feed per month and a Hatchery unit with the setter and hatcher's capacity of 27,000 and 18,000 eggs, respectively are also available with the Directorate. A post mortem room, an incinerator and a closed pit are available for safe disposal of the dead birds. Supporting facilities like computer center (AKMU) with LAN facility, library, reprography unit, FAX and EPABX, etc. are helping the scientists for rapid access to the literature data base.

A New laboratory (Silver Jubilee) block of 12,000 sft area with 6 labs and a Backyard Unit (2000 sft) were newly added to the existing facilities of the Directorate. In addition, the Directorate acquired 10 acres of land from SVVU in 2013 to strengthen the activities of the Directorate. A new campus with state of art infrastructure will be developed at the new site.

### Linkages

The Directorate is working in close contact with several research organizations like CSIR, ICMR, DBT, NIAB, DST, SVVU, University of Hyderabad, several NGOs etc. Several national and international private organizations are getting benefits of having consultancy and contract research with DPR.

### Services to the Nation

The institute is contributing its might by providing scientific and technical services to the public and private sectors, farmers, non-government organizations, extension agencies and other stake holders in the society. To name a few services like....

- 1 Supply of chicks and fertile eggs to farmers and other user agencies
- 2 Providing technical guidance to farmers on various aspects of poultry farming
- 3 Imparting training on specialized poultry farm operations
- 4 Contract research with Industry and stake holders
- 5 Supply of embryonated eggs suitable for vaccine production

## Technologies Developed

- Developed Vanaraja and Gramapriya for rural poultry production. These chicken varieties are being reared in almost all areas of the country starting from Jammu & Kashmir to Kanyakumari and Gujarat to all Northeast states.
- Srinidhi, a promising dual purpose chicken variety has been recently developed and is being propagated.
- Evolved a colored broiler cross Krishibro, which can attain 1500g body weight at 6 weeks of age.
- Krishilayer, a promising commercial layer variety with a production potential of 280-290 eggs was developed.
- Conservation of Aseel, Gaghus and Nicobari is being carried out.
- Swethasri, a promising rural layer variety was developed with a laying potential of about 180 - 200 eggs.
- Pratapdhan, Kamrupa, Narmadanidhi and Jharsim, dual purpose location specific rural chicken varieties have been developed under AICRP on poultry Breeding at MPUAT, Udiapur, AAU, Guwahati, Jabalpu and BAU, Ranchi, respectively.
- Promising broiler (B-77, IBL80, IBB-83 & IBI-91) and layer crosses (ILI-80, ILM-90 & ILR-90) were developed at different AICRP centers.
- Molecular characterization of all the poultry germplasm available at DPR was carried out.
- Established the tropical adaptability of major genes i.e. naked neck and dwarf.
- The advantageous effects of dwarf dam line were established.
- Maize, the expensive energy source in chicken diet could be replaced with foxtail millet, pearl millet or tannin free sorghum in both broiler and layer diet without affecting their performance.
- Similarly, soybean meal could be replaced in toto with sunflower cake or low glucosinolate mustard cake or up to 67% with til cake without affecting the bird performance.
- Evolved several effective and economic ways of detoxifying aflatoxins in poultry diet.
- Developed sex determination kit for sexing the chicks at early age.
- The advantage of MAS has been demonstrated in chicken.



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