

GENERAL GUIDELINES

FOR

Product Development Project (PDP)

**INDIAN COUNCIL OF AGRICULTURAL RESEARCH
NEW DELHI**

PART B

GUIDELINES FOR Product Development Project (PDP) AT THE ICAR INSTITUTES

The Indian Council of Agricultural Research (ICAR), New Delhi strives to support the research and ideas which are of problem solving in nature and address the issues of regional and national importance. Recently, ICAR has been able to secure the support from Government of India in terms of *Corpus Fund*, earmarked for supporting science and innovations in agriculture. The purpose of this allocated corpus fund under PDP is to support the Institutes who have already worked some preliminary research and needs further support for development of the product. Such research proposals are to be invited by the Council in the competitive mode identify and support for advancing science and developing products for agricultural development. In order to pursue this programme, the following guidelines will be followed for its smooth implementation:

1. **Name of the programme:** ICAR- Product Development Project (PDP)
2. **Sponsor of the programme:** Indian Council of Agricultural Research, New Delhi
3. **Aim of the programme:** To support ICAR Research Institutes who have already worked some preliminary research and needs further support for development of product by providing them financial support.
4. **Inviting proposals:** Time-to-time the Council will make announcement/notify to invite the proposals from the ICAR Institutes.
5. **Eligibility Criteria for Considering the Proposal**
 - i. Only the ICAR Institutes not any individual scientist can apply for this project.
 - ii. The proposal submitted needs to fall under specific priority research area(s) (As given at the end as **Annexure-II**).
 - iii. The proposed project needs to be under the mandate of ICAR-Research Institute(s).
 - iv. The period of the project should be of maximum 3 years duration. Only in exceptional cases (to be decided by the SMD level Committee), the proposal for extension of project duration (beyond 3 years) will be reviewed.
 - v. Proposal should be submitted in the prescribed proforma and not in any other format.
 - vi. No proposal will be considered in absentia of the proposer who is proposing the proposal.
 - vii. Need based equipment also can be proposed. Contractual manpower can be proposed.
6. **Way of submitting the Proposal**

The project proposals will be invited and screened at the level of Subject Matter Division (SMD). Thereafter, shortlisted project proposals will be screened by the committee at SMD level through online presentation.

7. Administration of the Projects/Scheme

The complete proposal shall be screened at the level of concerned SMD. There shall be an Advisory Committee consisting of Deputy Director General from the concerned SMD (Chairman), 2-3 Subject Matter Specialists (external) and one ADG (from concerned SMD) as Member Secretary (decided by the concerned DDG); one ADG from related discipline as Member to process the proposals and finalize the same; special invitee. The shortlisted proposals will be invited and the same may be presented by the PIs in physical mode in presence of Secretary DARE & DG ICAR and all DDGs to ensure multi-disciplinarity and avoid duplication. Thereafter, the approved proposals will be sent to IFD for release of funds.

8. Monitoring and Review

- The projects after their approval and implementation will be reviewed twice a year. The Council through the concerned SMD's Committee will make close monitoring with ADG (member secretary). All the SMDs will regularly monitor and review the projects. NASF will also facilitate SMDs in monitoring and review. NASF will notify the start and closure of the projects.
- The sanctioned projects, if found un-satisfactory for their mandated performance on the aim of project, will liable to be terminated by the committee at any time.
- After approval of a new Project by Finance/SMD/DG, and its acceptance by the PI, the first release for the whole year will be made within 15 days from the date of issue of the authorization by the concerned SMDs. The grantee Institution will be expected to submit the Audit Utilization Certificate of the preceding year within one year.
- Performance of the project will be reviewed online after every six months and next budget will be release only after satisfactory performance of project.

9. Nature of Programme and Budget Mechanism

Maximum Budget of the project is Rs. 1 crore for 3 years. The Budget will be allocated to the Institute after the approval of the project. The approved proposals will be sent to IFD for release of funds.

10. Budget Utilization

The approval/sanction of these projects and release of funds will not follow financial year, but from date of sanction/release of funds to the next year. Submission of AUC and next release of fund to be followed as mentioned in CFH project guidelines. The yearly progress report (in a prescribed proforma) for the mandated activities along with AUC need to be submitted by the scientists to the concerned SMD. At the end of project, the detailed compiled report of project for the earmarked activities along with AUC will have to be submitted to the concerned SMD.

11. Objective of Project/Scheme

- i. To provide partial financial support to produce technology products in agriculture, horticulture, animal and fisheries sectors.

- ii. To provide partial financial support to manufacture new plant and machinery for crop production, fruits and vegetables, plantation crops, and animal and fishery products.
- iii. To facilitate value addition of farmer's produce through cleaning, grading, processing, packaging and marketing of agriculture, horticulture, animal and fisheries sectors
- iv. To facilitate the generation of internal resources for meeting non-plan expenditure

12. Concerns of Intellectual property rights

The rights on any intellectual property shall be vested in the ICAR, who shall be the absolute and full owner. All issues of IPR, Commercialization, Data Management and Publication, if any arise from the project, will be dealt as per prevailing set guidelines of ICAR/DARE/GoI.

PROFORMA OF APPLICATION FOR GRANT OF REVOLVING FUND

Title of the Scheme: _____

Location

Institute's Name: _____

Place: _____

District: _____

State: _____

Dept./Division: _____

Head of the Dept/Division of the Institute

Name: _____

Address: _____

Actual location: _____

(where the funds will be used)

Information regarding Nodal Officer or Principal Investigator

a. Name: _____

b. Designation: _____

c. Brief Bio-data: _____

d. List of important publications/assignments in this or related field.

1. _____

2. _____

3. _____

e. List of other Res/Dev/Extn/schemes being handled

1. _____

2. _____

3. _____

4. Objectives (precise and result oriented): _____

5. Practical/Commercial Utility of Operation: _____

6. State of Art of Technology of Transfer: _____

7. Feasibility Study and Operational Methodology (feasibility report with economic analysis, commercialization and PERT chart financing): _____

8. Infrastructural Facilities

a. Already available and can be provided free of charges

- i. List of equipment and apparatus: _____
- ii. Area of land/number of livestock: _____
- iii. Laboratory: _____
- iv. Office facilities etc.: 1. _____
2. _____
3. _____

b. Additional facilities required which are chargeable to the scheme

1. Equipment and apparatus: _____

II. Land/Livestock: _____

9. Duration: _____ Yrs _____ months _____ days

10. Staff Requirements (technical and ministerial staff actually to be employed)

Category	Designation/Number of Posts	Consolidated pay	Qualification prescribed (for Technical posts only)
Technical			
Administration			
Others			

11. Estimates of Costs (Year-wise)

a. Recurring:

b. Non-recurring:

12. Receipts and Expenditure Anticipated (approximate time for rolling of funds) (Year-wise)

13. Repayment schedule (Year-wise)

UNDERTAKING

Certified that,

- i. The project proposed will be a step forward in commercializing the technology.
- ii. The consolidated pay proposed above are those admissible to the persons of corresponding status and qualifications
- iii. The present scheme cannot be combined with any other scheme financed by the Council, Central and State Governments.
- iv. Necessary provision for the scheme will be made in the Institute for maintaining its accounts separately.
- v. The Revolving Fund will be reimbursed to the Head Quarter unless otherwise so decided.
- vi. We have read the Memorandum of Understanding (MoU) between the Indian Council of Agricultural Research and the sponsoring institution. We undertake to abide by the guidelines provided by the Council for the implementation of the revolving funds.

Signature
Name & Designation
Principal Investigator
Date.

Executive Authority of
the Institute

Annexure II

Priority Areas of Research

Note: The priority areas for social science are given in final form (with some scope to further improvise), while other SMDs have to finalize their priority areas and place in a respective head

1. Crop Science

- a) Increasing yield of cereals, oilseeds and pulses using different approaches particularly pre-breeding, genomics-assisted breeding, genome editing and speed breeding.
- b) Precision breeding for tolerance to high temperature, drought and submergence.
- c) Development of crop varieties for biotic stress resistance against potential and emerging diseases and insect -pests and understanding molecular basis of host-pathogen interactions.
- d) Development of Nutrient use efficient and water-use-efficient designer crops.
- e) Metagenomics of rhizosphere and rhizoplanes of different crops and in different environments.
- f) Development of protection and production technologies using AI, IoT, Sensor and drones etc.
- g) Biofortification of crops for enriching with micronutrients, proteins and antioxidants.

2. NRM

- a) Geo-informatics in micro level land resources management
- b) Sensor based smart and precision soil health & water management
- c) Climate resilient agriculture
- d) Development of smart farm model using Precision Agriculture Aviation (PAA) technologies
- e) Evaluation and validation of Natural Farming

3. Animal Science

- a) Development of New generation Diagnostics and long acting DIVA enabled Vaccines
- b) Strengthening Animal disease monitoring and surveillance system through AI tools for better preparedness to tackle endemic, emerging and re-emerging diseases.
- c) Combating AMR through technological interventions, development of alternatives to antimicrobials and community connect
- d) Climate smart animal production
- e) Genomic selection for genetic improvement in indigenous livestock breeds
- f) Precision livestock farming
- g) Anti-microbial resistance
- h) Vaccines and diagnostics against emerging and re-emerging diseases

4. Fishery

- a) Sustainable fisheries resource Management and Conservation.
- b) Aquaculture diversification.
- c) Climate resilient fisheries & aquaculture systems
- d) Fish nutrition, health management.
- e) Fish genetic resource management and improvement.
- f) Post-harvest and value-addition of fishes.

- g) Mechanization, precision farming in fisheries and aquaculture.
- h) Fish-based circular economy.
- i) Socio-economics in fisheries and aquaculture.
- j) Biotechnological & omics in fisheries
- k) Cutting-edge science in fisheries and aquaculture.

2. Agricultural Engineering

- a) Precision farming technologies/machines for production and post production agriculture
- b) Application of sensors and robotics for automation of farm mechanization and post-harvest technologies
- c) Application of cutting-edge technologies in post-harvest sector (innovative storage solutions, secondary agriculture)
- d) Mechanization of fibre extraction and quality testing of fibre and fibre based products
- e) Improved ginning and cleaning systems and value-addition to cotton and its by-products.

3. Horticulture (Fruits and vegetables)

- a) Rootstock breeding for mitigating the biotic and abiotic stresses
- b) Gene pyramiding for development of multiple disease resistant varieties in short duration horticultural crops
- c) Cost effective customized nutrients and bio- formulations for production of quality safe produce of horticultural crops
- d) Bioprospecting of horticultural crops for human wellness
- e) Mechanization in horticulture

4. Agricultural Education

- a) Addressing emerging challenges in agriculture through policy research and capacity building.
- b) Artificial intelligence-based research and application in agriculture.
- c) Digital innovations in Agricultural Research, Education and Extension.
- d) Strengthening the agripreneurship and start-up ecosystem through academic, research and capacity building activities.

5. Research in Social Sciences (extension, economics, statistics, home science, etc.)

- a) Research in agricultural extension & economics for strategies, models, methodologies & frameworks; knowledge co-production for inclusive and sustainable adaptation;
- b) Research on social-ecological resilience/livelihood resilience; multiple stressors, vulnerability and adaptation for resilient agriculture;
- c) Interventions and institutional arrangements on green credits; ecological footprint and biocapacity for sustainable livelihoods;
- d) Institutional innovations (e.g. FPOs, Seed hub/Seed bank, etc.) and convergence, partnerships approach for improving agricultural extension systems,
- e) Agri-entrepreneurship research; return to investment, promotion of value chains in agriculture,
- f) Gender dimensions of agriculture;

- g) Meta-data research/and or policy research in agriculture for issue-centric solutions and informed decision making.