***Proposal to Rajapruek Institute Foundation***

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| --- | --- |
| **Project Title:** | Trees, Skills and Knowledge for Facilitating Forest Restoration, in Northern Thailand (phase V) |
| **Amount Requested:** | THB 826,520 |
| **From Donors:** | Rajapruek Institute Foundation (RIF) |
| **Period:** | 1 Jan 22 – 31 Dec 23 (24 months) |
| **Contact:** | Steve Elliott, Forest Restoration Research Unit, Chiang Mai University |
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**Introduction**

This proposal to Rajapruek Institute Found-ation (RIF) is for support of the Forest Restor-ation Research Unit’s (FORRU-CMU) comm-unity tree nursery at Ban Mae Sa Mai. Funding will allow the unit to provide a supply native forest trees to any of RF’s tree planting projects in the northern region and also to provide educational services to groups interested in forest restoration. The nursery will also generate research data to improve the quality of planting stock for restoration plantings. [Very nice!]



Photos S. Elliott

**Aims**

To improve and maintain a model community tree nursery in northern Thailand for tree production, education and research. [Perfect!]

**Objectives [Perfect!]**

* To produce 50,000 saplings of 30 or more framework tree species, ready for planting in June 2022 (25,000) and June 2023 (25,000).
* To provide education, training and technical support in native forest tree propagation to groups interested in forest restoration, as requested.
* To continue research to further improve planting stock production and to produce educational materials (species database etc.) to further facilitate RIF’s tree planting program.

**Project Activities**

**Nursery Support and Tree Production**

This project will support the continued operation of a model community tree nursery and at Ban Mae Sa Mai and 2 full-time staff to produce up to 50,000 trees for distribution to tree planting projects in the northern watersheds, particularly those implemented by RIF in June 2021 and 2022.

A picture containing tree, outdoor, person, person

Description automatically generated

The nursery team staff responsibilities will include seed collection, seed pre-treatments and sowing, germination monitoring, potting and caring for seedlings, grading and hardening off the saplings and monthly production reporting. The aim is to produce healthy, vigorous tree saplings, at least 20–3- cm tall, for 30+ proven framework species, ready for planting by the rainy season of each year.

**Education training and technical support**

The nursery will also serve as a classroom for a diverse range of educational events and training sessions. FORRU-CMU provides training and education to school children and their teachers, government and nongovernmental organization officers and community groups from Thailand and neighbouring countries. We expect these education events to increase as COVID restrictions are being reduced.



Photos S. Elliott

Education and training events are tailor-made to meet the needs of the participants, but typically include training in species selection and nursery techniques, as well as the skills required to grow and plant selected tree species. These techniques include seed germination, propagation of wildlings and/or cuttings, caring for trees in the nursery, record keeping and monitoring germination and seedling growth and devising production schedules for each species. The BMSM nursery is of particular value for education events. It houses a poster exhibition, explaining the community benefits of forest restoration, and is frequently used as a venue for discussion sessions between visitors and the village committee, on the socio-economic aspects of forest restoration. Between July 2020 and June 2021, the BMSM nursery hosted 8 education events for around 144 participants (Appendix 1).

We plan to increase such events. The nursery staff, supported through this proposal, will also have the capacity to assist with planning of RF’s planting projects and community liaison as needed. The additional **costs of running education/ training events are not included in the budget**, since these costs are often met by the groups receiving the training. In this application, we are requesting core funding only allowing us to maintain an active nursery as an education venue. **Volunteer events are becoming increasingly effective for disseminating the nursery’s aims since many volunteers blog about the event afterwards.**



Photo S. Elliott

**Research**

The duties of the nursery team include research as well as tree production. The staff is responsible for carrying out routine research activities, such as recording seed collection information and carrying out germination and seedling growth experiments, testing different treatments to improve planting stock quality and cost-effectiveness of the production process.

The data from these experiments are entered into a computer database to make the information widely available to all those interested in growing and planting indigenous forest tree species. This tool can be used to provide practical advice on the selection and propagation of trees for various ecosystem types and local conditions and is a long-term on-going project. The nursery is also available as a laboratory for CMU students to carry out research for their thesis projects. These projects tackle more specialized aspects of native tree propagation (use of mycorrhizae, seed storage, testing novel media and containers etc.). The additional costs of research are not included in the budget presented here, since these costs are usually met by separate research grants and student project support. In this application, we ask only for **core funding** to **maintain the nursery as a research facility**.



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**I would like to see a bit more of a project timeline here.**

**Benefits**

**For the Country**

The project is in line with Thailand’s Convention on Biodiversity[[1]](#footnote-2) and the country’s biodiversity action plan. Benefits to the country consist of the trees produced and the knowledge accumulated from the research and skills passed on to those involved in forest restoration. Ultimately, these lead to improved restoration projects to secure watershed services from the upper north, including clean and reliable water supplies, flood prevention and carbon storage. The specific outputs and outcomes from this project will include the following:

* The provision of 50,000 seedlings of proven framework tree species to restore at least 200 rai of nationally important watershed sites over two planting seasons (2022-2023).



Photo S. Elliott

* Maintenance of a tree nursery, specializing in the production of native forest tree species, of proven effectiveness in restoring critical watersheds in national parks etc.
* Increased knowledge of native tree propagation, leading to improvements in seedling production, disseminated to stakeholders involved in restoring the nation’s forests.
* Increased capability among government and NGO officers to carry out effective forest restoration.
* Ultimately, more effective forest restoration, expansion of forests in nationally important watersheds and improved watershed services, supporting local livelihoods, biodiversity conservation and carbon storage.

**[Trees from the nursery contributed to FORRU-CMU’s latest calculation of forest carbon value as being up to 16 times more profitable than corn production.](https://www.forru.org/library/0000228)**

**Benefits to Society**



Photo K. Naruangsri

Sustainable and long-term benefits to society arise from the project’s research and educational components, leading to increased awareness of the value of forest to downstream agriculture and food processing, increased capacity for agencies to implement restoration and increased willingness of the general public to participate in restoration activities. Specific outputs and outcomes from this project include the following:

* Increased involvement of the younger generation in forest restoration through the use of the nursery for educational events.
* Additional research students, developing advances in restoration techniques, by providing research facilities for CMU students.
* Greater networking and information exchange among all agencies involved in restoration.
* Development of new tools enabling restoration practitioners and policy makers to improve their effectiveness, such as textbooks and an online “expert system” to guide the planning of restoration projects, based on the unit’s research results.

**Benefits to Rajapruek Institute Foundation**

The main benefits to RIF are the provision of trees and technical support for its tree planting programs in the north. The trees will be freely provided to RIF’s tree planting projects along with technical expertise and information to grow and maintain them, as well as assistance from the two nursery staff members employed through this project, when required. We will continue to make FORRU staff available to support rapid site assessments and the monitoring of RIF-planted sites (no additional charge)

RIF can rightfully claim to be contributing to carbon storage (for the mitigation of global climate change) of up to 20 tons carbon per rai, as well as contributing to reduced flood risk by maintaining the upper northern watersheds.



Photo K. Naruangsri

The project will generate good publicity for the foundation by displaying RIF’s logo prominently on sign boards and the nursery and on printed materials, banners etc. used at education events. The project also provides training opportunities for RIF staff.

**Budget for 24 Months (2 crops)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **BUDGET LINE SUMMARY** | | | |  |
| **ITEM** | **UNIT COST** | **UNIT** | **FOR 24 MONTHS** |  |
| **SALARIES** |  |  |  |  |
| NURSERY ADMIN./EDUCATION OFFICER | 895 | /D | 85,920 | 4 DAYS/MONTH |
| FORRU NURSERY TECHNICIANS (2) | 9,450 | /M | 453,600 | 2@9,450/MONTH |
| PRODUCTION BONUS | 1.5 | /TREE | 75,000 | PAID WHEN TARGET REACH AT PLANTING TIME |
| HEALTH INSURANCE | 12,000 | /Y | 24,000 |  |
| **TREE PRODUCTION** |  |  |  |  |
| MATERIALS | 3,000 | /M | 72,000 |  |
| NURSERY MAINTENANCE | 10,000 | /Y | 20,000 |  |
| TRANSPORT | 2,000 | /M | 96,000 | 2 TRIPS/MONTH |
| **EDUCATION/TRAINING EVENTS** | 0 |  | 0 |  |
| **RESEARCH ACTIVITIES** | 0 |  | 0 |  |
|  |  |  | **826,520** |  |
|  |  | = | 16.5 | THB PER TREE |

**Suggested Payment Schedule**

|  |  |  |
| --- | --- | --- |
| **Installment** | **Date due** | **THB** |
| 50% of Budget | Within 2 weeks of receiving approved proposal (March 2022) | 413,260 |
| 30% of Budget | Upon receipt of nursery production report for the 2022 season (31/12/22) | 247,956 |
| 20% of Budget | Upon receipt of nursery production report for the 2023 season (31/12/23) | 165,304 |
|  |  | 826,520 |

**Appendix 1 – List of Education Events at The BMSM Nursery (January 2020 to December 2021). We expect an increase in the frequency of events in the coming months as covid restrictions are gradually relaxed.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Date** | **Group** | **Activities** | **Stakeholder Group** | **No. Participants** | **Nursery Venue** |
| 1 Feb 2020 | Mae Jo and CMU Students Group | Forest restoration class | Undergraduate students and alumni | 16 | BMSM |
| 13 Feb 2020 | Siam Cement Group (SCG) | Surveys, Monitoring, Restoration results and Socio-Economic aspects | Restoration practitioners | 23 | BMSM |
| 29 Feb–2 Mar 2020 | Loop Abroad Program | Environmental Education Event | Undergraduate students | 5 | BMSM |
| 18 Sept 2020 | PTIS Students Group | Environmental Education event | High school students | 24 | BMSM |
| 15 Dec 2020 | Jump Group | Environmental Education Event | High school students | 40 | BMSM |
| 14–17 June 2021 | Loop Abroad Program | Environmental Education Event | Alumni | 9 | BMSM |
| 1 Dec 2021 | Rajapruek Institute Foundation (RIF) | Environmental Education Event | RIF Staff & Education Ministry officers | 15 | BMSM |
| 10 Dec 2021 | FORRU Volunteers | Learning and Practice Potting and Seed Collection | Various people of different ages from Chiang Mai and Bangkok (Graduate students, Youtuber, Artist, Worker/Young Researcher in natural conservation and bloggers) | 12 | BMSM |

1. Article 8 (f) – “Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species…”

   Article 10 (d) – “Support local populations to develop and implement remedial action in degraded areas, where biological diversity has been reduced…”

   Article 12 (b) – “Promote and encourage research which contributes to the conservation and sustainable use of biological diversity…” [↑](#footnote-ref-2)