

283360/2024/S & T-KVIC



Ministry of Micro, Small and Medium Enterprises,
Government of India

सुगन्ध एवं सुरस विकास केन्द्र, कन्नौज
FRAGRANCE & FLAVOUR DEVELOPMENT CENTRE, KANNAUJ

भारत सरकार की एक स्वायत्तशासी संस्था
सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
A Govt. of India Autonomous Body
Ministry of Micro, Small & Medium Enterprises



An ISO 9001:2015, ISO 14001:2015 &
ISO 29990:2010 Certified Organisation

FFDC/KNJ/AGT/KVIC/Pro/19/2/2023-24/1216

Date: 16.02.2024

To,

The Director (Science & Technology),
Directorate of Science & Technology,
Khadi & Village Industries Commission (KVIC),
Min. of Micro, Small & Medium Enterprises, Govt. of India,
Gramodaya, 3, Irla Road, Vile Parle (W),
Mumbai-400056

Sub: Submission of Project Proposal on Development of Standards & Testing Methodology of Agarbatti scheme under Science & Technology for CoE -reg.

Dear Sir,

As per the discussion for providing the proposal for Development of Standards & Testing Methodology of Agarbatti. Based on that FFDC has prepared project proposal on Development of Standards & Testing Methodology of Agarbatti and same is enclosed for your kind consideration.

In this regard, it is kindly requested to approve the above proposal and release the amount to the centre so that work can be initiated.

With regards,

Yours faithfully,

(S.V. Shukla)

Director

Encl: As above



A
Proposal on
**Development of Standards & Testing Methodology
of Agarbatti**
(Scheme under Science & Technology for CoE)



Submitted to

Directorate of Science & Technology,
Office of the Commissioner Khadi and Village Industry
Mumbai

by

Fragrance & Flavour Development Centre
Ministry of MSME, Govt. of India Autonomous Body
Kannauj-U.P.

February, 2024

I- Part-A

| | | |
|------------|--|---|
| 1. | Name of the Institution/Individual Fragrance and Flavour Development Centre, Kannauj | |
| 2. | Institutional Structure/Registration Details A Autonomous Body of Govt. of India under Ministry of MSME | |
| 2a. | Legal Status | Registered under Society Registration Act 1860 |
| 2b. | Date of Registration | 05-04-1991 (Certificate Attached) |
| 2c. | Registered Address | Industrial Estate, G.T. Road, Makrand Nagar, Kannauj-209726 Uttar Pradesh (INDIA) |
| 2d. | Office Address/ Locations | Industrial Estate, G.T. Road, Makrand Nagar, Kannauj-209726 Uttar Pradesh (INDIA) Phone: 7703004468 Fax: – E-mail: ffdcknj@gmail.com |
| 2e. | Affiliated to KVIC | Yes, Declared Centre of Excellence vide MoU dt. Validity of Certificate: |
| 3. | Validity date of Registration (in case of NGO's): | |
| 4. | Name & Designation of the head of the Organization: S.V. Shukla, Director | |
| 5. | Name, Designation & Address of the Project Coordinator: A.P. Singh, Assistant Director (I.S.) & Head (Training & Agro) Fragrance & Flavour Development Centre, Industrial Estate, G.T. Road, Makrand Nagar, Kannauj-209726 (U.P.) | |
| 6. | <p>Background of the Organization:</p> <p>a) Past experience in R&D work in the KVI sector and micro-enterprise and entrepreneurship development need to be given separate sheets (details of work done in other areas need not be given).</p> <p>Fragrance & Flavour Development Centre (FFDC) has been set up in 1991 by Govt. of India with the assistance of UNDP/UNIDO and Govt. of U.P. UNDP/UNIDO has provided technical expertise and imported equipment's Govt. of U.P. has provided land, building and infrastructure, while Govt. of India is contributing for the recurring, non-recurring and indigenous apparatus & equipment's.</p> <p>At present this an ISO 9001:2015, ISO 14001:2015 and ISO 29990:2010 organization with self-sustainability where it does not take any recurring grant in aid from Government of India.</p> <p>Aims & Objectives</p> <p>FFDC aims to serve as an interface between essential oil, fragrance & flavour industry and the R&D institutions both in the field of Agro-technology and Chemical technology. Main objective of the centre is to serve, sustain and upgrade the status of farmers and industry engaged in the</p> | |

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| | <p>aromatic cultivation and its processing so as to make them competitive both in local and global market by:</p> <ol style="list-style-type: none"> Assisting in adoption of agronomical practices to introduce aroma bearing plants of higher yields. Providing guidance on Post-harvest technology, storage, packaging, sampling and marketing. Providing testing and quality control services for the raw materials and products. Providing an application development laboratory complete with facilities for creation of fragrance and flavours. Establishing information and documentation services to cater to the industry needs and to bring latest developments to their notice. <p>Services Offered</p> <ul style="list-style-type: none"> Supply of planting materials/seeds. Production/Processing facilities on job-work/loan basis. Quality Assurance & Analytical Services. Creation of fragrances & flavours for various end uses. Application of fragrances in end-products. Sale of essential oils and its fractions resultant to development & training. Training in various disciplines of essential oil, fragrance & flavour. Field surveys and feasibility studies. Consultancy services. <p>Division of the Centre</p> <ul style="list-style-type: none"> Agro-technology & Extension Services. Process-Technology Quality Assessment and Standardization. Fragrance & Flavour Development Training, Technical Coordination & Business Development Extension Unit, Kanpur Extension Unit, Berhampur, Odisha |
| | <p>b) Infrastructure facilities and expertise available (give details)</p> <p>Agro-Technology and Extension Services</p> <p>Facilities: The division has farm land at various locations for improved agronomical practices and a herbarium for various R & D and other Agro-tech activities to study & introduce improved aroma bearing plants. Seeds & planting material of proven quality are available for propagation. In addition, laboratory facilities have been created for soil testing, estimation of oil content, pH value etc. There are two field distillation (FDU) units of 1 ton & 0.5 ton capacity, where local farmers get their crop distilled.</p> |

Activities:

- Consultancy services/Technical know-how for cultivation of aromatic crops.
- Supply of seeds & planting materials.
- Preparation of feasibility reports.
- Visit to the farmers field for on the spot consultancy/guidance.
- Training to the farmers.
- Organizing awareness program/Kisan Mela for farmers.
- Distillation of oil in F.D.U's on job work basis.
- Production and sale of essential oils.

Process Technology & Value Addition Services**Facilities:**

- Steam distillation unit (Charge capacity - 200 Kgs.)
- Solvents extraction unit (Charge capacity - 200 Kgs.)
- Reaction unit (Charge capacity - 200 Kgs.)
- Fraction distillation unit (Charge capacity - 180 Kgs.)
- Mentha oil crystallization unit (Charge capacity - 250 Kgs.)
- Hydrogenation unit (Charge capacity - 180 Kgs.)
- Glass lined reaction unit attached with cryostate (Charge capacity - 60 Kgs.)

Apart from these facilities this division is also supported with laboratory scale glass fractionation, reaction, Clevenger and soxhlet units along with lab scale hydrogenation unit.

Activities:

- Process condition standardization for essential oils & their isolates.
- Value addition in essential oils.
- Production facilities on job work basis.
- Distillation and solvent extraction of essential oils.
- Consultancy Services.
- Research and development in the field of essential oils, aroma chemicals and isolates.

Fragrance & Flavour Development Services**Facilities:****1. Fragrance Laboratory**

The laboratory has a variety of important fragrant raw materials, like natural essential oils, isolates, resinoids and aroma-chemicals, around 1000 in number alongwith all necessary equipments and apparatus for fragrance creation.

2. Flavour Laboratory

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| <p>This laboratory is also having necessary flavour grade chemicals, natural essential oils, oleoresins and isolates, numbering more than 300 alongwith all necessary equipments & apparatus for creating flavours.</p> <p>3. Application Development Laboratory</p> <p>This laboratory is equipped with homogeniser, stirrer, sieve, shaker, pulveriser, Agarbatti/dhoopbatti manufacturing machine, incubator, moisture, meter balance, melting point apparatus, soap machine for fragrance application i.e. for soap, cream, shampoo, hair oil, face-pack, talcum powder, etc. and baking oven, soda maker, vaccum oven, refrigerator for flavour application i.e. for soft drink, cakes and biscuits, ice-cream, and carbonated beverages, etc. The laboratory is also equipped with soxhlet and Clevenger apparatus for extraction of oil and concrete from aroma bearing materials.</p> <p>Activities:</p> <ul style="list-style-type: none"> • Creation of fragrances & flavours for all kinds of products. • Application of fragrance & flavour in end products including Aromatherapy blends. • Consultancy services. • Extraction of new materials from natural source in order to develop new fragrances/flavours. • Consultancy for designing and setting-up of laboratory/industries. • Consultancy for development of fragrances & flavours. • Consultancy for development of products using fragrances & flavours. <p>Quality Assessment & Standardization Services</p> <p>Facilities:</p> <p>NABL Accredited fully equipped laboratory with following facilities:-</p> <ul style="list-style-type: none"> • Gas Liquid Chromatography-Mass (GC-MS) • Gas Liquid Chromatograph (GC). • HPLC • Polarimeter • UV - Visible spectrophotometer • FT-IR - spectrophotometer • Refractometer • Lovi bond Tintometer • Rotary evaporator • Facilities for Physico-chemical analysis. • Consultancy for Designing and setting-up of laboratory. <p>Activities:</p> <ul style="list-style-type: none"> • Physico - chemical and instrumental analysis of essential oils, aromatic chemicals, fragrances, flavours & Indian attars. • Standardization of testing methods for essential oil, fragrances & flavours. • Consultancy services for establishing quality assessment lab and analysis of essential oils and aromatic chemicals. |
|---|

| | |
|--|---|
| | <ul style="list-style-type: none"> • Research & development activities related to essential oil, fragrance & flavour. <p><i>Training, Technical Coordination & Business Development</i></p> <p>Facilities:</p> <ul style="list-style-type: none"> • International trainees hostel : Cap - 32 • Trainee's hostel: Cap. - 28 • Trainee's hall: Cap. - 45 • Internationally trained in-house faculty. • Faculty under National Network of FFDC Faculty - 175 (as on date) • All necessary audiovisual aids for conducting training programmes. • Consultancy for Project report preparation. <p>Activities:</p> <ul style="list-style-type: none"> • Training on all aspects of essential oils, fragrances & flavours. • Trainings to individuals as per their convenience. • Training outside FFDC in all parts of country. • The centre has launched special series of workshop-cum-training on Aromatherapy, essential oils & aroma-chemicals to promote production & uses of pure essential oils and related products through aromatherapy. |
|--|---|

c) Details of completed and ongoing projects during the last 3 years.

| Sr. No. | Title of the project | Start date-completion date | Name & full address of funding agency | Amount sanctioned | Amount received |
|---------|---|----------------------------|---|-------------------|-----------------|
| 1. | Training cum workshop (06 Nos.) of ten days for students on Aroma products for Divyang Students | 29.11.2019 – 28.02.2021 | Haryana School Shiksha Prariyojna Parishad, Panchkula | 36.0 Lakh | 36.0 Lakh |
| 2. | Demo of Cultivation, Processing, and value addition of selected aromatic crops in Bundelkhand region | 18.06.2018– 17.12.2021 | Department of Biotechnology (DBT), Govt. of India, New, Delhi | 1.07 Crore | 1.07 Crore |
| 3. | Product development based on thymol-rich Jammu monarda | 23.05.2017– 22.05.2020 | Department of Biotechnology (DBT), Govt. of India, New, Delhi | 58.54 Lakh | 58.54 Lakh |
| 4. | Training cum workshop (06 Nos.) of ten days for students on Aroma products for Divyang Students | 01.12.2021– 28.02.2021 | Haryana School Shiksha Prariyojna Parishad, Panchkula | 90.0 Lakh | 90.0 Lakh |
| 5. | Propagation of elites Kewra (<i>Pandanous fascicularis</i>) in association with other aromatic crops to enhance farmers income through high quality oil production” | 15.03.2021– Running | Department of Biotechnology (DBT), Govt. of India, New, Delhi | 57.95 Lakh | 57.95 Lakh |

| | | | | | |
|-----|--|---------------------------|---|--------------|--------------|
| 6. | Performance study, formulation of Agarbatti, Based on Floral Waste, cow dung, coir pit & organize training programme | 01.09.2021– 31.08.2022 | Khadi & Village Industry Commission, Mumbai | 11.51 Lakh | 11.51 Lakh |
| 7. | Dissemination of technology of lemongrass oil extraction for fragrance and Agarbatti from lemon grass in Konkan Region | 02.05.2023 – ongoing | Khadi & Village Industry Commission, Mumbai | 15.00 Lakhs | 12.00 Lakhs |
| 8. | Development of Fragrance and Agarbatti from lemongrass in Konkan region | 16.05.2023 – ongoing | Khadi & Village Industry Commission, Mumbai | 12.71 Lakhs | 11.00 Lakhs |
| 9. | Establishment of Aroma Unit for promotion of Cultivation of Aromatic Crops & Entrepreneurship Development in Arunachal Pradesh | 26.11.2021 – ongoing | DBT-APCS&T, COE Kimin, Arunachal Pradesh | 143.00 Lakhs | 102.00 Lakhs |
| 10. | Standardization of Indian Agarwood Oil | | NTFP, Govt. of Tripura | 23.90 Lakhs | 11.95 Lakhs |
| 11. | Development of Agarbatti & Dhoopcone from de-oiled material of Agarwood | | NTFP, Govt. of Tripura | 25.90 Lakhs | 12.95 Lakhs |

7. District/ Area to be taken up for the project:

Kannauj, Uttar Pradesh

8. Location of projects implementation and details thereon.

Kannauj, Uttar Pradesh

9. If any developmental activity has been done in the proposed location prior to submission of this proposal by the Project Coordinator or the Organization, the details may be given in brief.

NIL

10. Details of infrastructure of the organization in the proposed location.

The details of infrastructure & activities of FFDC, Kannauj is as above.

II- Part-B

1. **Project Title:** Development of Standards and Testing Methodology of Agarbatti
2. **Nature of Project:-** Development of standard & testing methods
3. **Source of Identification of Problem:-** Interaction with Agarbatti industry & Literature Search.
4. **Objectives of the study:-**
 - To develop standard specifications for Handmade, machine made & Masala Agarbatti.
 - To standardize/develop testing methodology for Handmade, machine made & Masala Agarbatti
5. **Target Beneficiary:-** Agarbatti Industry/artisans/ raw material suppliers
6. **Expected Outcomes of the Project:-**
 - Systematic standard specifications for Handmade, Machine made & Masala Agarbatti will be available for Agarbatti industry & same will be submitted to Bureau of Indian Standards as well.
 - Testing methodology will be develop/standardize which will helpful for industry for testing of Agarbatti & consistency in production.
 - This will give an overall boost to Agarbatti industry & export which otherwise facing problem without standards in local & global market & maintaining consistency in quality.
7. **Review of literature:-** The existing literature reveals that India agarbatti industry which is an n date in around 5000 crore in organised sector & total around 9000 crore when unorganised sector is included. The growth rate is 13% per annum but there is no standards available. The agarbatti is being made across the country and different formulations are there depending upon the availability of local raw materials, prevailing tradition & artisans knowledge which is being transferred from generation to another. There is dire needs to make standards for agarbatti from natural products, keeping in minds about different kinds of industry and people involved which are micro, small and even medium enterprise. The formulations are monopoly of people and company. There is no standards for formulation for different kinds of agarbatti prevailing in market. The kinds of agarbatti are:
 - a) **Handmade agarbatti**
 - b) **Machine made agarbatti**
 - c) **Masala agarbatti**

They are being made and all of them needs to be taken under consideration with respect to similarities and differences.

There is no testing methods for agarbatti and also no specifications. Allowing the people even to add explosives to let agarbatti burn continuously. Such things needs to be stopped. Even there is no list of negative item which is not to added at all in agarbatti which are being added now due lack of knowledge.
8. **Justification of Project:-** Till now the agarbatti is being manufactured by using, raw materials like charcoal, jigat powder, acacia powder, other wood powder, spices, resins, gums, honey, bamboo sticks, fragrance etc. by different manufacturers, artisans, and industry across the country using different materials

in combination leading to different kinds of agarbatti without any standards. There is no mode available to define even *what is agarbatti*? There is no standards specification by which we can define agarbatti and its different types to safeguard the interest of micro & small manufacturer. The medium scale will however survive but rest will die in due course of time. Once the standard is made available they can be trained accordingly and India will become the largest standardized agarbatti supplier without any hurdle. As there is no standard is available for testing of raw material quality as well as finished product (Agarbatti). NGOs & media regarding its effects on health and non-availability of standards have raised Numbers of voices. Once such standards is being made along with testing methodology the entire path will be smooth making India as strongest & largest supplier of agarbatti for long period. Needless to say this will give employment to more number of people for the vacuum, which has been created after making agarbatti as restricted item after 31 August 2019 by Govt. of India.

9. **Relevance of Proposed work to KVI sector in terms of:** This work is quite relevant to Khadi & village industry because such standardisation will bring more and more employment to rural artisans & also to will boost the utilisation of rural by products such as charcoal, jigat, spices, honey, dried wood powder etc. Needless to this will give employment to rural women and artisans who even can do this in part time. KVIC is already having schemes to support such industry too.

10. **Time schedule for implementation of project:- 12 months**

| Month | Activity |
|-------|--|
| I | Advertisement and engagement of manpower for project work & planning for implementation of project. Visit to local industries for collection of data for testing problems. |
| II | Procurement & processing of raw materials to formulate the raw material range in different types of agarbatti and testing parameters |
| III | Formulation of raw materials range for making of hand made Agarbatti |
| IV | Trial of developed raw materials range & its evaluation. |
| V | Formulation of raw materials range for making of Machine made Agarbatti |
| VI | Trial of developed materials range for making of machine made agarbatti & its evaluation |
| VII | Formulation of raw materials range for making of Masala Agarbatti |
| VIII | Trail of developed materials range for making of Masala Agarbatti & its evaluation |
| IX | Literature survey and finalization of testing parameters for Agarbatti. |
| X | Development of testing methodology for different parameters of testing of Agarbatti. |
| XI | Development of testing methodology for testing of Agarbatti continue.... |
| XII | Review meeting Data compilation, report preparation & submission to KVIC. |

11. Methodology:-

Selection of Manpower → formulation of raw materials ranges & trial for Agarbatti → Literature survey and finalization of testing parameters → Development of standard testing methodology → data compilation submission of report to KVIC.

12. Trial of Technology :- Lab trial**13. Training Programme:-** Nil**14. a) Backward Linkages:** Quality of raw materials & product will standardise.

b) **Forward Linkages:** Testing methodology & standards will available for Agarbatti industry & artisans

15. Potential areas identified for promotion of micro-enterprises:- Existing entrepreneurs in Kannauj & nearby areas.**16. Follow-up mechanism:** Standard specification & testing methodology will be given to Industry & further to BIS for final acceptance.**17. Exit Strategy (plan after completion of project):**

a) FFDC will take the final specification to BIS to make it as national standard.

b) FFDC will continue to render testing & technical support to industry/artisan.

c) FFDC will keep giving standard methodology for raw materials & Agarbatti.

18. Any other information/remarks: Nil**19. Budget:****a) Project Budget**

| S. No. | Item/Activity | Expenditure (Rs. In Lakh) | Remarks |
|--|--|---------------------------|---|
| Part-A- Machine/Equipment Development | | | |
| 1. | Manpower | 7.87 | Scientific Administrative Assistant (02 Nos) @Rs. 18000+10% HRA (PM) & Skilled worker (02 Nos.) @ Rs. 13000 for one year. |
| 2. | Hiring & rental charges for dryer, grinding machine and other equipment including energy & fuel expenses | 1.50 | Hiring & rental charges for dryer, grinding machine and other equipment including energy and fuel. |
| 3. | Consumable | 4.00 | For raw materials |
| 4. | Stationery, typing, printing/contingency | 0.45 | For Stationery, typing, printing/contingency etc. |
| 5. | Travel | 2.00 | Extensive visits of FFDC & Project staff for selection of artisans, data collection & performance study etc. |
| 6. | Field Trial | - | - |
| 7. | Miscellaneous | 0.20 | |
| 8. | Institutional cost @ 13% of Project cost | 2.08 | |
| Total Part-A | | 18.10 | |
| Part-B- Multi-locational Field Trial | | | |

| | | | |
|---|-----------------------------------|--------------|---|
| 10. | No. of Prototypes/Location | - | |
| 11. | Transportation cost | - | |
| 12. | Manpower | - | |
| 13. | Consumables | - | |
| 14. | Stationery, typing, Printing etc. | - | |
| 15. | Travel | - | |
| 16. | Miscellaneous | - | |
| 17. | Any other (Specify) | - | |
| Total Part-B | | - | |
| Part-C- Technology Transfer | | | |
| 18. | Training | - | - |
| 19. | Microenterprise set up | | - |
| 20. | Tool Kit | | - |
| 21. | Stationery, typing, Printing etc. | | - |
| 22. | Travel | | - |
| 23. | Miscellaneous | | - |
| 24. | Any other (Specify) | | - |
| Total Part-C | | - | |
| Part-C- Infrastructure Development (if any, upper limit of budget) | | | |
| 25. | Provide Details of Infrastructure | | |
| 25.1 | - | - | |
| 25.2 | - | - | |
| 25.3 | - | - | |
| 25.4 | - | - | |
| 25.5 | - | - | |
| Total Part-D | | 18.10 | |
| Grand Total | | 18.10 | |

b) **Budget Narrative:-**The above budgets different heads will required for manpower engagement, in development of standards & testing facility for Agarbatti.

20. Project Risk Management

a) Risk related to: - development of standards

b) Risk management Plan: Action plan will be develop to minimize any type of risk.

21. Conclusion:- The proposed study will standardize the testing parameter and methodology for testing of Agarbatti.

22. Certificate of Endorsement from the head of the Institution should be in the prescribed format. (Annexure I).

23. Submission of Progress Report: will be submitted quarterly and also annually

Bank Details:

Account No. : 1212120562
 Nature of Account : Saving
 Branch Code : 5315
 Name of Account Holder : FFDC DBT Project
 Branch Name & Address : Kotak Mahindra Bank, Makrand Nagar,
 Kannauj
 IFSC Code of Branch : KKBK0005315

You are kindly requested to approve the proposal and release the above amount to initiate the project work.

V. Shukla
16.2.2024
Name & Signature of the Head of the

Institutions

Date: 16.02.2024

Place: Kannauj

Director
 सुगन्ध एवं सुरस विकास केन्द्र
 Fragrance & Flavour Development Centre
 भारत सरकार की एक स्वायत्तशासी संस्था
 An Autonomous body of Govt. of India
 सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
 Ministry of MSME
 कन्नौज-209726
 Kannauj-209726

AP Singh
16/2/2024
Name & Signature of the

Project Co-coordinator
ASST. DIRECTOR
 Fragrances & Flavour Development Centre
 Ministry of MSME, Govt. of India,
 Kannauj (U.P.) 209726

283360/2024/S & T-KVIC

Email

Science and Technology

Submission of Project Proposal on Development of Standards & Testing Methodology of Agarbatti scheme under Science & Technology for CoE -reg.

From : ffdcknj@gmail.com

Fri, Feb 16, 2024 04:35 PM

Subject : Submission of Project Proposal on Development of Standards & Testing Methodology of Agarbatti scheme under Science & Technology for CoE -reg. 2 attachments**To :** Science and Technology <scitech.kvic@gov.in>**Cc :** shaktiffdc@gmail.com, amod ffdc <amod.ffdc@gmail.com>, kk423845@gmail.com

Dear Sir,

Please find attached the letter along-with project proposal on Development of Standards & Testing Methodology of Agarbatti for your kind consideration and approval.

with warm regards

(S.V. Shukla)
Director **Letter_KVIC_S&T.pdf**
201 KB **KVIC Agarbatti Testing & Standards_16.02.2024.pdf**
1 MB
