

GUIDELINES FOR BIO-WASTE TO WEALTH

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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 10 targeted horticulture value chains which includes, pomegranate, banana, guava, orange, sweet lime, sapota, custard apple, strawberry, okra, green and red chilies.

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 biowaste to wealth

- In India, agriculture contributes towards the food & nutritional security of our people, and economic growth of the country, improper management of agricultural waste generated in the process has been contributing towards mounting air, soil and water pollution. India generates about 350 million MT of agricultural waste every year.

- A circular economy approach aims to develop a system that has no net effect on the environment, ensuring that there is a reduction in waste production by processing and designing their utilisation into the systems as valuable co-products. The concept of circular economy when adopted for F&V, should be backed with scientific knowledge strongly coupled with economic, environmental and social spectrum for a sustainable development. In the transition towards a circular economy, there is a need to collect and share data, produce exemplars, make innovation investments and facilitate business collaborations. On the whole, creating a circular economy requires fundamental changes throughout the value chain, from product design and technology to new business models, new ways of preserving natural resources (extending product lifetimes) and turning waste into a resource (recycling), new modes of consumer behavior, new norms and practices, and education and finance. Few of these innovations may include:
 - Fruit and Vegetable Peel Based Edible Coatings/Films
 - Fruit and Vegetable Peel Fortified Probiotics, Metallic Nanoparticles, Carbon Dots
 - Fruit and Vegetable Peel Based Microbiological Media, Biochar and biosorbents
 - Organic fertilizer from plant sap (eg. Banana pseudostem sap)
 - Plant waste to derive fibre, papers and textile-based products (eg. Banana stem)

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 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 commercially feasible product from bio-waste.

Eligible products

Proposals involving developing a commercially feasible product from waste of following horticultural crops notified as MAGNET Target crops will be eligible.

- a. Banana
- b. Strawberry
- c. Guava
- d. Pomegranate
- e. Sweet Lime
- f. Orange
- g. Custard Apple
- h. Sapota
- i. Okra
- j. Green and Red Chilli
- 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 proposed product must be included in the project proposal.
- 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 new variety 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/equivalent field and should be on applicant's payroll
- Others should have at least Bachelor's degree in food/agriculture/horticulture or equivalent field

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 bio-waste to wealth | PMU/PISC | 20 minutes |
| 4 | Way forward and action steps | PMU | 15 minutes |
| 5 | Q&A | - | 30 minutes |

Pattern of Assistance

- a. Basis the project proposal of the institution, 50% grant on the capex subject to maximum support of Rs. 25.00 Lakh per project will be provided
- b. The project duration for the institute will be a maximum of 24 months.
- c. The disbursement of financial assistance will take place installments on the basis of milestones defined in the MoU document.

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. Name of the product developed from bio-waste
- c. Objective to develop the product and Alignment of proposed project with overall objectives of MAGNET
- d. Differentiating features or components of the proposed product to be developed (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 via email to projectadb@msamb.com.

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).

Scrutiny and Final Selection of Proposal

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

| Sr. No. | 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.

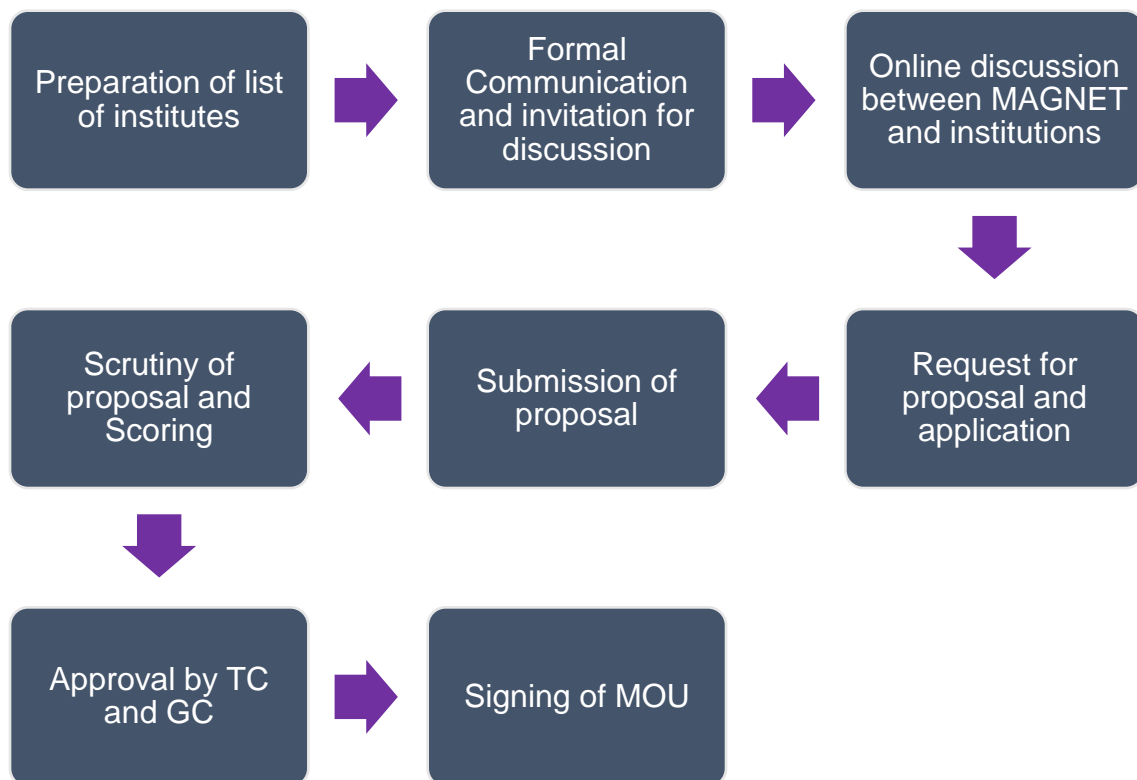
- b. The Governing Council, which will act as the final Sanctioning authority, comprises of following members:

| Sr. No. | Designation of Officer | Designation in Committee |
|----------------|---|---------------------------------|
| 1 | Additional Chief Secretary, Marketing, Govt. of Maharashtra | Chairman |
| 2 | Managing Director, Mahila Arthik Vikas Mahamandal, | Member |

| Sr. No. | Designation of Officer | Designation in Committee |
|----------------|---|---------------------------------|
| | (MAVIM), Mumbai | |
| 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.

Process Flow



Annexure 1

Below mentioned is a draft indicative list of potential institutions which can be approached. It is not exhaustive.

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, Trichy
- ICAR-Central Citrus Research Institute, Nagpur

Others

- ICAR-CIPHET, Ludhiana
- ICAR-NIANP, Bangalore
- ICAR-Indian Institute of Vegetable Research, Uttar Pradesh
- 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
- Sweet Orange Research Station, Jalna
- Other ICAR Directorates/Project Directorates
- Custard Apple Research Station, Ambejogai, Maharashtra
- Banana Research Station, Jalna
- Indian Institute of Horticultural Research, Bengaluru
- NIFTEM, MoFPI
- IIHPT, MoFPI
- Institute of Chemical Technology, Mumbai
- Institute of Chemical Technology, Jalna
- Bhabha Atomic Research Centre (BARC)
- 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 biowaste to wealth 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. 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 | Audited (Yes/ No.) |
| | 1 | | | | |
| | 2 | | | | |
| | 3 | | | | |
| 2.3 | Are there any significant adverse audit objections in the audit report of the organization? | | Yes /No | | |
| 3 | Name of the project proposed | | | | |
| 3.1 | The planned product will be produced from bio-waste of which MAGNET crop? | | | | |
| 4 | Details of previous experience of the organization in related activities. | | | | |

| | | |
|----------|---|--|
| 4.1 | <p>Does the organization have prior experience in developing product from biowaste?</p> <p>Yes/No</p> <p>If Yes, details to be provide in Annexure 5</p> | |
| 5 | Information about the collaboration with international/domestic agriculture/horticulture/food science institution | |
| 5.1 | <p>Name of the institution with which the applicant institute has the collaboration (mention the type of institution as well: International Organisation and Domestic Organisation)</p> | |
| 5.2 | <p>Date of signing MoU with the collaborating institution</p> | |
| 5.3 | <p>Information of the kind of activities done with the collaborating institution in the past</p> | |
| 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 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Whether the organization has availed grants/subsidy from any other government schemes for the project proposed | | | | | |
|--|--------|--------------------|----------------------|----------------------------|--------------------------------|
| 7 | 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 research institution/domestic agriculture/horticulture/food science research institution | |
| 6 | Details of the past projects of the organization in developing an innovative product 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 food/agriculture/ horticulture institutions/organizations (focus on biowaste to wealth) (25 marks) | | | 25 | |
| | (i) | Collaboration with international food/agriculture/ horticulture 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 food/agriculture/ horticulture 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 development of product from biowaste (25 marks) | | | 25 | |
| | A | Prior experience in developing product from biowaste | Filled and Signed Appendix V | 25 | |
| | B | No prior experience in developing product from biowaste | | 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 food/agriculture/horticulture and should be on applicant's payroll</i> <i>Others should have at least Bachelor's degree in food/agriculture/horticulture 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. | | | | | |
| 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. | | | | | |
| 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) | | | | | |

Annexure 5

Details on previous experience of the organisation in developing product from biowaste

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

Place:

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

Yours faithfully,

(.....)

Name, Signature and Seal of the Applicant