



32 Years of Service
to the Nation
Touching New Horizons...



ICAR-Directorate of Coldwater Fisheries Research

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Hon'ble Minister of State for Agriculture Dr. Devendra Pradhan unveiled the foundation stone of *National Research Center on Coldwater Fisheries* at Bhimtal on 12th March 2001



Dr. Trilochan Mohapatra, Secretary, DARE and DG, ICAR inaugurating Mahseer Broodstock Rearing Facility of ICAR-DCFR



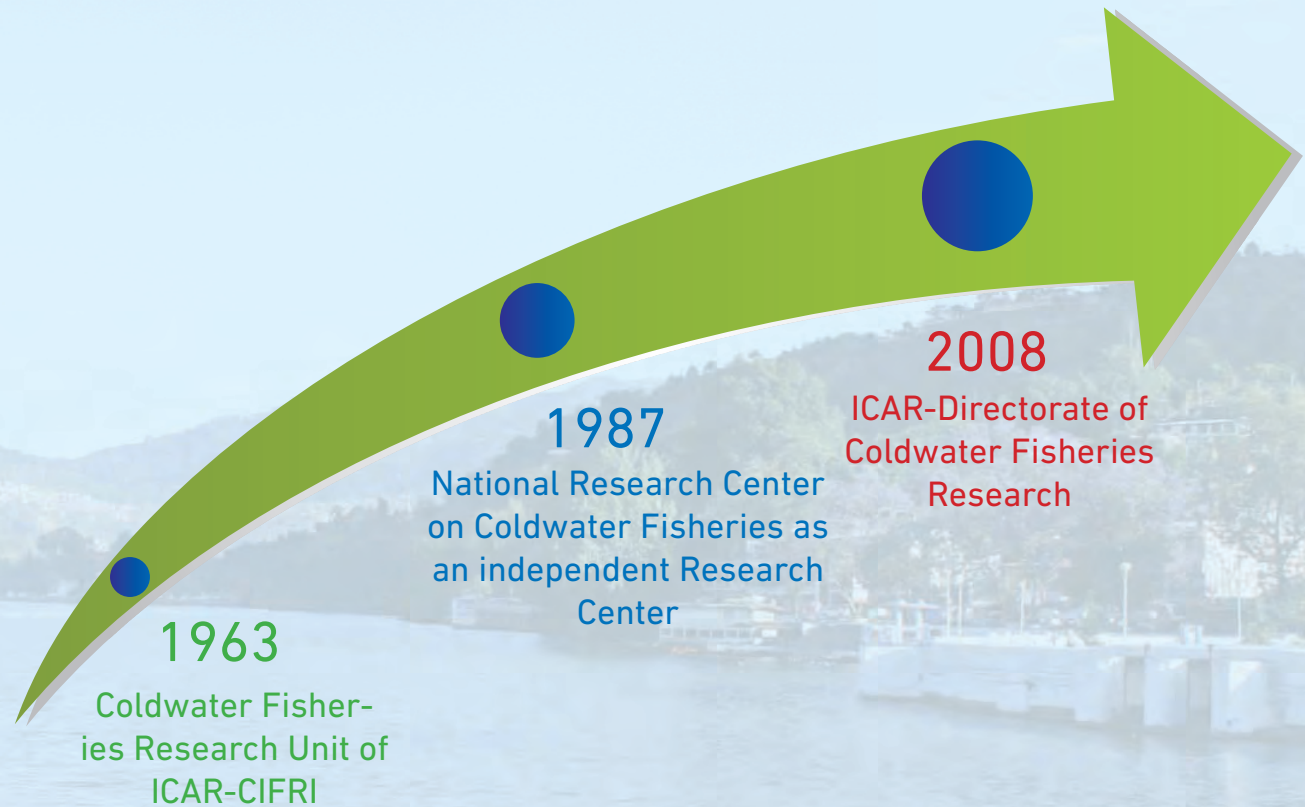
Dr. S. Ayyappan, DDG (Fisheries) inaugurating DCFR's Field Centre at Champawat.



Secretary, DARE and Director General, ICAR Dr. Mangala Rai unveiled the ICAR-DCFR's logo after NRC on Coldwater Fisheries elevated to Directorate of Coldwater Fisheries Research (DCFR) in 2008

HISTORICAL BACKGROUND

ICAR-Directorate of Coldwater Fisheries Research (ICAR-DCFR) is a premier research institute under Indian Council of Agricultural Research, Ministry of Agriculture & Farmers Welfare, Government of India. Initially it was created as National Research Center on Coldwater Fisheries (NRCCWF) on 24th September 1987. Considering the greater potential of coldwater fisheries in different Himalayan states and the ever expanding activities of NRCCWF, the institute was elevated to ICAR-Directorate of Coldwater Fisheries Research during the XI plan.



MILESTONES

ICAR-DCFR



The logo depicts hill fishery resources in rivers and streams within an encircling sphere symbolizing committed and holistic research for livelihood security in Indian uplands.



MANDATE

- Basic, strategic and applied research in coldwater fisheries and aquaculture
- Act as repository of hill fisheries resources
- Human Resource Development through training, education and extension



VISION

Coldwater fisheries and aquaculture to be an important economic activity in upland region for livelihood security and ecotourism



MISSION

To become a '**Centre of Excellence**' for assessing and managing coldwater fishery resources, development technologies and models of hill aquaculture and formulating strategies for holistic growth of the sector.

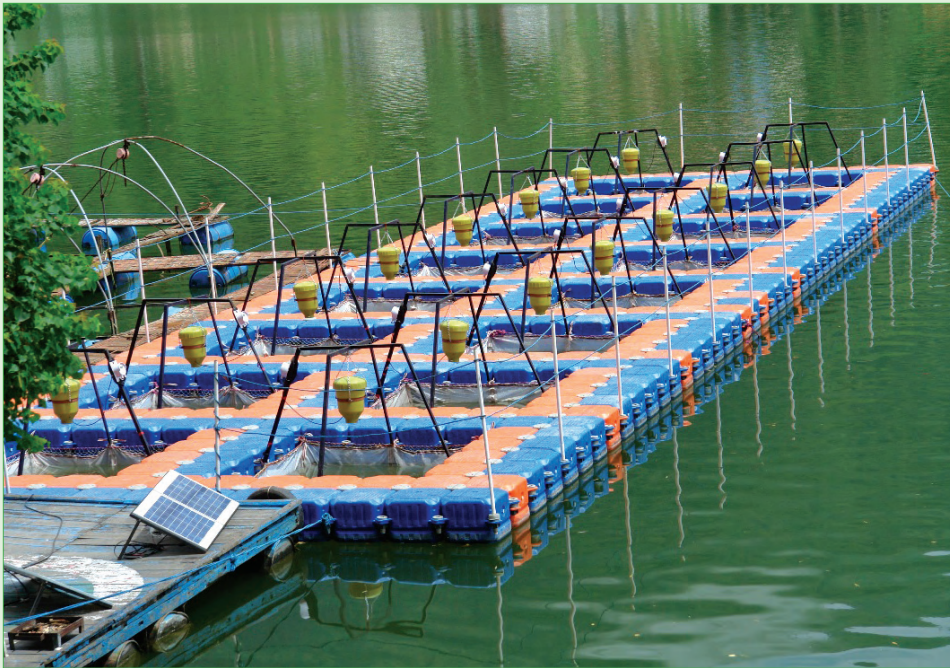
OUR STRENGTH



- Scientists: 24, Technical personnel: 12, Administrative staff: 11, Supporting staff: 10.
- Well equipped laboratories: Geo-informatics Lab, Environmental Fish Biology Lab, Aquaculture Lab, Nutritional Physiology Lab, Molecular Genetics Lab, Molecular Biochemistry Lab, Diagnostic Virology Lab, Diagnostic Bacteriology Lab and Parasitology & Mycology Lab.

- The Directorate also has a flow-through mahseer hatchery, model fish hatchery, ornamental fish breeding unit, feed mill, wet labs, RAS unit, poly tanks, cemented ponds, museum and an aquarium unit at Bhimtal main campus.





- Dr. K. L. Sehgal Library is well equipped with facilities and resources in the form of CD-ROMs, online databases, 7000 text books, e-journals etc.
- Other infrastructure facilities at Bhimtal include cage unit, guest house, auditorium, committee room, training hall, canteen.
- The Directorate has established North East Information Centre at Guwahati.



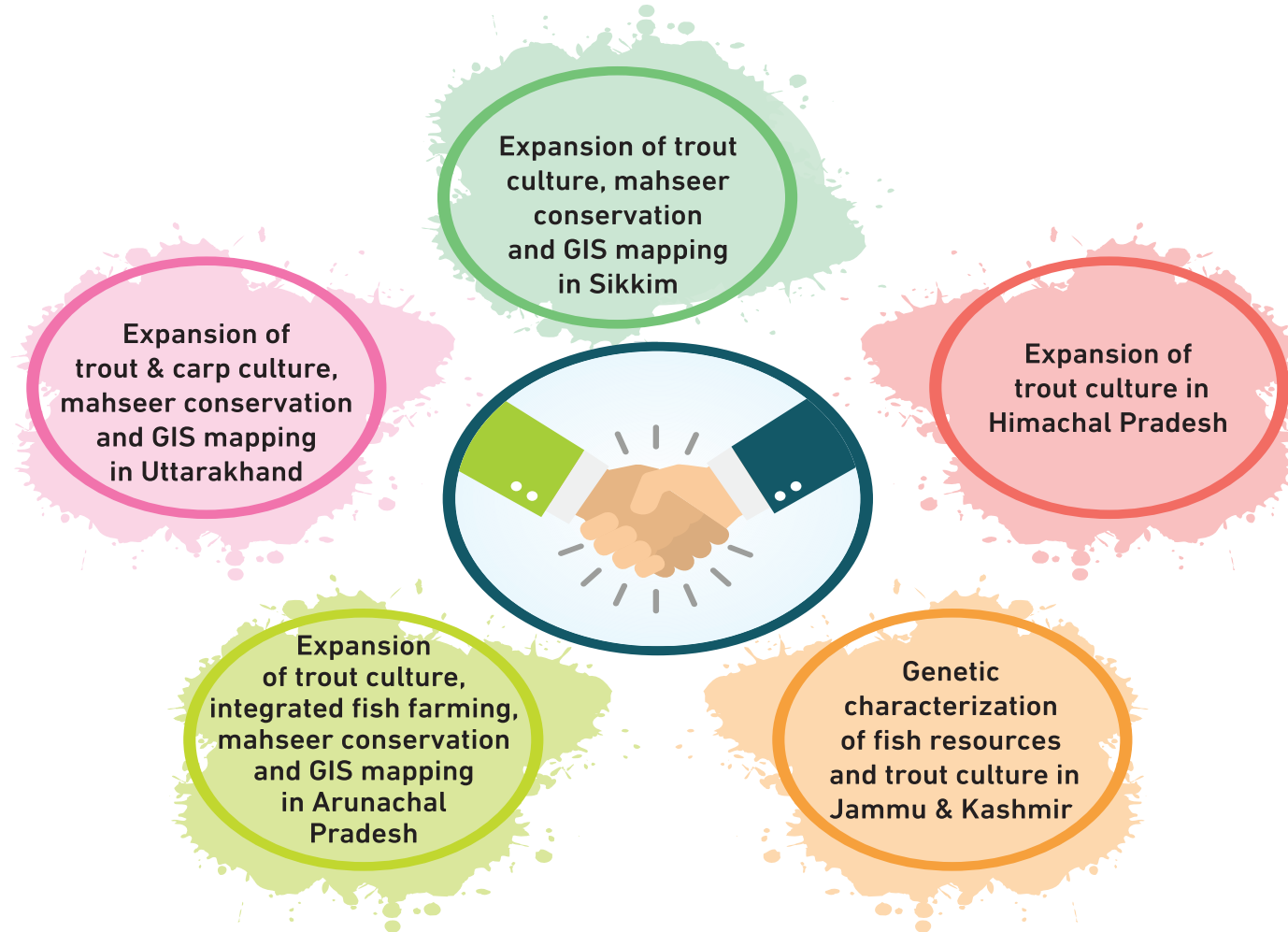
EXPERIMENTAL FISH FARM, CHAMPAWAT



The Directorate has an experimental fish farm spread over 13.3 ha at Chhirapani, Champawat, Uttarakhand. The farm has rainbow trout hatchery, cemented nursery and grow out raceways, ponds, tanks, laboratories, guest house and staff quarters. It is the only experimental outstation farm of the Directorate focused on rainbow trout breeding and culture

ICAR-DCFR IN PARTNERSHIP MODE

We are exploring together... !



Our foot steps are now also in peninsular India, Mizoram, Meghalaya, Manipur, Assam & Nagaland and still counting.....

We are dedicated to serve the entire coldwater regions of the nation...!

OUR RESEARCH ACHIEVEMENTS

Resource Management

- Exploratory survey of high altitudinal lakes and reservoirs and developed database on coldwater fishery resources.
- Developed GIS based decision support system for resource assessment using geoinformatics.
- Providing ecosystem services and fishery enhancement in Himalayan lakes/wetlands.
- Rehabilitation and conservation of mahseer in lakes and rivers
- Establishment of coldwater fishes in high altitudinal lakes

Aquaculture

- Disseminated Three Pronged Carp Culture Technology in Indian Himalayan States
- Rainbow trout breeding & culture and its expansion in different hill states as a flagship species
- Enhancement of carp production by using poly lined tanks in mid hills as a climate resilient technology for marginal farmers.
- Promoting integrated fish farming in mid hills to enhance farm income.
- Developed Induced maturation and breeding technology of golden mahseer, chocolate mahseer and snow trout in captivity.
- Developed breeding and growout protocols for Indigenous minor carps, *Labeo dero*, *L. dyocheilus* and *L. pungusia* as candidate species for hill aquaculture.
- Developed breeding and larval rearing techniques of indigenous coldwater ornamental fishes viz. 1 species of *Schistura*, 3 species of *Garra* and 1 species of *Barilius*.

Nutrition

- Developed customized feeds for different life stages of fish including larval feed for rainbow trout and golden mahseer.
- Developed cost effective feed formulation for rainbow trout based on commercial scale industrial by-products.

Genetics

- Established biochemical mechanism of cold tolerance in snow trout *Schizothorax richardsonii*
- Developed database on genetic characterization and population structure analysis of hill fishes
- Bioprospecting of genes and allele mining for thermal stress tolerance in coldwater fish species
- Developed molecular markers for identification of usable traits in important coldwater fishes

Fish Health

- Disease surveillance in different aquaculture farms across the Himalayan states
- Development of fish viral peptide based nano-delivery system
- Development of anti-microbial peptides as an alternate to antibiotics

Others

- Developed database on nutrient profile of important coldwater fish species
- Developed synthetic neuropeptide hormone for induced breeding of fish.
- Developing anti-fungal formulations to manage fungal infestations in coldwater farms and hatcheries.
- Developing diagnostic kits against selected coldwater fish pathogens for disease management.

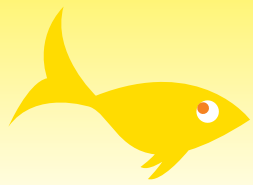
COMMERCIALLY IMPORTANT COLDWATER FISHES

Full of employment avenues !

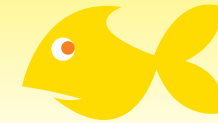


ICAR-DCFR developed breeding and culture technologies of indigenous and exotic coldwater fishes and disseminating to the farmers, entrepreneurs and other stakeholders





ANGLING AND ECOTOURISM



Source of Employment and Forex Earner...



ICAR-DCFR provides technical know-how for establishing ecotourism and recreational fisheries in India



NORTH EAST HILL ACTIVITIES

- Dissemination of Three Pronged Carp Culture and Integrated Fish farming Technology to NE farmers.
- Promotion of rainbow trout farming.
- Established 7 mahseer and 3 trout hatcheries, 7 mahseer brood bank facilities, trout feed unit, aquarium units and many trout raceways in NE states.
- Trained >10000 farmers, fisheries officers and other stakeholders and provided aquaculture inputs to boost fish production in NE hill states.



TRIBAL SUB PLAN ACTIVITIES

- Established rainbow trout and carp farming in remote tribal villages of Indian Himalaya.
- Imparted training on preparation of fish pickle, fish cutlet and other value added products specially to tribal women.
- Trained >2000 tribal farmers and provided aquaculture inputs to boost fish production in hill states.



SCHEDULED CASTE SUB PLAN ACTIVITIES

ICAR-DCFR started the SCSP programme for the first time since Feb. 2018. So far >1000 stakeholders belonging to SC community have been provided trainings, advisories and aquaculture inputs through several HRD programmes with an aim to enhance their farm income.

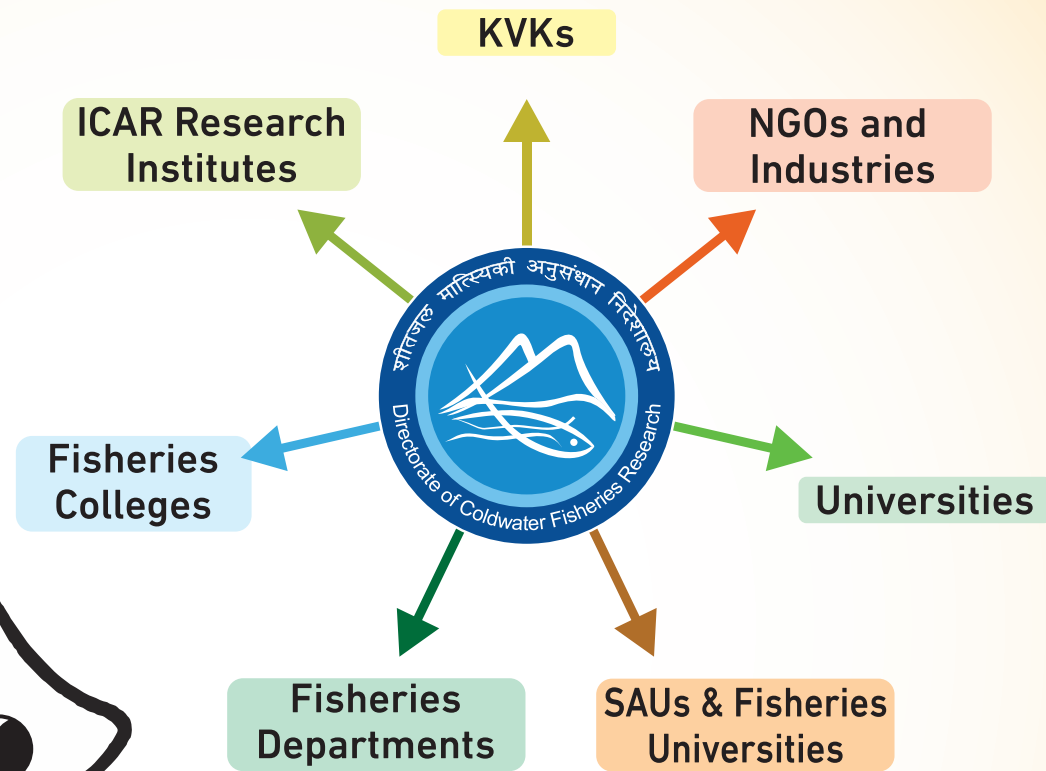
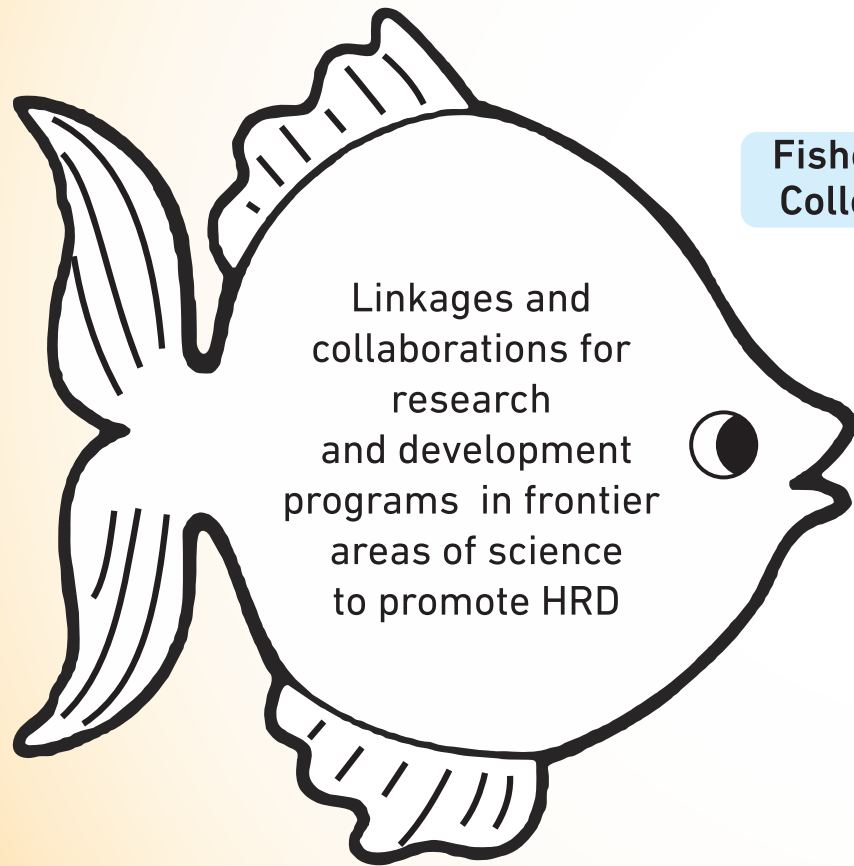


MERA GAON MERA GAURAV PROGRAMMES

The Directorate has adopted 21 villages in Uttarakhand and North East region under “Mera Gaon Mera Gaurav” programme and supported the farmers with farm advisories, training and aquaculture inputs.



FOSTERING LINKAGES AND COLLABORATIONS



FAO



WWF



AFS



Mahseer Trust

NATIONAL

INTERNATIONAL

CAPACITY BUILDING/HRD PROGRAMMES

Every year, ICAR-DCFR is dedicated to conduct various capacity building/HRD programmes including:



- Farmers training/skill development prog.
- Scientists-farmers-KVK/dept. officers interface meets
- Training of trainers programmes
- Entrepreneurship development prog.



- PhD/Masters students research
- Hands-on training to the UG students
- Exhibitions and kisan melas

NEW PARADIGMS

The vision 2030 of ICAR-DCFR envisions judicious and scientific management of the Himalayan aquatic resources to make coldwater fisheries and aquaculture an important economic activity for livelihood security and ecotourism

HOW ?





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