

## INDIAN COUNCIL OF AGRICULTURAL RESEARCH, NEW DELHI

### GUIDELINES FOR ICAR NATIONAL PRIORITY PROJECT (NPP)

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. Such researches are also supported to generate new dimensions of science and knowledge with their future potential application in agriculture and its allied areas including animal husbandry, fishery, social science and other relevant fields. 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 NPP is to support scientists interested in inter-institutional/intra-institutional multi-disciplinary research projects. Such research proposals are to be invited by the Council on time-to-time in the competitive mode identify and support research projects for advancing science and knowledge in agriculture. In order to pursue this programme, the following guidelines will be followed for its smooth implementation:

1. **Name of the programme:** ICAR- National Priority Project (NPP)
2. **Sponsor of the programme:** Indian Council of Agricultural Research, New Delhi
3. **Aim of the programme:** To support inter-institutional/intra-institutional multi-disciplinary research projects in agriculture and allied sciences by providing them financial support.
4. **Inviting proposals:** Time-to-time the Council will make announcement/notify to invite the proposals from the ICAR scientists.
5. **Eligibility Criteria for Considering the Proposal**
  - i. Only the ICAR Scientists can apply for this project (as Project Investigator), although they can establish the collaboration with CAUs/SAUs on some certain activities/components.
  - ii. The proposal submitted needs to fall under a specific national agriculture priority research area(s) (As given at the end as **Annexure-8**).
  - iii. The proposed project needs to be under the mandate of ICAR-Research Institute(s) where scientist(s) is/are working.
  - 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. The proposal should demonstrate novelty in its approaches/methodologies to tackle the prioritized issue(s)/problem(s) and suggesting solutions for them.
- vi. Proposal should be submitted in the prescribed proforma and not in any other format.
- vii. No proposal will be considered in absentia of the scientist(s) who is proposing the proposal.
- viii. Each discipline in an Institute will have the equal opportunity to apply for the project proposal in this programme.
- ix. The aim of this programme is to promote the multi-disciplinary and inter-institutional research in view of achieving several recent thrust area and emphasis of ICAR (e.g., One ICAR Vision).
- x. Equipment/Implements may be considered in the proposal and only the minor equipment/implements should be proposed on requirement basis. For the field and lab support, however, laborers and YPs can be engaged.
- xi. One scientist can apply for one project as PI only.
- xii. Age limit: Minimum of 03 years of active regular service will be considered.
- xiii. The agricultural priority project proposal from priority of the concern authority/SMD.

## **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.
- After completion of every year of the project, a provisional UC shall have to be submitted to the concerned SMD by the Head/ Comptroller/SFAO for further release in the next 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. 75 Lakhs. 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 Corpus Fund 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. Finding the solutions for the issues in agriculture of national importance.
- ii. Creating environment to inculcate the spirit of team work (Inter-institutional programmes) for quality research among the scientists.
- iii. Enhancing exchange of resources and convergence among the institutes for their better utilization in improving quality of research works.
- iv. Promoting quality products, processes, protocols, models, publications, policy inputs, etc.

## **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.

**Title of the Project**

Relevant Photograph if any

**and**

**Name (s) of Cooperating Institution(s)**

**Funded by**

**Corpus Fund Head (CFH)**

**Indian Council of Agricultural Research, New Delhi**

## Detailed Project Proposal under the Corpus Fund for National Priority Project (NPP)

1. **Title of the project:**
2. Priority area (As given in Annexure 8):
3. Participating Institutes:
  - 3.1 Name of the Lead/Sole Institution (in case of single-institution project proposal):
  - 3.2 Name(s) of the Cooperating Institution (s)  
  
*(Please give the details of the lead/sole and cooperating institutions as Annexure 1 in the given format)*
4. Lead and Participating Scientists.
  - 4.1 Name and designation of the Principal Investigator (PI) i.e., the Lead Scientist from the Lead Institution and the Cooperating Investigators (CIs) from the lead Institute
  - 4.2 Name(s) and designation(s) of the Principal Investigator (s) CCPI i.e., the Lead Scientist (s) from the Cooperating Institution(s)  
  
*(Please give a brief CV of the PI and each CCPI and the area of specialization of each CIs as Annexure 2 in the prescribed format: please mention the page number of the first page of the CV against each name)*
5. Objectives of the project (not more than Four)
6. How the achievements of these objectives will add to scientific advancement and/or technological advancement in the national priority area(s) under which the project is being proposed? (Not more than 1 page)
7. Please give in brief, the status of research related to the objectives of the proposed project. (Not more than a page). Please quote only the significant references. The details of the references that you quote may please be given as Annexure at the end.
8. The knowledge and research gaps identified on analysis of the status of research in achieving the objectives (give in brief as bullet points).
9. State your working hypothesis of your project based on the analysis of gaps.

10. Give the major activities under each Objective (not more than four in any objective).
11. Give the major expected outputs of the project.
12. Give activity against year-wise deliverables, outputs and outcomes in the proforma table given as **Annexure 3**. The relationships among activities, deliverables, outputs and outcomes are given as Appendix 1 of the proforma.
- 13 a. Total budget: **(Rs. in lakhs)**:  
b. Summary budget tables:
- 13.1 Breakup of budget for each of lead/cooperating institutions year-wise (in the format given in **Annexure 4**)
- 13.2 Consolidated project budget year wise (in the format given in **Annexure 5**)
- 13.3 Consolidated project budget partner wise (in the format given in **Annexure 6**)
14. Number of YPs required for the lead and each participating institution.

Sl No.	Institution	YPs	Nos.	Remarks
1.				
2.				
3.				

15. Institute-wise list of equipment. Please give detailed justification for any equipment costing more than 1 lakh mentioning. *Please note that in the list of equipment only the generic name of the equipment is allowed and no brand name or name given by any company will be accepted. It will be the sole responsibility of the PI to ensure that this directive is followed.*

#### Lead Institution

Sl. No.	Name of the Equipment	Cost in INR		Justification
1.				
2.				
3.				

#### Partner 1

Sl. No.	Name of the Equipment	Cost in INR		Justification
1.				

2.				
3.				

**Partner 2**

Sl. No.	Name of the Equipment	Cost in INR		Justification
1.				
2.				
3.				

16. Please describe if any IPR issues are involved in using a technology/methodology/product/knowledge/software/equipment used for research under the proposed project. Please certify that the ICAR will be free from any IPR related encumbrances if the proposed project is approved and funded under the CFH.

Signature with date of the PI and the CCPI(S)

PI, CCPIs (1), CCPIs(2), CCPIs(3) CCPIs (5)

Signature and seal with date of the Heads of institutions/organizations involved in the Project as Lead and Partner institutions

**Name of Institution (1)**

**Name of Institution (2)**

Head of Institute

Head of Institute

Signature with seal

Signature with seal

**Name of Institution (3)**

Head of Institute

Signature with seal



**Annexure 1****Lead / Cooperating Partner Institution**

1. Name :
2. Name of institution/organization :
3. Full address with phone number/  
fax number/e-mail id and website :
4. Full address, designation, phone  
number/fax number/email id of the  
head of the institution/organization :
5. Research Staff strength (Category :  
-wise) of the institution (as on  
Particular date)
6. Mandate of the Organisation/institution:
  - 1.
  - 2.
  - 3.
  - 4.
7. Please give five achievements of the institution/organization in the field or closely related field of the project proposal as bullet points with appropriate references.
8. Number of scientists & : Scientist - \_\_\_\_\_  
technicians working in the field or Technicians - \_\_\_\_\_  
closely related field of the  
sub-project
9. How many multi- institutional :  
research projects are currently in  
operation in the organisation/institution

**Annexure 2****Curriculum Vitae (CV) of the PI/CCPIs**

1. Name :
2. Designation :
3. Address :
4. Tel / Fax No. :
5. E-mail :
6. Date of Birth :
7. Name of Institute / Centre :  
Postal Address of the Institution with  
Tel/ Fax No. and E-mail
8. Highest Qualification :
9. List not more than 5 major achievements in the past five years
  - 
  - 
  - 
  -
10. List not more than 5 best publications in the past five years
  - 1.
  - 2.
  - 3.
  - 4.
  - 5.
  - a. List the 10 best publications in the whole career
    - 1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11. List not more than two best multi-disciplinary/multi-institution projects in which the scientist has worked as PI and as partners

- Name of the Project :
  - Partner Institutions :
  
- Name of the Project :
  - Partner Institutions :

12. List of projects in which the PI/CCPI has been working right now. Give for each the following information.

- a) Name of the project:
- b) Objectives:
- c) Working as PI/CCPI/CoPI:
- d) The objectives/activities that you are handling (in not more than 5 bullet points):
- e) Source of funding and total budget for you:





## Annexure-4

## Year-wise breakup of budget

S.No.	<u>Head of project cost</u>	Year-1	Year-2	Year-3	Total
A.	NON RECURRING COST				
B.	RECURRENING COSTS				
Sub-Total (A+B)					

## Annexure 5

## Consolidated year-wise breakup of budget

<b>S.No.</b>	<b><u>Head of project cost</u></b>	<b>Year-1</b>	<b>Year-2</b>	<b>Year-3</b>	<b>Total</b>
<b>A.</b>	<b>NON RECURRING COST</b>				
<b>B.</b>	<b>RECURRENING COSTS</b>				
<b>Sub-Total (A+B)</b>					

## Annexure 6

**Consolidated Partner-wise breakup of budget**

<b>S.No.</b>	<b><u>Head of project cost</u></b>	<b>Partner-1</b>	<b>Partner -2</b>	<b>Partner -3</b>	<b>Total</b>
<b>A.</b>	<b>NON RECURRING COST</b>				
<b>B.</b>	<b>RECURRENING COSTS</b>				
<b>Sub-Total (A+B)</b>					



**Annexure 7**

**(Please give detailed technical programme here)**

**Annexure-8****National Agriculture 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.