



KERALA STATE BIODIVERSITY BOARD

No. A10/RKI-Apt./1882/2020/KSBB

11.09.2020

NOTIFICATION

THE KERALA STATE BIODIVERSITY BOARD INVITES APPLICATIONS FOR SUBJECT EXPERTS

Kerala State Biodiversity Board is involved in conservation of biodiversity, its sustainable use and equitable sharing of benefits of its commercial use. As a part of Rebuild Kerala Initiative (RKI), KSBB plans to engage subject experts in the following sectors for the project period.

1. **Floral Bioresources**
2. **Faunal Bioresource**
3. **Microorganisms/Fungi/Lichens**
4. **Agrobiodiversity**
5. **Biostatistics**

Qualification and experience:

- o M.Sc. in Life Sciences/ Agriculture/ Biostatistics preferably PhD.
- o 15 years of experience in relevant sector in fields of conservation/ cultivation/ trade & market assessment/ sustainable management/ value chain analysis/ Ecosystem valuation/ Biostatistics. Retired hands may apply.

Ability to work in the field with local stakeholders, farmers, government officers, front line staff.

APPLICATION PROCEDURE

Qualified Subject experts are hereby requested to apply with the following details on or before 16th September 2020.

1. A one page brief description of why the individual considers him/herself as the most suitable for the assignment, and a one page methodology, on how they will approach and complete the assignment;
2. CV indicating education background/professional qualifications, all past experience, as well as the contact details (email and telephone number) and at least three (3) professional references.

Terms of reference for two Projects 'Conservation of Agrobiodiversity' and 'Database of Tradable/ Commercially Potential Bioresources and their Economic Valuation in Kerala' (Floral Bioresources, Faunal Bioresource, Microorganisms/Fungi/Lichens, Agrobiodiversity) is attached herewith. Applications must be addressed to:

The Member Secretary
Kailasam, T.C.4/1679 (1),
Belhaven Gardens, Kowdiar P.O.,
Thiruvananthapuram -695003
Email id- keralabiodiversity@gmail.com

Member Secretary

TERMS OF REFERENCE FOR SUBJECT EXPERTS

DATABASE OF TRADABLE/COMMERCIALY POTENTIAL BIORESOURCES AND THEIR ECONOMIC VALUATION IN KERALA

INTRODUCTION:

The concerns over the indiscriminate exploitation of biodiversity, and the problem of biopiracy, inter alia, have led to the adoption of the Convention on Biological Diversity (CBD), an international treaty to sustain the rich diversity of life on Earth, at the Rio-Earth summit in 1992. India has been a Party to the Convention on Biological Diversity (CBD) since 1994. The country signed the Nagoya Protocol and became a Party when the Protocol entered into force on 12 October 2014. In 2002, the country adopted the National Biological Diversity Act to provide for the conservation of biological diversity, sustainable use of its components, and equitable sharing of the benefits arising out of the use of biological resources.

Kerala is a biodiversity rich state and many economically important plant and marine species are found in Kerala. Over exploitation of bioresources has led to population decline of several species. Biological Diversity Act facilitates regulation of access to bioresources for commercial; utilization in certain cases. This requires adequate information on biological resources, their actual and potential economic value, and the various stakeholders utilizing bioresources for commercial use or for bio survey for commercial utilization. To prevent the indiscriminate exploitation of biodiversity and to ensure sustainable utilization the following knowledge is necessary:

1. Identify various bioresources / plants/ animals/ microorganisms etc which are traded/ utilized for commercial purposes and their threat status based on primary and secondary data.
2. Bio-resources' current stocks, volume of extraction, sustainability rate, extinction level
3. Identify various local, regional, state level, national and international agencies involved undertaking biosurvey, bioresearch and commercial utilization of bioresources.
4. Value chain and supply chain analysis.
5. Document the ABS potential of tradable bioresources such as plants, animals, microbes, insects etc., their products and their possible commercial use.

QUALIFICATION AND EXPERIENCE FOR SUBJECT EXPERTS

For the achievement of the above mentioned goals KSBB plans to engage subject experts with expertise in the following sectors

- 1. Floral Bioresources**
- 2. Faunal Bioresource**
- 3. Microorganisms/Fungi/Lichens**

- M.Sc. in Life Sciences preferably PhD in Life sciences
- 15 years of experience in relevant sector in fields of conservation/ cultivation/ trade & market assessment / sustainable management/ value chain analysis/ Ecosystem valuation.
- Retired hands may apply.
- Ability to work in the field with local stakeholders, farmers, government officers, front line staff.

ROLES AND RESPONSIBILITY

- The Subject expert will be responsible for providing technical advice, planning and coordination of all field work and desk review, compilation and timely submission of deliverables.

OBJECTIVE AND SCOPE OF WORK

The study area extends to all the districts of Kerala. As availability of bio-resources depends on geographical conditions, efforts should be made to capture the unique bio-resources found in different geographical regions. All the industries/ traders using the wild as well as domesticated bioresources need to be surveyed and linkages have to be established with the geographical location of collection. The major stakeholders include Industries utilizing bio-resources, traders, government sectors including agriculture, fisheries, forest; the private sector; and academia. The major activities envisaged are

1. An inventory of bio-resources (flora and fauna both terrestrial, fresh water and marine) with commercial potential and ABS potential district wise/ panchayat wise in Kerala.
2. Estimate current population status and threat status of major resources, volume of extraction of bioresources by industries (both domestic market and export), major players in Kerala. (legal/ illegal trade/ Angadikada/ local markets/ Industries etc)
3. Projections of anticipated changes in the resources in the business as usual scenario for commercially utilized and ecologically important species. Based on demand and availability propose species for regulations (long term and short term).

4. Value chain and supply chain from primary harvesters, to final consumers and the price spread for the species most traded or commercially utilized in Kerala/ and for priority species
5. To suggest collection fees structure for various species being traded / accessed from various panchayats based on threat status, demand, availability of resource and its value in the market as well as importance for society.
6. To examine the current Central and State regulations relevant to bio-resources and suggest policy recommendations.
7. To propose necessary changes in the practices and regulatory mechanism in order to promote long-term sustainability of priority species

➤ **Bioresources to be covered:**

Plants, Animals and Microbial bio-resources traded for food, fodder, medicinal, shelter, ornamental, religious and other uses.

➤ **Ecosystems to be covered:**

Forest, Plantations, Agricultural field, Freshwater, Marine, Estuarine

METHODOLOGY

The methodology includes desk research, site visit, meetings and workshops with stakeholders and PRA and FDG with different user groups, market surveys etc. The key stakeholders should be selected ensuring coverage of the key actors in different value chain structures from Producers, Collectors, Buyers, Traders, and Manufacturers.

EXPECTED DELIVERABLES AND TIME FRAME:

Duration of Project is 12 months

1. Deliverable 1: Inception report detailing the work plan with time schedule, methodology to be employed, Initial sampling design and data collection formats within 15 days of signing agreement.
2. Deliverable 2: Detailed report of traded bioresources, Key Stakeholders in Organized sector including Government/ Industries (Objective 1 and 2) within 3 months of submitting Inception report.
3. Deliverable 3: Report of trade through Unorganized sector such as Angadikada etc, Value chain and Supply chain analysis within 7 months (Objective 2 and 4). Field Work Must start not later than January 2021 and must finish by July 2021.
4. Deliverable 4: First draft report including policy recommendations in different sectors and suggested collection fees structure for BMCs (11 months).
5. Deliverable 5: Final report (12 months).

MONITORING

A weekly discussion /report in prescribed format. All deliverables submitted by the subject experts should be approved by the departmental monitoring committee.

HONORARIUM

The Honorarium shall be based on submission of the identified deliverables

INSTITUTIONAL ARRANGEMENT

The assignment is both field and home-based. KSBB will engage required Program co-ordinators and Asst Program co-ordinators for field work who will work as a team to undertake the assignment as described in this ToR. The subject experts will report to Chairman/ MS, KSBB and will be responsible for the submission of the deliverables as requested. The Program co-ordinators will provide logistical support for the organization of workshops and other events/meetings (as required), and for the mobilization of stakeholders for such events/meetings and the costs thereof shall be met under the project funds.

COPYRIGHT, PATENTS AND PROPRIETARY RIGHTS

- The Kerala State Biodiversity Board will have ownership rights on the data generated out of the project and any independent use of the data for any scientific publication or presentation would require permission of the Kerala State Biodiversity Board.
- The data would be utilized for preparation of the project completion report which may be considered the original data source and cited for any scientific publication by authors. The completion report will be hosted on the Kerala State Biodiversity Board's website.
- The Kerala State Biodiversity Board shall be entitled to all proprietary rights including patents, copyrights, and trademarks, with regard to products, processes, inventions, ideas, know-how, or documents and other materials which may be developed under the project (such as, maps, drawings, photographs, stills and videos), reports, recommendations, documents and all other data compiled by or received and which bear a direct relation to or are produced or prepared or collected in consequence of, or during the course of the performance of the project.
- Adequate precaution may be taken by the obligor to avoid disclosure, publication or dissemination of the information and data that is considered proprietary by the Kerala State Biodiversity Board.
- All reports shall be submitted in soft copy. The soft copy should not be secured with password(s)/ watermarks.

TERMS OF REFERENCE FOR SUBJECT EXPERTS

CONSERVATION OF AGRO BIODIVERSITY

INTRODUCTION:

Agro-ecosystems and agro-biodiversity contribute to sustainable livelihood securities at the local, national and global levels. Agrobiodiversity includes all components of biological diversity, relevant to food and agriculture. It encompasses varieties, breeds and populations of useful plants, animals, and fish species along with the diversity of insects, microbes and other species which are part of the production systems. In 1992, the adoption of the Convention on Biological Diversity (CBD) established for the first time an international legal framework for the conservation and sustainable use of biodiversity. The resulting Aichi Biodiversity Targets, adopted in 2010, fully attest the importance of mainstreaming biodiversity into development policies. In 2015, the United Nations' Sustainable Development Goals provided a renewed impetus for a focus on using biodiversity for food and nutrition and linking that to the sustainability of farming systems.

India is one of the agrobiodiversity-rich countries of the world with over 160 crop species with hundreds of varieties, 325 crop wild relatives and around 1500 wild edible plant species and diverse domesticated diversity of animals and birds. Kerala is one of the most biodiverse states in the country. The land use of Kerala State consists of 27.8% forests, 54.9% net agricultural sown area, 9.5% non-agricultural uses, 3.0% fallow, and the remaining 4.8% uncultivable land, permanent grazing, and cultivable waste. The state has put in place an elaborate network of policies and institutions to maintain and indeed promote agrobiodiversity in the state. Kerala grows 142 crop plants belonging to 104 genera and 43 families. The State grows a relatively larger number of agriculturally important plants, fruits & nuts, spices, coconut, and staple food crops. These are grown for both domestic use and commercial purposes.

The objective of the present study is to conserve the agrobiodiversity by conserving the land races, folk varieties, cultivars, domesticated stocks and breeds of animals and agriculturally important organisms available in our state. The focus is also to meet the CBD's objectives viz (a) conservation; (b) sustainable use; (c) fair and equitable sharing of the benefits arising out of the use of biological resources and recognizes the linkages between agricultural production and biological diversity conservation.

QUALIFICATION AND EXPERIENCE FOR SUBJECT EXPERTS

For the achievement of the above mentioned goals KSBB plans to engage two subject experts with expertise in the conservation of agro biodiversity for improved livelihoods, nutrition, sustainability and productive & resilient ecosystems.

ESSENTIAL QUALIFICATION

- M.Sc. in Agriculture/ Veterinary science preferably PhD in the related field

DESIRABLE

- Retired agriculture officer.
- 15 years experience on Agrobiodiversity/ Agriculture Conservation

ROLES AND RESPONSIBILITY

- The Subject expert will be responsible for providing technical advice, planning and coordination of all field work and desk review, compilation and timely submission of deliverables.

OBJECTIVE AND SCOPE OF WORK

The study area extends to all the districts of Kerala. The major activities of the project are

- Data collection/mapping of Agro-diversity, tradable agriculture crops/products, will cover all 14 districts of Kerala with focus on 8 climate change hotspot districts of Kerala and updating of PBR.
- Identification of custodian farmers, documentation of varieties conserved and specific traits and associated knowledge
- Supporting 100 custodian farmers of 8 climate change hotspot districts of Kerala
- Development of selected 20 custodian farmer's farm of each district as farm schools
- Capacity building and training of farmers through the farm schools.
- Development of Community seed bank

METHODOLOGY

The methodology includes desk research, site visit, meetings and workshops with Agriculture, Veterinary & fisheries officers, farmers, elected representatives' from the LSGs, BMCs, TSG members and NGOs

EXPECTED DELIVERABLES AND TIME FRAME:

Duration of Project is 12 months

1. Deliverable 1: Inception report detailing the work plan with time schedule, methodology to be employed and data collection formats within 15 days of signing agreement
2. Deliverable 2: Detailed list of custodian farmers in a district within 4 months of submitting Inception report
3. Deliverable 3 : : Detailed list of 20 homestead to be developed as farm schools in a district and supporting custodian farmers
4. Deliverable 4: Agrobiodiversity Mapping of all 14 districts of Kerala
5. Deliverable 5 : Final report, (12 months)

MONITORING

A weekly discussion /report in prescribed format. All deliverables submitted by the Subject expert should be approved by the departmental monitoring committee.

HONORARIUM

The Honorarium shall be based on submission of the identified deliverables

INSTITUTIONAL ARRANGEMENT

The assignment is both field and home-based work. KSBB will engage required Assistant Programme co-ordinators for field work who will undertake the assignment as described in this ToR. The consultants will report to Chairman/ Member Secretary, KSBB and will be responsible for the submission of the deliverables as requested. The Asst Program co-ordinators will provide logistical support for the organization of workshops and other events/meetings (as required), and for the mobilization of stakeholders for such events/meetings and the costs thereof shall be met under the project funds.

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- The data would be utilized for preparation of the project completion report which may be considered the original data source and cited for any scientific publication by authors. The completion report will be hosted on the Kerala State Biodiversity Board's website.
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- Adequate precaution may be taken by the obligor to avoid disclosure, publication or dissemination of the information and data that is considered proprietary by the Kerala State Biodiversity Board.
- All reports shall be submitted in soft copy. The soft copy should not be secured with password(s)/ watermarks.