

ICAR-CIARI: AT A GLANCE

ICAR-Central Island Agricultural Research Institute (CIARI), a premier research institute under Indian Council of Agricultural research was established on 23 June 1978 by merging different Regional Research Stations of the ICAR Institutes viz., Central Marine Fisheries Research Institute, Indian Veterinary Research Institute, Indian Agricultural Research Institute, and Central Plantation Crops Research Institute situated in Andaman and Nicobar Islands, as per the recommendations of various expert committees set up by the Government of India/ICAR and the Director's Conferences. Since 2016, the Regional station of CPCRI located at Minicoy, Lakshadweep Islands was also merged with this Institute to serve as a Regional Station of ICAR-CIARI. ICAR-CIARI is fully committed to work on coconut-based cropping systems, crop improvement studies, water management and conservation, livestock production, fisheries resource management, aquaculture production, and management of the coastal ecosystems. The research works has been conducted under four Divisions viz., Horticulture and Crop improvement, Natural Resource Management, Animal Science, and Fisheries Science.





Vision

The Institute envisages developing agri-horticulture, livestock and fisheries sector in a sustainable way through technological innovation in the changing climatic scenario to ensure decent livelihood in the fragile Island ecosystem.

Mission

To provide decent livelihood to farm youth from agriculture in a fragile Island ecosystem on sustainable basis.

Mandate

- Conservation, characterization, and sustainable utilization of natural resources and harnessing through post-harvest and value addition.
- To standardize technologies for health coverage and bio security of plant, animal, and fishery resources.
- To standardize techniques for capture and culture fisheries in the Islands.
- Vulnerability studies of Island ecosystem and adaptive strategies to develop climate resilient agriculture.
- Transfer of technology, capacity building, policy support and market intelligence to stakeholders.

Management structure of ICAR-CIARI

The administration of ICAR- Central Island Agricultural Research Institute rests with the Director of the institute who manages the insitutional activities and receives support from research and administrative divisions. The institute also has Quinquennial Review Team (QRT), Research Advisory Committee (RAC), Institute Management Committee (IMC), Institute Research Council (IRC) reviews to monitor the research programmes and facilitate to identify new research thrust areas for the Institute. The sanctioned and filled staff strength details,

Category	Sanctioned	Filled
Scientist	44	30
Technical	46	31
Administrative	27	20
Supportive	66	56





Salient achievements

- A total of 238 germplasm of indigenous and exotic horticultural crops belonging to fruits (53), vegetables (77), flowers (03), tuber crops (33), plantation crops (36) and medicinal plants (36) have been collected and maintained.
- A total of 333 germplasm/ landraces of pulses which comprises of mungbean (126), urdbean (163) and pigeonpea (44) have been collected, characterized, and conserved.
- Forty high yielding varieties were developed and released include 4 coconut, 4 *Morinda citrifolia* (noni), 9 rice, 7 pulse, 2 sweet potato, 1 yam, 5 leafy vegetables, 1 orchid, 2 brinjal, and 3 mushroom.
- Two varieties of rice CARI DHAN 1 and CARI DHAN 5 were notified for Andaman and Nicobar Islands. Bacterial wilt resistant varieties CARI Brinjal 1 and CARI Brinjal 2 covered about 10 ha of area across A & N Islands.
- Integrated farming system models were developed for sustainable production under the changing climatic scenario in the Islands.
- Livestock and poultry germplasms have been characterized, documented and conserved (Nicobari fowl, Teressa goat, Nicobari pig, Andaman goat, Andaman pig, Andaman duck, Trinket cattle).
- Fish species such as *Channa royi*, *Sicyopterus garra* and *Gymnothorax andamanensis* were discovered from Andaman and Nicobar Islands



Varieties developed

Crops	Varieties developed
Coconut (<i>Cocos nucifera</i> L.)	CIARI Surya, CIARI Annapurna, CIARI Chandan, CIARI Omkar, Dweep Haritha, Dweep Sona
Greater yam (<i>Dioscorea alata</i> L.)	CIARI Yamini
Sweet potato (<i>Ipomoea batata</i> L.)	CIARI SP-1, CIARI SP-2
Poi (<i>Basella alba</i> L. and <i>B. rubra</i> L.)	CIARI Poi Selection, CIARI Shan
Amaranthus (<i>Amaranthus</i> spp.)	CIARI Harita and CIARI-Lal Marsha
Brinjal (<i>Solanum melongena</i>)	CIARI Brinjal-1 & 2
Ground orchid (<i>Eulophia andamanensis</i>)	CIARI Pretty Green Bay
Culantro (<i>Eryngium foetidum</i> L.)	CIARI Broad Dhaniya
Rice (<i>Oryza sativa</i>)	CIARI Dhan 1, CIARI Dhan 2, CIARI Dhan 3, CIARI Dhan 4, CIARI Dhan 5, CIARI Dhan 6, CIARI Dhan 7, CIARI Dhan 8, CIARI Dhan 9
Pulses	CIARI Mung1, CIARI Mung2, CIARI Mung3,4,5, CIARI Urd 1 & 2
Noni (<i>Morinda citrifolia</i> L.)	CIARI Sanjivini, CIARI Samridhi, CIARI Rakshak, CIARI Sampada
Mushroom	CIARI Mushroom 1,2 and 3

Animal breeds registered

- Nicobari Fowl Accession number: INDIA_CHICKEN_3300_NICOBARI_12013
- Teresa Goat Accession number: INDIA_GOAT_3300_TERESSA_06025
- Nicobari Pig Accession number: INDIA_PIG_3300_NICOBARI_09005.
- Digli Duck
- Andaman Pig
- Andaman Local Goat



Channa royi



Aquatic faunal surveys

A new species of snakehead *Channa royi* was reported, which is the first description since 1935 of a new freshwater fish species from the Islands with conventional and molecular approach.

A species of freshwater goby *Sicyopterus garra* has been redescribed based on taxonomic and molecular approaches. These discoveries form an important information on the biodiverse nature of the archipelago.

Sicyopterus garra



Technologies commercialized

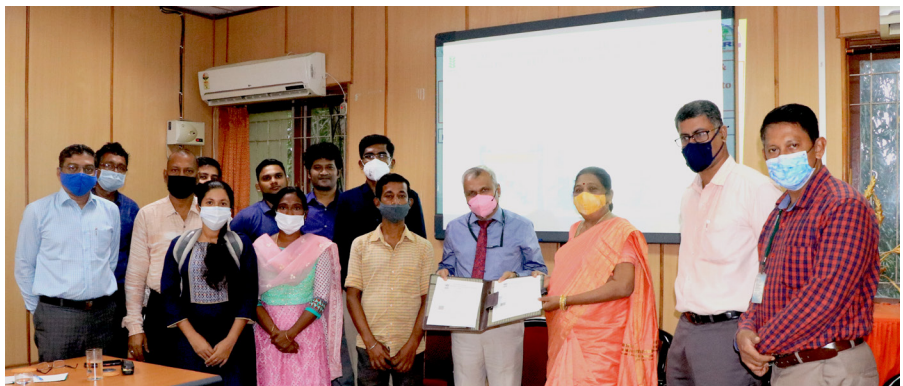
1. DWEEP-Hanggreens - Hanging model

Dweep-HanGreens is developed for hanging cultivation of locally popular Burmese coriander (*Eryngium foetidum*). Being a hanging model, it occupies limited space and could be hung in the balconies, terraces, rooftops etc.



2. DWEEP-Carp Grower Feed & Incubation Facility of Fish Feed Production

Dweep-Carp Grower Feed formulated by ICAR-CIARI can be fed to the Indian Major Carps from fingerlings to marketable size. The fish feed production unit has been extended as an incubation facility to promote start-ups in fish feed production for Island aquaculture.



3. DWEEP-Micro

A compost-based formulation named Dweep-micro is basically a combination of Bacillus, and Pseudomonas for plant growth promotion by nutrients from soil, and promoting plant growth by selective stimulation of growth phytochemicals in the plant system. It can be used in liquid and powder formulations. The Dweep micro can be also used for seed treatment, seedling dip, direct application, and soil application. It can mobilize soil P, give protection, and increase root and shoot growth. The Dweep micro can be used for seed treatment, seedling dip, direct application, and soil application. It should be used during sowing and at 15 day intervals till flowering in vegetables.

4. DWEEP Tickure

Dweeptickure, an herbal-based formulation for control of ticks in the livestock was developed by the scientists of the Animal Science Division and commercialized for further marketing. The team has developed an oil-based herbal topical formulation as acaricides for the control of tick infestations in livestock. This herbal-based formulation kills all stages of ticks in cattle and goats and is safe for all livestock stages including pregnant and lactating animals. The formulation was found to be very effective in curing the ticks and prevents reoccurrence of the ticks in the infected animals.



5. DWEEP -Vertigrow

A vertical farming model for growing leafy vegetables in kitchen/ terrace garden with a spatial coverage of 5 sq.m which can hold 100 pots and one tray. This has the provision for soilless cultivation, rain protection and rainwater harvesting. The system is suitable for year round cultivation of high value leafy vegetables and other herbs besides aesthetic orchids/ornamental plants with efficient use of water, nutrients and space.

6. DWEEP-GauMaHumpsoreRakshak

Trimodel therapy for the treatment of Humpsore in cattle was made commercialized to Mr.Sainath Shenoy, C/o Mahalasa Agro Products, South Andaman.

7. DWEEP -Larval rearing of fancy guppy fishes

The larval rearing protocol of the fancy guppy fishes were standardized at the Island conditions and the same has been commercialized to Miss Megha Ram, Port Blair, a young entrepreneur who gained interest in aquarium business based on a training program provided by ICAR-CIARI.



TECHNOLOGIES CERTIFIED BY ICAR, NEW DELHI

1. DWEED Tickure
2. Nursery protocol for endemic wild banana
3. Concept of Mini incubator for rural poultry
4. DWEED Gau Maa Rakshak for Humpsore

Number of patents filed : 6

Number of patents granted - 1





Policy documents developed

- Strategies for development of island agriculture
- Open sea cage culture
- Marine capture fisheries management
- Organic farming policy for Andaman and Nicobar Islands
- Livestock production policy for Andaman and Nicobar Islands
- Development of Island Fisheries
- Biodiversity Conservation and Environmental Biotechnology
- Status and future strategies for horticulture development in the Island
- Water policy for Andaman and Nicobar Islands

Way Forward

- Developing different IFS models with livestock, spices, fruits, medicinal plants as component for high economic returns
- Developing climate resilient high yielding varieties suitable for island condition
- Developing technologies for organic inputs such as manures, bio-pesticides, and bio-control agents
- Suitable processing and value addition with Andaman branding
- Developing technologies for water use efficiency in the farming system model
- Cost-effective feeding strategies for improvement of production, reproduction, and health of livestock
- Promoting alternate fish production sectors such as mariculture, brackish water and freshwater aquaculture
- Surveillance and monitoring of invasive disease/pathogen/pest for strict biosecurity
- Capacity building for entrepreneurship development

Awards and Recognition



Awards	Awarded by
Lieutenant Governor Commendation Certificate	Andaman and Nicobar Administration
Best ICAR Institute award - 2010	ICAR, New Delhi
Fakhruddin Ali Ahmed award for research in Tribal areas	ICAR, New Delhi
Rajshri Tandon award for best use of official language	ICAR, New Delhi
ICAR Team Research award	ICAR, New Delhi
Hari Om Ashram trust award	ICAR, New Delhi
Dr Rajendra Prasad Purushkar for best Hindi publication	ICAR, New Delhi
Jawaharlal Nehru best PhD thesis award	ICAR, New Delhi
Best KVK award	ICAR, New Delhi
Plant Genome Saviour Award	PPVFRA, New Delhi

Linkages and collaboration

- Research collaborations with different institutes for betterment of Island agriculture and allied sectors
- West Bengal University of Agriculture & Fisheries Science, Kolkata
- Bidhan Chandra Krishi Viswa Vidyalaya, West Bengal
- Tamil Nadu J Jayalalitha Fisheries University, Chennai
- Orissa University Of Agriculture & Technology (OUAT), Bhubaneswar
- Tamil Nadu Veterinary & Animal Sciences University, Chennai
- Acharya N G Ranga Agricultural University, Hyderabad
- Kerala Agricultural University, Thrissur
- Dr. YSR Horticultural University (Dr.YSRHU), Andhra Pradesh
- Dr Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli
- Bishop Heber (Autonomous) college, Tiruchirapalli

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