REVITALIZING TRIBAL TRADITIONS: INITIATIVES FOR SUSTAINABLE VIKASIT BHARATH



Supported by SHRI Program, DST, Government of India

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PREFACE

The Booklet "Revitalizing Tribal Traditions: Initiatives for Sustainable Vikasit Bharath" is a comprehensive exploration of the pivotal role of indigenous technologies in fostering community empowerment, sustainable enterprise models, and the preservation of cultural heritage. It focuses on the revitalization of traditional occupations, community empowerment through sustainable enterprise models, and the preservation of indigenous knowledge and skills among tribal communities in Thiruvananthapuram, Idukki, and Wayanad districts in Kerala. The initiatives presented in the booklet, such as the establishment of community enterprises and the infusion of technology to refine traditional knowledge, paint a compelling picture of sustainable economic development and cultural preservation.

This booklet delves into the documentation and intervention of traditional practices, the valorization of indigenous knowledge, and the establishment of community enterprises. It also highlights the significance of indigenous crops in promoting agricultural sustainability, nutritional security, and heritage preservation. Moreover, the booklet showcases the tangible impact of integrating traditional wisdom with modern innovation in domains such as healthcare, agriculture, and community development. The document serves as a valuable resource for understanding the potential and practical benefits of incorporating indigenous technologies into the fabric of contemporary solutions for a developed and sustainable India.

The role of traditional knowledge and local expertise in the successful application of indigenous technology for sustainable development in India is crucial. The deep understanding of natural resources and sustainable practices embedded within indigenous technologies and traditions reflects the cultural identity and autonomy of indigenous communities. A thorough knowledge of indigenous technologies and their impact can provide valuable input into policy formulation and implementation, ensuring that government initiatives align with the needs and aspirations of local communities.

The targeted actions mentioned in this booklet was conducted by Rajiv Gandhi Centre for Biotechnology (RGCB) to explore the invaluable treasure of traditional wisdom held by the indigenous communities with the grantin-aid support from Science Heritage Research Initiative (SHRI) Programme, Department of Science and Technology, Government of India. The Project Coordinators are Prof. Chandrabhas Narayana, Dr. Anish N P., Dr. P. Manoj, Dr. Archana S. and team members are Mr. Harikrishnan P., Ms. Deepthi Mohan, Ms. Roshni S., Ms. Anu Theresa Antony and Ms. Mariya Mary Gigi,

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INTRODUCTION

Traditional knowledge and Local expertise plays a critical role in the successful application of indigenous technology for the development of a country like India. India is rich in traditional knowledge systems that have been passed down through generations. These include diverse fields such as agriculture, medicine, handicrafts, and architecture, reflecting the deep understanding of natural resources, ecosystems, and sustainable practices. It's important to note that these indigenous technologies and traditions are closely tied to the cultural identity and autonomy of the indigenous communities.

Tribal traditions and indigenous technology in India are diverse and rich, representing a wide array of customs, skills, and knowledge systems specific to various indigenous communities. These traditions encompass everything from agricultural practices and natural resource management to crafts, textiles, and traditional medicine. Many indigenous communities also have developed specific knowledge of medicinal plants and herbs, which are used in traditional healing practices. This traditional ecological knowledge often complements modern scientific understanding and is increasingly recognized for its value in sustainable resource management and healthcare.

Local experts possess deep knowledge and understanding of the social, cultural, and environmental context in which indigenous technologies are to be implemented. It often leads to the innovation and adaptation of indigenous technologies to address localized challenges. This understanding is invaluable in ensuring that these technologies are not only effective but also appropriate for the specific local conditions. A thorough knowledge on indigenous technologies and their impact can provide valuable input into policy formulation and implementation, ensuring that government initiatives align with the needs and aspirations of local communities.

Rajiv Gandhi Centre for Biotechnology (RGCB), Thiruvananthapuram with the grant-in-aid support of Science Heritage Research Initiative (SHRI) program, Department of Science and Technology, Government of India, thrives to explore the invaluable treasure of traditional wisdom hold by the indigenous communities. The activities of the RGCB Tribal Heritage Project in various tribal settlements in Idukki, Wayanad, and Thiruvananthapuram districts leads to revive, preserve, and promote the traditional knowledge and skills of indigenous communities and identifying how these technologies can be modified or combined with other solutions to maximize their impact. The project is also tackling the challenges faced by traditional skill-based industries, such as the decline in demand, changing consumer preferences, and the need for modernization and marketing. The involvement of indigenous communities in the production of eco-friendly products, their economic upliftment through skill improvement, and the promotion of their cultural heritage and values through the marketable products are key aspects of the project. Efforts to provide training in modern technology and market linkages, as well as the creation of new markets for the products, are the integral part of the initiative.

FROM TRIBAL HERITAGE TO COMMUNITY ENTERPRISES – RGCB'S APPROACH



INTEGRATING TRADITIONAL MEDICINE INTO MODERN HEALTHCARE

The utilization of traditional knowledge in innovative ways, as exemplified by the RGCB-Tribal heritage project, is a demonstration to the potential for driving technological advancements through the integration of indigenous practices. The documentation and analysis of ethnomedicinal practices and ethno-veterinary knowledge not only contribute to the preservation of traditional healing methods but also highlight their contemporary relevance. By leveraging locally available herbs and botanical wealth, these practices offer eco-friendly and cost-effective alternatives for disease prevention and control.

RGCB-Tribal Heritage Project team scientifically validated a polyherbal preparations for wound healing through *in silico*, *in vitro*, and *in vivo* studies and demonstrates a bridge between traditional knowledge and modern scientific validation. This validation process contributes to the recognition and acceptance of ethno-veterinary practices as valuable and sustainable alternatives to modern animal healthcare practices.

The project team documented the ethno-veterinary practices from tribal communities and the analysed data used for the development of the 'Gau Mithra' mobile application. This app is available in both English and Malayalam, represents an innovative approach to disseminating traditional veterinary healthcare knowledge. By providing farmers with a tool to identify primary health problems in cattle and explore treatment options rooted in ethno-veterinary practices, this application promotes the conservation and practical application of indigenous wisdom.

The creation and distribution of a community knowledge register derived from traditional healers' insights serve as a means of safeguarding and sharing invaluable ethno-veterinary healthcare knowledge within tribal communities. This contributes to the preservation of cultural heritage and hinders the loss of traditional knowledge in veterinary medicine and animal healthcare. The RGCB-Tribal heritage project's endeavours demonstrates that, how integrating traditional knowledge into modern innovation not only safeguards cultural traditions but also yields practical benefits in the realms of healthcare, agriculture, and community empowerment. By validating and leveraging ethno-veterinary practices, the project underscores the value of preserving and incorporating indigenous wisdom into contemporary solutions.



Documentation and scientific validation of ethno veterinary practices

- (a) Efficasy testing of traditional wound healing oil in invivo model.
- (b) Releasing of " community knowlegde register.

- (c) Launching ethno veterinary mobile application "Gau Mithra".
- (d) QR code for downloading Gau Mithra application from playstore.

INDIGENOUS CROPS FOR SUSTAINABLE AGRICULTURE

The comprehensive efforts of the RGCB-Tribal Heritage Project in the intervention and documentation of traditional paddy landraces in the Wayanad District exemplify the profound significance of indigenous crops and traditional knowledge in promoting nutritional security, heritage preservation, and sustainable agriculture. The documentation and preservation of traditional paddy landraces are pivotal for conserving genetic diversity and safeguarding traditional farming practices. As custodians of these landraces, tribal farmers play a vital role in preserving the biodiversity of indigenous crops. The indigenous paddy landraces, such as Navara, Rakthasali, Jeerakasala, and Gandhakasala, are not only valued for their unique culinary attributes but also for their medicinal properties. These landraces have been traditionally used for treating various ailments and are recognized for their medicinal value. Moreover, indigenous paddy landraces are valued for their adaptability to local agro-climatic conditions and their resilience to biotic and abiotic stresses. Their ability to resist pest and pathogen attacks, tolerate drought, and flourish in diverse ecosystems contributes to agricultural sustainability and climate resilience

The scientific characterization of traditional paddy landraces, including detailed morphological analysis and identification of unique traits, contributes to the conservation and promotion of these indigenous crops. The project team established 7.5 Hectors of field gene banks for traditional paddy varieties, facilitates further research, conservation, and promotion of indigenous crops. The promotion of traditional rice cultivation not only offers economic opportunities for farmers but also holds promise for addressing nutritional and health challenges. Studies have shown that traditional rice seeds, including Navara, offer potential health benefits such as relieving constipation, strengthening bones, and preventing diabetes.

Similarly, the Tribal Heritage Project demonstrates the rich heritage and genetic diversity of black pepper in Idukki. The cultivation of traditional pepper varieties has been a major source of income and employment for tribal communities in Idukki. The high resistance to diseases and environmental stresses exhibited by traditional pepper varieties underscore their suitability for sustainable and resilient agricultural practices. The comprehensive field surveys and morphological characterization of 26 traditional pepper varieties conducted by the Tribal Heritage Project provide valuable scientific documentation of these indigenous cultivars. This documentation contributes to the conservation and understanding of the genetic resources of black pepper. The cultivation and preservation of traditional pepper varieties contribute to the preservation of cultural heritage and traditional farming practices. Additionally, this cultivation serves as a valuable economic resource for tribal communities, highlighting the importance of indigenous knowledge in sustaining livelihoods.

The RGCB-Tribal Heritage Project's interventions underscore the vital role of indigenous crops, traditional knowledge, and community stewardship in promoting agricultural sustainability, cultural heritage preservation, and nutritional benefits. The documentation and promotion of traditional paddy landraces and black pepper varieties offer invaluable insights into the potential of indigenous crops to address contemporary agricultural and health challenges while honoring and preserving traditional wisdom and biodiversity.

Traditional Paddy Land Races Documented from Wayanad District



Establishment of Field Gene Bank for the Conservation of Traditional Paddy Varieties with Community Participation at Wayanad District.



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Traditional black Pepper Varieties Documented from Idukki District.



Traditional black Pepper Varieties Documented from Idukki District.

ETHNIC CUISINES AND WILD EDIBLES FOR SUSTAINABLE NUTRITIONAL SECURITY

Tribal communities in Kerala utilize local flora and fauna in various ways to ensure their sustenance and food security. They gather a wide variety of wild edibles, including yams, fruits, root vegetables, and leafy greens, which are found in the nearby forests. They have a deep understanding of the local flora and fauna and utilize these resources for their nutritional and medicinal values. They also cultivate indigenous varieties of rice, millets, tubers, and root vegetables, ensuring a diverse and nutritious diet. Additionally, they have traditionally engaged in the domestication of various wild edibles, such as yams and fruits, making them more readily accessible and sustainable. The domestication and cultivation of wild edibles represents an insightful aspect of traditional knowledge and sustainable practices. These efforts contribute to food security, dietary diversity, and the preservation of indigenous culinary traditions.

Tribal communities utilize traditional cooking methods such as open-fire cooking, earthen pots, and bamboo cooking. These methods not only add a distinct flavor to their dishes but also help in preserving the nutritional composition of cooked foods. By utilizing local flora and fauna in these ways, tribal communities in Kerala have demonstrated their deep understanding of the environment and their ability to adapt to it, ensuring their nutritional security and the preservation of their traditional knowledge and practices.

Wild edibles offer diverse sources of essential nutrients, carbohydrates, and other dietary components. These traditional foods contribute to the nutritional well-being of the communities. The detailed taxonomic analysis and genetic studies that were conducted by RGCB-Tribal Heritage Project Team have provided valuable insights in the identification and cataloging of different varieties of wild tubers such as dioscorea (yams), taro, and cassava, along with the documentation of abundant fruits like jackfruit, banana, and wild fruit varieties, highlight the diverse range of resources that form integral parts of traditional tribal recipes.

The morphological and genetic parameters studied in the Dioscorea varieties have led to the identification of 38 *Dioscorea* landraces from 10 species. These species include *D. alata, D. wallichi, D. bulbifera, D. tomentosa, D. hispida, D. pentaphylla, D. oppositifolia, D. esculenta, and D. hamiltonii*. Similarly, the morphological characteristics of 22 taro landraces belonging to the three *Colocasia* species, such as C. *esculenta, C. gigantea,* etc. have been studied, contributing to a comprehensive understanding of the utilization of taro in tribal cuisines. The documentation of 17 wild fruit varieties, including different types of bananas and jackfruits, further underscores the importance of wild edible fruits in tribal cuisines. Genetic studies have also aided in the identification of unique genotypes and shed light on the genetic diversity of wild tubers, providing valuable information for their conservation and sustainable use.

While documenting the ethnic food culture, RGCB-Tribal Heritage Project Team realised the significance of the preservation and promotion of traditional ethnic foods for ensuring the overall societal health benefits. The team established three conservation plots and nurseries with the participation of tribal community groups for preserving and demonstrating the significance of wild edible resources.

The initiatives and studies on ethnic foods and wild edibles provide insights into the genetic diversity and cataloging of different varieties of wild tubers, contributing to the conservation of traditional knowledge and sustainable practices of the tribal communities. These traditional practices and the deep knowledge of local resources have enabled tribal communities to maintain food security while adapting to changing environments and social dynamics.

In conclusion, the RGCB-Tribal Heritage Project's endeavors in documenting, conserving, and promoting wild edible resources and traditional food practices in Kerala are paramount for preserving cultural diversity, ensuring nutritional security, and fostering sustainable livelihoods within tribal communities. The recognition and conservation of traditional knowledge, coupled with scientific research, are pivotal for safeguarding the rich culinary heritage and indigenous food resources of Kerala's tribal populations.



Ethnic food promotional activities by RGCB-Tribal Heritage Project team



Various Dioscorea sp. documented from tribal colonies of Kerala

EXPLORING WILD RESOURCES FOR SUSTAINABLE FIXED-OIL REQUIREMENTS

It's interesting to note that India has a rich diversity of oil-yielding plants, many of which remain underutilized. The traditional use of fixed oils from plants such as *Sarcostigma kleinii* and *Hydnocarpus* species for edible, illuminating, and medicinal purposes highlights the potential for exploring wild resources for sustainable fixed-oil requirements.

Studies conducted by RGCB-Tribal Heritage Project Team on the physico-chemical characterization and biological importance of fixed oils from plants like *Garcinia gummi-gutta*, *Sarcostigma kleinii*, and *Hydnocarpus* species provide valuable insights into their traditional uses and potential applications in modern contexts. Fixed oils from these wild plants were reported to be used for their edible properties as they served as a source of nutrition and flavor in traditional culinary practices. These were also used for illuminating purposes, likely in the form of traditional lamps or lighting sources. It's possible that these oils provided a sustainable and reliable means of illumination in traditional settings. Moreover, tribal communities use these fixed oils in traditional medicine for various health and wellness applications.

This research and exploration of wild resources for fixed oils not only contributes to the understanding of traditional uses and cultural significance of these plants but also holds promise for sustainable utilization and potential development of these resources in various sectors, including food, illumination, and medicine.



Sarcostigma kleinii

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Garcinia gummi-gutta

Hydnocarpus pentandrus

VALUE ADDITION OF LOCAL BIORESOURCES

The RGCB-Tribal Heritage Project Team has undertaken various efforts in the value addition of under-utilized locally available bioresources. The nutritional studies have highlighted the rich content of complex carbohydrates, dietary fiber, protein, and micronutrients such as iron, calcium, and potassium in *Dioscorea* tubers. Similarly, jackfruits and bananas have been identified as rich sources of carbohydrates, dietary fiber, vitamins, and essential minerals. These findings underscore the nutritional value of these local bioresources and the potential health benefits they offer.

The utilization of raw jackfruit and jackfruit seed powder to produce jackfruit cookies, along with the formation of tribal community groups for establishing ethnic food processing units, demonstrates a proactive approach towards reducing postharvest losses, generating income for tribal groups, and promoting sustainable economic activities within the communities.

Recognizing the nutrient-rich nature of millets and pulses, the project team's focus on integrating these ingredients into a balanced drink offers a way to enhance overall nutrition, support healthy digestion, and regulate blood sugar levels. This innovation contributes to diversifying food options and incorporating traditional ingredients into modern dietary practices. The preparation of a fortified Aam panna drink from powdered raw mango flour exemplifies a creative approach to utilizing the abundant resource of mangoes in tribal areas, adding value to the local bioresources and creating marketable products.

The establishment of ethnic food processing units and the documentation, promotion, and value addition of tribal ethnic foods are crucial not only for preserving the cultural heritage of the communities but also for the overall health and well-being of society as a whole. The initiatives undertaken by the project team represent a holistic approach towards leveraging local bioresources to enhance nutrition, promote economic empowerment, and preserve cultural traditions within tribal communities. Lemongrass is quite popular for its distinct aroma and potent therapeutic effects. Lemongrass, also known, Cochin grass, Malabar grass, or fever grass, belongs to the genus *Cymbopogon* and the grass family, Poaceae. The two species of *Cymbopogon* are abundantly found in the grasslands of Kerala are *C. citratus* and *C. flexuosus*. Lemongrass oil is extracted from the leaves of lemongrass through the distillation process. The oil is widely utilized in medical fields, culinary applications, aromatherapy, the pharmaceutical business, and other fields all over the globe.

The interventions carried out by the RGCB-Tribal Heritage project team to revitalize lemongrass oil extraction among tribal communities hold a significant potential for economic empowerment and sustainable resource utilization. The project team conducted a comprehensive field survey to understand the issues hindering lemongrass oil extraction within tribal communities, including low yield, technological limitations, high energy expenditures, and low economic returns. This thorough understanding of the challenges laid the groundwork for targeted interventions.

The project team identified the need for technology upgradation in the lemongrass oil extraction system and introduced an advanced distillation units for the improved oil extraction and also to reduce energy expenditure. The successful restoration of lemongrass oil extraction among tribal communities in the Western Ghats region serves as an inspirational example of how scientific research and community intervention can effectively drive positive change. These interventions not only contribute to the economic stability of tribal communities but also hold promise for the preservation of traditional knowledge and the sustainable utilization of natural resources



Cookies made from Jack fruit flour and its seed flour

Nursery and Demonstration plot for Wild Edibles, Established with the Community Participation at Nellarachal, Wayanad District



Nursery and Demonstration plot for wild edibles established at Kanjikuzhi, Idukki District with participation of Mala Arayan Community



Nursery and Demonstration plot for wild edibles established at Kottoor, Thiruvananthapuram District with participation of Kani Community





Wild fruits documented from tribal colonies

COMMUNITY EMPOWERMENT THROUGH SUSTAINABLE ENTERPRISE MODELS

Indigenous technology often embodies sustainable practices that are in harmony with the environment. The application of indigenous technology fosters community empowerment by recognizing and valuing local knowledge and skills. This includes small-scale industries, artisanal crafts, and traditional healthcare systems, generating livelihood opportunities and preserving cultural identities. Local expertise also fuels entrepreneurship and economic development by empowering individuals to tap into indigenous technologies for small-scale businesses and local enterprises, thereby contributing to the growth of the local economy.

RGCB-Tribal Heritage Project has made significant strides in revitalizing traditional occupations, preserving indigenous knowledge, and promoting sustainable practices among tribal communities in Thiruvananthapuram, Idukki, and Wayanad districts (Table 1). The Tribal Heritage Project team documented traditional skills and wisdom, and identified the technology gaps to refine the knowledge and reciprocate it to the community for their livelihood improvement.

Collection of non-timber forest produce was the major livelihood option of the tribal communities. However, the communities are withdrawn from these traditional activities these days mainly because of the low income returns, associated risk, and exploitation by middleman, unavailability of wild resources, stringent forest laws etc. In order to revitalize the lost roots of traditional occupations, various scientific interventions were made with the complete participation of tribal communities in the targeted locations. The team identified potential bioresources and traditional skills such as bamboo & reed, honey, turmeric, arrowroot, shikakai, lemongrass etc. for value addition.

Vanasree bamboo craft and processing unit at Udumbannoor Grama panchayath in Idukki District; and Astra tribal society at Thavinjhal Gramapanchayath in Wayanad district were the two community enterprises established for the empowerment of Urali and Kurichiya tribal communities in respective locations. Necessary infrastructures including common facility centre, customized machineries for drudgery reduction, trainings for skill upgradation etc. were delivered to the community groups and handholding them at every stages of production and marketing of products like honey, arrowroot powder, shikakai powder, turmeric powder etc.

Tribal communities in Kerala possess exceptional skills in making bamboo and reed crafts. Three tribal artisan groups were supported with customized machines for drudgery reduction and improving the production efficiency. Now, the artisans are able to handle Bamboo sliver machines, Jaw cutters, Compound saw, Drilling machines and hand tools for the easy processing of raw materials. With the support from Kerala State Bamboo Corporation, training programs were conducted for the crafting of contemporary relevant items such as office stationery items like Pen stands. File trav. File cover, Wastebaskets, and household utility items like lampshades, fruit baskets, flower vases kitchen utility items like various types of spoons, bowls, trays, and household items like dress hangers, wall hangers etc. Unarvu bamboo craft unit at Kanjikuzhi Gramapanchayath and Vanasree bamboo craft unit at Uppukunnu in Idukki and Trukaipetta Paithruka gramam at Meppadi in Wayanad are the community enterprises supported for revamping of traditional craft sector.

Lemongrass oil extraction is a long-standing custom and a source of income among the tribal communities of Kerala. However, the oil production has declined among the tribal communities, due to the factors such as low yield, lack in technology up-gradation, low economic return, etc. RGCB Tribal Heritage Project team has investigated necessary technological advancement in the lemongrass oil extraction system and approached the tribal communities who had a keen interest to revitalize their tradition of lemongrass oil extraction. A Fresh Grass Oil Unit at Varikkamuthan, Idukki district ventured by a tribal group belonging to Ulladan community and Haritha Essential oil unit by Kattunaika and Kurichya community groups at Valad, Wayanad District were supported under this project. These units were established with advanced steam distillation facility, which provides about 30% higher yield than that by the hydro distillation process employed previously by the tribal community. The extraction time was also cut from 3 hours to 40 minutes: and drastic reduction in the amount of raw materials for energy production, water

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recycling mechanism, etc. are the advantages of the newly introduced system.

Traditional crop varieties are an integral part of tribal heritage. The team documented the native varieties of paddy and pepper and the wild edibles used by tribal communities in the 3 targeted districts. As part of the conservation of this dwindling genetic wealth, the team established conservation plots and nurseries for pepper and wild edibles in 4 nos. and a 7.2 hector field gene bank for paddy with the participation of tribal communities.

Karuthaponnu traditional black pepper nursery established at Pattayakudi in Idukki District has in possession, about 26 traditional black pepper varieties - including Karimunda, Neelamundi, Thottamundi, Vattamundi, Jeerakamunda, Kuthiravali. Farmers from various parts of the state visit the nursery and the adjacent farm for traditional black pepper.

Harithasree ST Kootayima at Ambalavayal Gramapanchyath in Wayanad district is a community enterprise established for the processing of traditional paddy varieties. A common facility centre with paddy processing machines having rubber-bushed hullers were made available to the community for processing the traditional paddy and attain better income using the traditional genetic resources.

With the inclusive participation of tribal communities, Conservation Farms and Nurseries for wild edibles were established in the three districts. Agasthya Nursery at Koottoor in Thiruvananthapuram, Samridhi Nursery at Idukki and Nellara Nursery at Nellarachal in Wayanad were supported with necessary infrastructure for the propagation of wild edibles like tubers and fruits.

The community enterprises supported by RGCB's Tribal Heritage Project have not only contributed to the economic development of tribal communities but also played a crucial role in preserving their cultural heritage, fostering self-reliance, and protecting biodiversity. Around 413 tribal families directly benefit from these activities, demonstrating the tangible impact of these initiatives. Overall, the empowerment of tribal communities was achieved through a combination of skill development, infrastructure support, and conservation efforts, all aimed at preserving traditional knowledge and practices while promoting economic growth and self-sustainability.

The preservation and promotion of indigenous technologies and traditions are vital for sustaining the well-being and cultural richness of Kerala's tribal communities. Local expertise serves as a catalyst for the effective application of indigenous technologies by providing the necessary insights, adaptability, and community-level integration. Leveraging this expertise can lead to more sustainable, inclusive, and impactful solutions that contribute to the holistic development of the country.

SI. No.	Name of Community Enterprise	Activity	District/ Community	beneficiaries
1	Samridhi Nursery	Nursery and sale of wild edibles	ldukki / Malaarayan	22
2	Nellara Nursery	Nursery and sale of wild edibles	Wayanad / Kuruma & Kurichya	18
3	Agasthya Nursery	Nursery and sale of wild edibles	Thiruvananthapuram / Kani	15
4	Aavani food processing unit	Ethnic food and value addition of wild edibles	ldukki/ Mannan	20
5	Viyana food processing unit	Ethnic food and value addition of wild edibles	Wayanad / Kurichya	22
6	Triphala Medicinal Plant Processing Unit	Medicinal plant processing	Thiruvananthapuram / Kani	18
7	Astra Tribal Society	NTFP Processing	Wayanad/Kurichya	25

Community enterprises established under RGCB-Tribal Heritage Project

8	Karuthaponnu Pepper Nursery	Nursery and sale of pepper	ldukki / Mala arayan	15
9	Fresh Grass oil Unit	Lemon Grass oil extraction	ldukki / Ulladan	25
10	Vanasree NTFP processing unit	Bamboo craft & NTFP Processing	Idukki/ Urali	30
11	Unarvu Bamboocraft Unit	Bamboo craft heritage	ldukki/ Urali	45
12	Nellimala Farmers Club Unit	Lemon Grass oil extraction	Wayanad / Kurichya & Paniya	25
13	Harithasree ST Koottayima	Paddy Processing unit	Wayanad/ Kurichya	22
14	Agasthya Pickle Unit	Ethnic food and value addition of wild edibles	Thiruvananthapuram / Kani	22
15	Seed Bank cum Rice Museum	Traditional paddy varieties conservation	Wayanad/ Kurichya	35
16	Gothra Vanavasi Sangham	Ethnic medical practice	Thiruvananthapuram / Kani	15
17	Agasthyalayam Microenterprise Unit	Ethnic medical practice	Thiruvananthapuram / Kani	12
18	Bhaskara Rao SHG	Fixed oils from wild sources	Thiruvananthapuram / Kani	15
19	Vanamitra Akshayasree Purusha SHG	Fixed oils from wild sources	Wayanad/ Kurichya	12

Lemon Grass Oil Extraction Unit Established at Varikkamuthan, Idukki



Traditional Black Pepper Nursery Established at Kanjikuzhi, Idukki



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Training and Capacity Building Program for Tribal Artisans

















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Non-Timber Forest Produce Value Addition Units Established at Idukki and Wayanad Disticts



Community Enterprises Established for the Promotion of Traditional Healthcare Practices at Thiruvananthapuram District















CONCLUSION

RGCB's interventions on Tribal Heritage holds immense significance in the context of "Vikasit Bharath" (developed India) as it seeks to revive, preserve, and promote the traditional knowledge and skills of indigenous communities. By identifying how these technologies can be modified or combined with other solutions to maximize their impact, the activities directly contributes to the vision of a technologically advanced and sustainable India. Additionally, by tackling the challenges faced by traditional skill-based industries and integrating traditional wisdom with modern innovation, the project aligns with the goals of "Vikasit Bharath" by fostering economic upliftment and cultural preservation within tribal communities. This endeavor serves as a model for leveraging indigenous technologies for sustainable development and community empowerment, aligning with the broader objectives of advancing India's social, economic, and cultural landscape.

Preservation of ingenious crops and its genetic diversity are essential for agricultural sustainability and ensuring nutritional security. The use of wild edibles and indigenous culinary traditions contributes the nutritional well-being of the society. The interventions for revitalizing traditional occupations and promoting sustainable practices among tribal communities, leading to the establishment of 18 community enterprises, benefiting around 315 tribal families directly. These activities exemplify the preservation and promotion of indigenous technologies, which are vital for sustaining the well-being and cultural richness of tribal communities.

Recognizing and valuing indigenous technology, local expertise, and traditional practices is paramount in fostering community empowerment and sustainable development. The deep knowledge possessed by local experts drives innovation and adaptation of indigenous technologies to address localized challenges, ensuring their effectiveness and appropriateness for specific local conditions. This recognition is not only essential for the preservation of cultural identities but also crucial for generating livelihood opportunities and contributing to the growth of the local economy.

















