

GUIDELINES ON INNOVATION IN PACKAGING

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Definitions

Term	Definition
CMRC	Community Managed Resources Centers
FPO	Farmer Producer Organization
GC	Governing Council
Grant	The money paid to the Grant Recipients under the Grant Agreement relating to the Sub-project
Grant Recipient	The beneficiary FPO/VCO, submitting the proposal and signing the agreement for funding
NRC	National Research Centre
PAM	Project Administration Manual prepared under MAGNET Project
PIU	Project Implementation Unit of the MAGNET Society established in regions to support PMU
PMU	Project Management Unit of the MAGNET Society
PISC	Project Implementation Support Consultant
SAU	State Agriculture University
TC	Technical Committee

Background

Maharashtra is one of the leading fruits and vegetables producing states in India. It has emerged as one of the country's largest exporters of fruits and vegetable crops. In terms of production, the State accounts for 11% of total fruits and 5% of total vegetables produced in the country. Despite ample opportunities for Maharashtra's horticulture growth that contributes to poverty reduction of farmers, they face challenges related to the agricultural sector's structural issues such as small and marginal land holding, lack of access to direct marketing and interference by middlemen. This leads to below par returns for the farmers in the state.

About MAGNET

The Government of Maharashtra in association with the Asian Development Bank (ADB) is co-financing Maharashtra Agribusiness Network Project (MAGNET) to upscale the development of horticulture sector and agribusiness in Maharashtra. The project core objectives are to increase farmers' income, support value addition, reduce post-harvest losses, increase farm productivity, and mainstream opportunities for rural women lower caste to alleviate rural poverty. The project aims to focus on 15 targeted horticulture value chains which includes pomegranate, banana, guava, orange, sweet lime, sapota, custard apple, strawberry, okra, green and red chilies, mango, cashew nut, lemon, snake gourd and floriculture crop.

Components of the Project

The focus of the project is on 3 core outputs namely:

- a. **Output 1:** Institutional capacities of agribusiness institutions and farmer producer organizations strengthened.
- b. **Output 2:** Financial and agribusiness capacities of farmer producer organizations and value chain operators strengthened.
- c. **Output 3:** Agriculture value chain infrastructure improved and operational for the target horticulture crops.

Scope for innovations in packaging

The Indian fruits and vegetables, beverages packaging market was valued at USD 26.28 billion in 2019, and it is expected to reach USD 122.78 billion by 2025, registering a CAGR of 29.88% during the forecast period (2020-2025). India has seen sustainable packaging growth in Food & Beverage due to the increase of packaged food consumption and awareness, and demand for quality products. The growth of the packaging market in India is primarily driven by the food and

beverage industries. Currently, in India, the mode of transportation through inadequate packaging mechanisms leads to high post-harvest losses. It is prudent to develop innovation methods by which this can be lessened, thereby leading to higher financial returns to all value chain stakeholders.

Packaging fresh fruits and vegetables is one of the more important steps in the long and complicated journey from grower to consumer. Bags, crates, hampers, baskets, cartons, bulk bins, and palletized containers are convenient containers for handling, transporting, and marketing fresh produce. Also, packaging of value-added products demands high innovation and durability to maintain market share and increase visibility amongst customers. Packing and packaging materials contribute a significant cost to the produce industry; therefore, it is important that packers, shippers, buyers, and consumers have a clear understanding of the wide range of packaging options available in which, there is immense scope for innovation.



Eligible Institutions

The following institutions are eligible to seek the grant:

1. Government of India recognized/supported (public/ private) academia, Central Government Institute under ICAR, CSIR, SAUs, national level government agencies and other location-specific institutes.
2. Research foundations having research as one of the imperative mandates are eligible for funding subject to fulfilment of technical, administrative and financial guidelines.

Eligibility Criteria

- a. The participating entities/organizations from India must be a legal entity as per Indian law.
- b. The research institute should have experience in new packaging innovation with a proven track record in conducting applied research, innovation, and implementation in the sector.

- c. The institution should be eligible for receiving government funds/grants. Evidence of successful (technical and financial) implementation of minimum of two projects funded by any government agency.
- d. The research institute or university should have requisite networking and linkages with other academic and research institutions to take advantage of existing expertise.
- e. Project proposal must be market-driven, leading to the proposed development of a new packaging for target MAGNET crop leading ultimately to commercial utilization.

Eligible Crops

- a. Banana
- b. Strawberry
- c. Guava
- d. Pomegranate
- e. Sweet Lime
- f. Orange
- g. Custard Apple
- h. Sapota
- i. Okra
- j. Green and Red Chili
- k. Floriculture crops
- l. Mango
- m. Lemon
- n. Cashew Nut
- o. Snake Gourd

Eligible Components

The list of components which will be included in the eligible components to calculate the eligible project cost is given below. It must be noted that the list is only illustrative and not exhaustive, and any other components not explicitly mentioned under list of eligible components may or may not be approved by MAGNET Society. Final decision in this regard will be that of MAGNET Society only.

- Critical technical components, including devices and machinery, equipment etc. required in development of innovative packaging material must be included in the project proposal.
- Essential technical manpower cost
- Any other cost deemed necessary and approved by MAGNET
- Goods and Services Tax (GST) on eligible components

Essential Technical Manpower may include

- Lead Researcher involved in development of packaging material and associated team members (junior scientists/ researchers/ professors, etc.)
- At least one of the technical manpower proposed should have a doctorate degree in food/agriculture/horticulture/polymer equivalent field and should be on applicant's payroll
- Others should have at least Bachelor's degree in food/agriculture/horticulture/polymer or equivalent field

Process of Signing MoU for MAGNET

Publication of Guidelines and Formal Communication

Detailed guidelines will be published on the MAGNET website. A formal communication letter will be extended by MAGNET to research institutes for attending an informational session in this regard. An indicative list of institutions being considered for extending the invitation for MoU is presented in Annexure 1

Meeting between MAGNET PMU and potential applicants

- MAGNET will organize a meeting with the invited representatives from all eligible institutions. MAGNET PMU will introduce the project details, team, stakeholders and vision of the project for all participants and explain the role of the institutional collaboration being proposed via MoU.
- This entire meeting is proposed to be a 1.5-hour session which will clear all queries and address any concerns on the part of the participants. The tentative agenda of meeting is as follows:

Sr. No.	Name of Session	Responsibility	Duration
1	Introduction to the session	PISC	10 minutes
2	Introduction to MAGNET project	PMU/PISC	15 minutes
3	Information on financial assistance for innovation in packaging	PMU/PISC	20 minutes
4	Way forward and action steps	PMU	15 minutes
5	Q&A	-	30 minutes

Evaluation & Selection Procedure

A. Call for Proposals

Following the meeting, eligible institutions will be asked to submit proposals to avail the financial assistance. The project proposal should consist of following key points (indicative):

- a. Credentials of the Institution: Research focus, Experience in successful implementation of such project, Qualifications and Manpower availability, Infrastructure availability
- b. Proposed packaging innovation
- c. Objective to develop the packaging and Alignment of proposed project with overall objectives of MAGNET
- d. Differentiating features or components of the proposed packaging innovation (novelty, distinctiveness, uniformity and stability)
- e. Overall costing of the project including manpower cost
- f. Project Timeline and Milestones

In addition to the proposal, the applicant will also submit a filled application form (Appendix 2) along with relevant documents as mentioned in Appendix 3.

The proposal will need to be submitted by within 30 days from the publication of guidelines.

B. Scoring of applicants

- a. The applicants will be scored as per the scoring criteria in Appendix 4.
- b. A cumulative score will be arrived at for each applicant. The proposals of the applicants passing the minimum cut-off (50 marks out of 100) will be scrutinized. Also, it will be ensured that equitable distribution among MAGNET focused crops and inclusion of women led/owned beneficiaries is encouraged.
- c. The proposals will be ranked basis the scores received, and the proposals of top ranked applicants will be technically and financially scrutinized by PISC. The findings will be presented to the Technical Committee (TC) and Governing Council (GC).

C. Scrutiny and Final Selection of Proposal

- a. The Technical Committee (TC) will comprise of following members:

SN	Designation of Officer	Designation in Committee
1	Project Director, MAGNET	Chairman
2	General Manager, MAVIM	Member
3	Additional Project Director, MAGNET	Member
4	Deputy Project Director, Accounts & Finance, MAGNET	Member
5	Deputy Project Director, Financial Support, MAGNET	Member
6	All Regional Deputy Project Director, PIU, MAGNET	Member
7	Deputy Project Director, Capacity Building, MAGNET	Member Secretary

Technical Committee will recommend the eligible applications fulfilling all criteria, terms and conditions prescribed in the MAGNET project for the final approval to the Governing Council of the MAGNET Society.

- b. The Governing Council, which will act as the final Sanctioning authority, comprises of following members:

SN	Designation of Officer	Designation in Committee
1	Additional Chief Secretary, Marketing, Govt. of Maharashtra	Chairman
2	Managing Director, Mahila Arthik Vikas Mahamandal, (MAVIM), Mumbai	Member

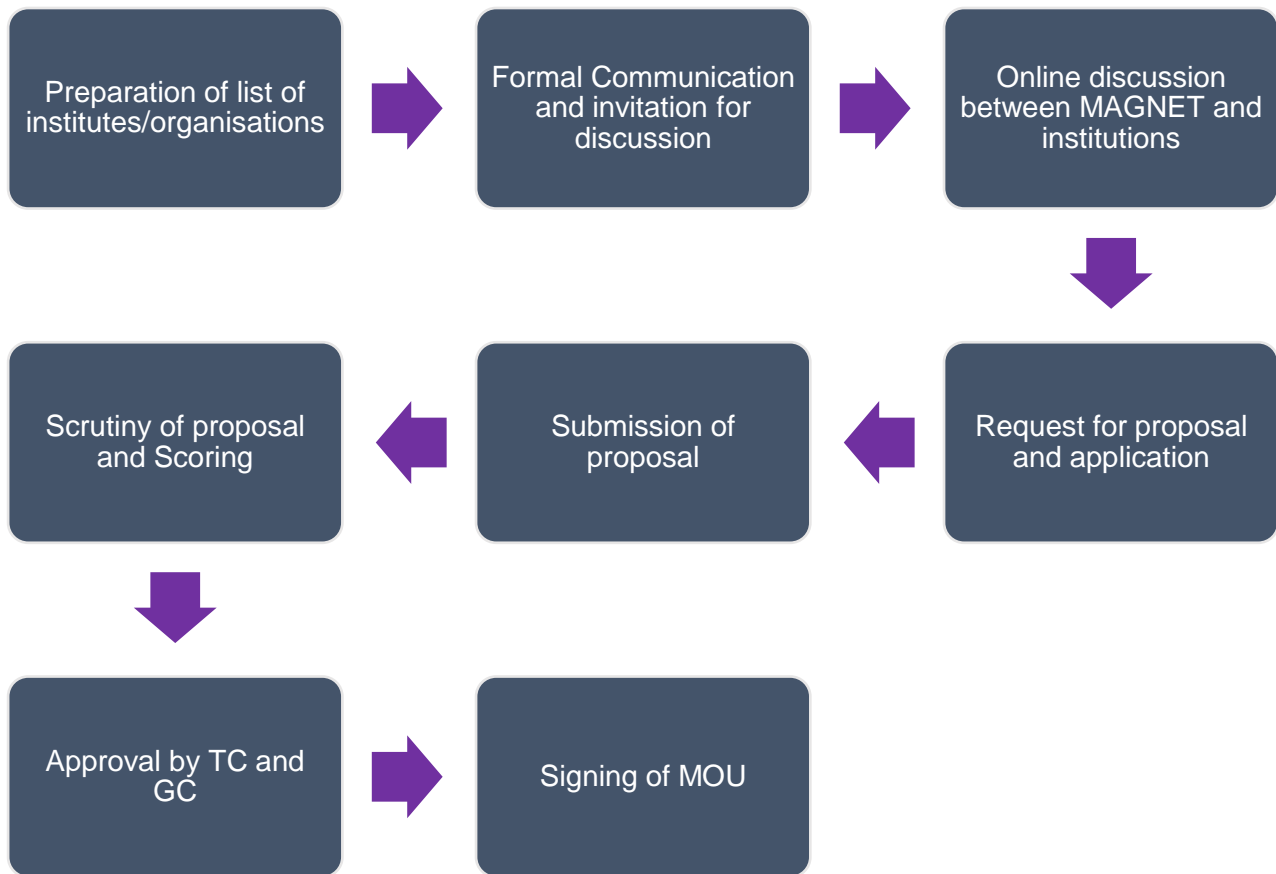
SN	Designation of Officer	Designation in Committee
3	Director of Marketing, Govt. of Maharashtra	Member
4	Managing Director, Maharashtra State Agricultural Marketing Board, Pune	Member
5	Deputy Secretary (Marketing), GoM, Mumbai	Member
6	Deputy Secretary (Agriculture), GoM, Mumbai	Member
7	Deputy Secretary (Expenditure), GoM, Mumbai	Member
8	Deputy Secretary (Planning), GoM, Mumbai	Member
9	Project Director, MAGNET	Member Secretary

- c. On receiving approval from GC, a Memorandum of Understanding for a fixed period detailing various aspects of the project – technical, financial, legal and administrative et al. will be signed between MAGNET and the selected institution.
- d. Periodic monitoring and evaluation of the project will be conducted as per the terms and conditions of MoU.

Pattern of Assistance

- a. Basis the project proposal of the institution, grant not exceeding Rs. 50 lakhs per Memorandum of Understanding (MoU) will be given to the institution for the development of the new packaging.
- b. The project duration for the institute will be a maximum of 24 months.
- c. The disbursement of financial assistance will take place in installments on the basis of milestones defined in the MoU document

Process Flow



Annexure 1

Indicative list of Public Institutions to be Approached

The list is only indicative but not exhaustive

Maharashtra State Agriculture Universities

- Dr. Balasaheb Sawant Kokan Krishi Vidyapeeth, Dapoli
- Vasantnao Naik Marathwada Krishi Vidyapeeth, Parbhani
- Mahatma Phule Krishi Vidyapeeth, Rahuri
- Dr. Punjabrao Deshmukh Krishi Vishwavidyalaya, Akola

National Research Centres

- ICAR-National Research Centre for Pomegranate, Solapur
- ICAR-National Research Centre for Banana, Tiruchirappalli
- ICAR-Central Citrus Research Institute, Nagpur

Others

- Sweet Orange Research Station, Jalna
- Custard Apple Research Station, Ambejogai, Maharashtra
- Banana Research Station, Jalgaon
- MoC&I – Indian Institute of Packaging
- ICAR-Indian Institute of Vegetable Research, Uttar Pradesh
- IARI Regional Station, Pune
- Division of Fruits and Horticultural Technology, ICAR- IARI
- ICAR-Central Institute for Subtropical Horticulture (CISH), Lucknow
- ICAR-Central Institute on Post harvest Engineering and Technology, Ludhiana
- Other ICAR Directorates/Project Directorates
- Indian Institute of Horticultural Research, Bengaluru
- NIFTEM, MoFPI

- Institute of Chemical Technology, Mumbai
- IIHPT, MoFPI
- Other SAUs (outside Maharashtra, as deemed fit by MAGNET)
- Others, as deemed feasible by MAGNET

Annexure 2

APPLICATION FORM

To,

Hon. Project Director,

Maharashtra Agri Business Network (MAGNET) Project

Pune.

Subject: Submission of proposal for financial assistance for innovation in packaging under Maharashtra Agri Business Network (MAGNET) Project

Dear Sir,

A proposal of(Name of beneficiary) under Maharashtra Agri Business Network (MAGNET) Project is submitted herewith for seeking financial assistance for innovation in packaging. The essential documents are also attached with this form to support the information given below:

Sr. No.	Particulars	Information		
1	Basic Information of the Organization			
1.1	Name of the Applicant Organization			
1.2	Category of Organization			
1.3	Is the organization legally registered? If yes, mention the organization registration date, number and under which statute.	Yes/No		
1.4	Address as per organization registration certificate	Address		
		Village		

		Taluka		
		District		
		Pin code		
1.5	Contact Person (Full Name and Contact Details)			
1.6	Correspondence address	Address		
		Village		
		Taluka		
		District		
		Pin code		
1.7	Email-id			
1.8	PAN Number of the organization			
1.9	GST Number of the organization			
2	Details of the organization's audit			
2.1	Has the organization been audited by a chartered accountant? If yes, how many years of audit has been done?	Yes / No. _____ Years		
2.2	Annual Turnover of the organization as per audited financial statements & audit report (Total Amount in Rs. Lakh)			
	Sr. No	Financial Year	Annual turnover as per Audit report	Profit / Loss Amount
	1			
	2			
	3			
2.3	Are there any significant adverse audit objections in the audit report of the organization?	Yes /No		
3	Details of horticulture/flower crops for which project is proposed			

3.1	The planned proposal will be for packaging targeted to which MAGNET crops?	
4	Details of previous experience of the organization in related activities.	
4.1	Does the organization have prior experience in developing new packaging? Yes / No If Yes, details to be provide in Annexure 5	
5	Information about the collaboration with international/domestic agriculture/horticulture/packaging/food science institution	
5.1	Name of the institution with which the applicant institute has the collaboration (mention the type of institution as well: International Organisation and Domestic Organisation)	
5.2	Date of signing MoU with the collaborating institution	
5.3	Information of the kind of activities done with the collaborating institution in the past	

6	Information of the proposed technical manpower which would be working on the project				
	Sr.No.	Name of the Personnel	Designation	Highest Qualification	No. of years of experience
7	Whether the organization has availed grants/subsidy from any other government schemes for the project proposed				
	Sr. No	Name of the scheme	Ministry/ Department	Grants/Subsidy (Rs. Lakhs)	The year of the grant received

It is requested to shortlist our proposal to seek financial assistance under the Maharashtra Agri Business Network (MAGNET) Project.

It is also undertaken that all the information furnished in the application as above is true and correct to the best of our knowledge and belief and nothing material has been concealed therefrom.

Place:

Date:/...../202.....

Yours faithfully,

(.....)

Name, Signature and Seal of the applicant

Annexure 3

CHECKLIST OF DOCUMENTS TO BE SUBMITTED

Sr. No.	Documents	Attached (Yes/No)
1.	Incorporation Certificate of Applicant	
2.	Self-attested copy of PAN card of the applicant company	
3	Annual reports and Audited Financial Statements of FY 2020-21, 2019-20 and 2018-19	
4.	Project Proposal Report	
5.	MoU document stating collaboration with international/domestic agriculture/horticulture/food science/ packaging institution	
6.	Details of the past projects of the organization in developing new packaging signed by applicant's authorized signatory (Appendix 5)	

Annexure 4

SCORING CRITERIA

Sr. No.	Criteria for Evaluation of proposals	Document Proof to be submitted	Max. Marks	Marks Obtained
1	Organization Details (25 marks)		25	
	(i) Number of years of organization's experience in agriculture/horticulture research/service (25 marks)			
	A 25 Marks if total years of experience is 20 or more than 20 years	Certificate of Incorporation	25	
	B 15 Marks if total years of experience is between 10 (inclusive) and 20 years		15	
	C 10 Marks if total years of experience is between 5 and 10 years		10	
2	Collaboration with agriculture/ horticulture/packaging research institutions/organizations (focus on packaging development) (25 marks)		25	
	(i) Collaboration with international agriculture/ horticulture/packaging research institutions/organizations (18 marks)			
	A Collaboration with 3 or more international institutions	Copy of Signed MoU	18	
	B Collaboration with less than 3 international institutions		09	
	(ii) Collaboration with domestic agriculture/ horticulture/packaging research institutions/organizations (07 marks)			
	A Collaboration with 3 or more domestic institutions	Copy of Signed MoU	07	
	B Collaboration with less than 3 domestic institutions		03	

3	Experience in packaging development (25 marks)			25	
	A	Prior experience in developing new packaging product/solution	Filled and Signed	25	
	B	No prior experience in developing new packaging product/solution	Appendix V	00	
4	Availability of technical manpower for implementation of proposed project (25 marks) <i>At least one of the technical manpower proposed should have a doctorate degree in agriculture/horticulture/food/polymer or equivalent field and should be on applicant's payroll</i> <i>Others should have at least Bachelor's degree in agriculture/horticulture/food/polymer or any other equivalent field</i>			25	
	A	25 marks if 5 or more than 5 technical personnel are involved in implementation of proposed project	Mention details in application form (point 6)	25	
	B	15 marks if, more than 2 (exclusive) but less than 5 (exclusive) technical personnel are involved in implementation of proposed project		15	
	C	10 marks if less than 2 (inclusive) technical personnel are involved in implementation of proposed project		10	
Minimum Cut-off marks to be scored of 50 out of 100.					
<p>Note 1: All Undertakings/ Self-Certified Declarations required from applicant should be on their own Letter Head and duly signed-stamped by their authorized signatory.</p> <p>Note 2: All Certificates required from External Institutions/ Professionals, etc (such as Gram Panchayat, CA, etc. should be obtained on their respective letter heads only)</p>					

Annexure 5

Details on previous experience of the organisation in packaging development/innovation

ON LETTERHEAD

I am _____ (Name of the Authorized Signatory) of _____ (Applicant Name) having its Registration no. _____ and Registered Office at _____ do hereby solemnly affirm and declare / undertake as under:

1. The institute was involved in developing of the new packaging project:

2. The research was conducted from month_____ and year _____ to month _____and year_____
3. *(Mention any other details with respect to the packaging developed viz. its commercialization etc.)*

Place:

Date:/...../202.....

Yours faithfully,

(.....)

Name, Signature and Seal of the Applicant