



NEEDS ASSESSMENT REPORT FOR A CAPACITY-BUILDING CURRICULUM ON FOREST MANAGEMENT AND RESTORATION FOR KAWTHOOLEI FORESTRY DEPARTMENT (KFD) STAFF

Justification for the assessment

This project addresses the need for capacity building, to improve management and restoration of forest ecosystems and resources, in the region currently controlled by the Karen National Union, in eastern Myanmar, known locally as Kawthoolei. It fulfills one of the goals of the Kawthoolei Forestry Department's [\(KFD\) forest policy](#) "...the Karen Forestry Department shall be responsible for building capacity among its staff". It also supports other KFD forest policy goals to i) improve local livelihoods and ii) human security, iii) conserve biodiversity, iv) promote ecosystem services, v) encourage sustainable development vi) empower local participation in decision making and vii) promote public awareness of environmental issues in forest areas.

One of the major problems facing KFD staff, has been lack of access to forestry education since, before the Nationwide Ceasefire Agreement (NCA) of 2015, many KFD staff were involved in defending Karen lands against the Myanmar armed forces. Following the implementation of the NCA, KFD staff have experienced difficulty in carrying out their duties in line with the KFD policies outlined above, due to lack of skills, knowledge and experience. Recognizing this need for easy access to forestry education, the KFD proposes to establish a formal forestry school, to educate and build capacity of its existing staff, as well as the younger generation, who have a passion and commitment to contribute towards forest restoration and wildlife conservation across Kawthoolei (Karen Land). Restoration will involve not only planting teak, but also diverse mixes of native forest tree species, for recovery of biodiversity and watershed functions and to contribute towards climate change mitigation. Achievement of this goal will depend on KFD staff having the skills and knowledge to run tree nurseries and make sensible decisions about species choices plantation design, maintenance of planted trees, nurturing of natural regeneration and monitoring results for adaptive management.

Therefore in 2019, Chiang Mai University's Forest Restoration Research Unit (FORRU-CMU) was asked to assist KFD and other stakeholders with capacity building to enable them to implement their forest restoration and sustainable management aims outlined above. Initially, the project proposal had included curriculum development, preparation of teaching materials and training of teachers in Chiang Mai over a 2-year period. However, due to funding issues and travel restrictions (as a result of COVID19), the project was eventually parred down to address only curriculum development. The first step in this process was to establish the needs of the various project stakeholders, before draft a curriculum to address those needs for further discussion

Methodology for the assessment

The needs assessment was performed by a questionnaire survey of the full range of project stakeholders, followed by analysis of the questionnaire data and confirmation of needs via an online stakeholders' workshop.

1. In August 2021, a Needs Assessment questionnaire was drafted in English, covering various options for the type, nature and content of a course on forest restoration and sustainable management.
2. A Zoom meeting with stakeholders was held on 20/8/21 to plan the needs assessment: reach a consensus on the contents of the needs assessment questionnaire, how to distribute it and how deal with the results. Minor changes to the questionnaire were implemented accordingly.
3. A translator was engaged, to produce Karen and Burmese versions of the questionnaire. The translations were completed by 4/9/21.
4. KFD and KECD distributed the questionnaires to stakeholders and the final batch of responses was received back on 26/10/21.
5. The completed questionnaires were sent to the translator and English translations of Karen and Burmese text entries were received back on 18/11/21.
6. Respondents' data were then collated into a spreadsheet, ready for the Needs Assessment workshop.
7. A Needs Assessment Workshop was run on 3/12/21 to discuss questionnaire results and reach a final consensus on training needs to be framed in the draft curriculum.

Results

The minutes of the needs assessment planning meeting on 20/8 are appended, along with the finalized copy of the questionnaire developed from that meeting. Few changes to the design of the questionnaire were suggested at the 20/8 meeting. A plan to distribute the questionnaire to stakeholders via KECD and KFD offices was agreed upon.

Fifteen respondents returned filled out questionnaires: 2 teachers, 6 education managers/administrators, 4 government officials (including KFD officials and 3 community representatives). The most popular course type selected was a 1-semester lower-level diploma-type course in the Junior College system. Highest priority topics identified by questionnaire respondents were:

- Knowledge/theory
 - Value of forest ecosystems
 - Matching restoration techniques with degradation levels
 - Recognizing forest types
 - Drivers of deforestation
- Nursery/field skills
 - Seed collection/storage
 - Nursery design/management
 - Seed germination/dormancy
 - Nursery care
- Monitoring
 - Monitoring biodiversity
 - Monitoring tree performance
 - Monitoring socio-economic impact
- Socio-economics
 - Human rights related issues
 - Sustainable harvesting

A **summary of results is appended** and **spreadsheet** with the raw questionnaire data is here:
<https://www.dropbox.com/s/4w2bbp4lmpuo8l/Questionnair-analysed-FINAL.xlsx?dl=0>

The Needs Assessment workshop (3/12) was attended by a total 18 stakeholders, including representatives from FORRU-CMU, KECD and KFD and the Environment Minister.

The meeting agenda was:

- KFD spokesperson - welcoming and statement of the objectives of the project
- Spokesperson - message from the project sponsor
- FORRU-CMU - Introduction to the Forest Restoration Unit of Chiang Mai University
- The results of a needs-assessment questionnaire survey
- Open discussion of questionnaire results.
- Summary of discussion results.
- Planning - 1st draft of curriculum and 2nd stakeholders' meeting to comment on the 1st draft.

On behalf of KFD Mr. Mahnbatun explained that development of forestry education on KFD areas has been planned since 2012. He welcomed the current opportunity afforded by this project to move forward with curriculum development. He mentioned that most KFD staff are not graduates and that their aims are practical rather than academic. KFD has a working tree nursery and has done some GIS mapping of forest areas under their control. Their need is to develop capacity among their staff in field skills, to implement the department's policies efficiently, and to train future generations. He said that his department has dreamed of a forestry school for a long time and welcomed the donor and technical support provided by the current project to realize the dream.

On behalf of sponsor a spokesperson sent a message to the meeting:

"First of all, I would like to apologize for not being able to attend this important match of today. I have prior commitment that I also need to attend so I asked my colleague Nay Linn to read this message on my behalf.

I would like to extend my gratitude to FORRU, particularly Dr. Stephen, for making this happen. I am delighted to see that this is moving forward, despite the several delays and at one point even uncertainty, because of the political situation in Myanmar.

This is just the initial journey in developing the curriculum towards developing the capacity of the Kathoolie Forest Department. I am so happy to see that our friends are investing their time to provide input to this a participatory development of the training course. I hope to see your active participation until we complete the training course and later joining the training of trainers to teach other officials of the forestry department and local communities.

I hope one day your dream of having a truly functioning Forest Academy will come true, and be able to develop talented and skilled Karen young people who are dedicated to conserving the biological diversity and rich culture of the Karen indigenous peoples.

On this note again I would like to wish you luck in this workshop. I hope that you can produce the outputs that you expected from this and to be able to join you later."

Stephen Elliott presented a PowerPoint on FORRU-CMU's background and its publications and their free availability online (www.forru.org). He offered blank copies of FORRU's cartoon book "Plant a Forest with Lin and Sai" for copyright free translation into Burmese and Karen languages.

The group re-affirmed the questionnaire result that the primary need was for a 1-semester (18-week), 3-credit, lower division, Junior College, course. Several participants also said that higher level courses

would be needed in the future but we should start with the lower division course. There are 5 Junior colleges in refugee camps in Thailand and 5 in Myanmar, under the umbrella of the Institute of Higher Education. It was agreed to identify the most suitable site for testing the curriculum first before rolling it out to the other colleges in the system. Participants agreed to identify a test location by the next meeting.

However, representatives of KFD expressed concern that the academic course would take too much time to deliver graduates into the KFD staff system. They wanted a more immediate training program, for existing KFD staff. Therefore, FORRU-CMU agreed to also prepare a curriculum for a practical training course for KFD junior staff, in addition to a more conventional academic college course.

There was general consensus on that the questionnaire results had identified the priority topics to cover. Several participants wanted *all* topics to be included, it is simply is not practical to do so with the course time frames suggested. In the end it was agreed to move the less popular topics into a higher-level course to be implemented in future, once the lower division course is working well.

The meeting concluded by asking FORRU-CMU to move ahead with drafting 2 curricula, based on the questionnaire results and modified during the workshop, taking into account participants opinions as much as possible. With the Christmas and New Year holiday season coming up, the final workshop to discuss the draft curricula was scheduled for January.

Appendices

1. Minutes – Meeting of KFD with FORRU-CMU 20/8/21 for planning needs assessment – evaluation and online workshop
2. Needs Assessment Questionnaire
3. Data from Needs Assessment Questionnaire

Stephen Elliott 25/1/22

MINUTES – MEETING KFD WITH FORRU-CMU 20/8/21 14:00

PLANNING THE NEEDS ASSESSMENT – EVALUATION AND ONLINE WORKSHOP

*A capacity-building curriculum on forest management and restoration
for Kawthoolei Forestry Department (KFD)*

Attended: - Dr. Stephen Elliott, Dr. Pimonrat Tiansawat (both FORRU-CMU), Ah OO, P' Doh Mahn Batun (Central KFD Head), P' Doh Eh Wah - Tawoo (District KFD head & District Chairman)

P' Doh Mahn Batun- started with a general introduction to KFD – its structure and its nature as a revolutionary organization. The department operates at 3 administrative levels: central, district and township. The central level, comprises 5 units focused on: i) awareness, ii) survey, iii) protection & demarcation, iv) restoration and v) projects. At district and township levels, there are 5 units namely: i) awareness, ii) tax & revenue, iii) protection & demarcation, iv) restoration and v) project. KFD noted that recipients of forest restoration/management training would not have high academic level and would mostly need technical support. Subjects to emphasize include community forestry, watershed issues, wildlife protection and capacity building. Education is currently operational at two levels i) secondary schools and ii) Junior College (diploma) level.

FORRU-CMU outlined its role primarily as an academic research unit, which also develops educational and outreach materials from secondary school level to PhD research level. Steve presented some of the materials produced for various groups previously and emphasized that FORRU is strictly a scientific and technical support service, which works with any groups, regardless of their political affiliation. The unit remains complete neutral with respect to political matters.

The meeting then turned to discussion of a needs assessment for the project “*A capacity-building curriculum on forest management and restoration for Kawthoolei Forestry Department (KFD)*” *The objective of the needs assessment was agreed as follows: -*

Objective:

1. To reach a consensus among stakeholders as to the nature and content of a capacity-building curriculum on forest management and restoration for Kawthoolei Forestry Department (KFD) personnel.

The stakeholder groups were identified and agreed upon as follows: -

Stakeholder groups:

1. Prospective **students**
2. Prospective **teachers**

3. Education **managers and administrators** (KECD here?)
4. Prospective employers of alumni:
 - Government sector **KFD** + KECD (Karen Education and Culture Dept.)
5. NGO's – partners with env, orgs.
6. Those likely to be affected by subsequent actions of the alumni – local **community representatives**.

KFD representatives stressed the need for the needs assessment to consider both short-term and long-term needs.

KFD agreed to **identify and contact representative stakeholders** from all above-listed groups for the needs assessment, about 5-10 persons per stakeholder category, and distribute the questionnaire to them. Some will be distributed by email and returned to FORRU by email attachments, whilst community representatives will probably return their questionnaires on paper, which will be scanned (with smart phones) and sent to FORRU via email. FORRU will collate all the questionnaire responses into a single spreadsheet for analysis. The **KECD (Karen Education Department)** will be included into the project to handle distribution of questionnaires into schools and Junior Colleges.

FORRU agreed to **complete final editing of the questionnaire**, following suggestions made during the meeting and contact Hsar Doe Doh, in Chiang Mai to translate it into Karen and Burmese. It was envisaged that recipients in educational establishments would answer in English, whereas others may want Burmese or Karen. FORRU aims to **send the translated questionnaire to KFD by Sept 1st**.

KFD will distribute the questionnaire during September and **return completed ones** to FORRU-CMU by **Sept. 30th**. FORRU CMU will complete **data entry and collation by mid-October** in time for an online **stakeholders' workshop between mid and late October**. It was agreed that the questionnaire would suggest several optional dates for the workshop so respondents could indicate their availability to join.

The rest of the meeting was taken up with all participants checking the contents of the 1st-draft of the questionnaire, which FORRU CMU had prepared in advance of the meeting. The questionnaire was designed to gather a diversity of opinions prior to the online workshop. The corrected questionnaire is attached. KFD participants felt that almost all subjects listed were useful and that if it was not possible to include all of them, then we should consider dividing them into priority topics to be covered in high detail and less popular topics to be covered briefly. Steve suggested we add this point for discussion at the stakeholders' workshop.

Stephen Elliott 21/8/21

QUESTIONNAIRE – ON “THE NATURE AND CONTENT OF A CAPACITY-BUILDING CURRICULUM ON FOREST MANAGEMENT AND RESTORATION”

1 questionnaire – 1 person

This questionnaire is to collect information about the need for forestry education and training in your area. We would like to know what you think about the nature and content of a curriculum to teach both theoretical and practical aspects of forest restoration and sustainable forest management.

Respondent details:

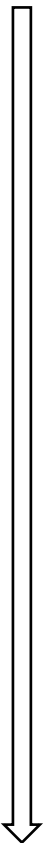
Name:

District:

Current position: _____

I would like to contribute to an online stakeholders’ workshop, to discuss the results of this questionnaire.

NO [] or YES []



I am available to join a stakeholders’ workshop on the following dates at 13:30 Myanmar time (please tick all boxes when you are available): -

- 18/10/21 []
- 20/10/21 []
- 22/10/21 []
- 23/10/21 []

Contact details (*details of how to join the meeting will be sent to you using these contact details*):



Go to next page

Go to next page

To which stakeholder group(s) do you belong (tick any relevant boxes):

- | | |
|---|--------------------------|
| SG1 Student (present or potential enrollee) | <input type="checkbox"/> |
| SG2 Teacher | <input type="checkbox"/> |
| SG3 Education manager/administrator | <input type="checkbox"/> |
| SG3 Government | <input type="checkbox"/> |
| SG4 NGO | <input type="checkbox"/> |
| SG5 Community representative | <input type="checkbox"/> |

Which level of forestry education is most needed (tick one):

- | | |
|------------------------------|--------------------------|
| FE1 High School | <input type="checkbox"/> |
| FE2 Diploma (Junior College) | <input type="checkbox"/> |
| FE3 Bachelor's degree | <input type="checkbox"/> |

What length of course is most appropriate (tick one):

- | | |
|--|--------------------------|
| LC1 Short intensive—1 week, study all day | <input type="checkbox"/> |
| LC2 Short informal—4-6 weeks, 3-6 hours per week | <input type="checkbox"/> |
| LC3 1 Semester—10-15 weeks, 3-6 hours per week | <input type="checkbox"/> |

Course contents – please select the topics you feel are most useful and important.

Knowledge and Theory (tick only up to 6 that you consider most useful and important)

- | | |
|--|--------------------------|
| KT1 The value of forest ecosystems | <input type="checkbox"/> |
| KT2 The drivers of deforestation | <input type="checkbox"/> |
| KT3 Recognizing and understanding forest types | <input type="checkbox"/> |
| KT4 Theory of forest succession | <input type="checkbox"/> |
| KT5 Forest phenology – seasonality of flowering and fruiting | <input type="checkbox"/> |
| KT6 Seed dispersal and predation | <input type="checkbox"/> |
| KT7 Seed dormancy and germination mechanisms | <input type="checkbox"/> |
| KT8 Tree seedling establishment and predation | <input type="checkbox"/> |
| KT9 Fire – impact on forest ecosystems | <input type="checkbox"/> |
| KT10 Trees – recognizing species | <input type="checkbox"/> |
| KT11 Forest restoration – matching techniques with degradation level | <input type="checkbox"/> |
| KT12 Other plants – recognizing species | <input type="checkbox"/> |
| KT13 Role of wildlife in forest ecosystems | <input type="checkbox"/> |
| KT14 Traditional local uses of forest trees – economic and cultural | <input type="checkbox"/> |

Any others?

(continue on back of sheet if needed)

Practical skills – growing trees (tick up to 3 that you consider MOST important)

- GT1 Tree nursery design and management []
- GT2 Seed collection and storage techniques []
- GT3 Breaking dormancy and enhancing germination []
- GT4 Potting seedlings – containers and media []

GT5 Nursery care of seedlings – pruning, fertilizer, pest-control []

GT6 Quality control of planting stock []

GT7 Production scheduling []

Any others?

_____ (continue on back of sheet if needed)

Practical skills – field trials (tick up to 3 in this group that you consider MOST important)

- FT1 Tree species selection for forest-restoration []
- FT2 Site selection []
- FT3 Rapid site assessment and restoration planning []
- FT4 Implementing tree planting events []
- FT5 Caring for planted trees – fire management, fertilizer, weeding etc. []

FT6 Incentivizing local stakeholders to get involved []

FT7 Sustainable management of restored forest []

Any others?

_____ (continue on back of sheet if needed)

Practical skills – monitoring and research (tick up to 3 that you consider MOST important)

- MR1 Monitoring survival and growth of planted trees – comparing species []
- MR2 Monitoring biodiversity recovery – return of wildlife []
- MR3 Monitoring carbon accumulation []
- MR4 Nursery experiments to improve planting stock production []
- MR5 Testing different silvicultural treatments on planted trees []
- MR6 Forest phenology studies to optimize seed collection timing []
- MR7 Socio-economic surveys to understand local community motivation []

Any others?

(continue on back of sheet if needed)

Practical skills – socio-economic aspects (tick up to 3 that you consider MOST important)

- | | |
|--|-----|
| SE1 Sustainable harvesting of forest products | [] |
| SE2 Preparing to monetize carbon (carbon credits) | [] |
| SE3 Watershed services and management | [] |
| SE4 Incorporating education and outreach | [] |
| SE5 Principles of community forestry | [] |
| SE6 Governance and funding | [] |
| SE7 Human rights and forest restoration/sustainable management | [] |

Any others? _____

(continue on back of sheet if needed)

Please write free style here any other opinions you have as to the nature and content of a curriculum for teaching forest restoration and sustainable management in your area

Karen language version is here:

<https://www.dropbox.com/s/na58axlk9kbt2rb/Questionnaire%20-%20Karen%20Translate%20PDF.pdf?dl=0>

Burmese version is here:

<https://www.dropbox.com/s/rdoie7d8feib9hj/Questionnaire-Myanmar%20Translate%20SE210903.pdf?dl=0>

Summary of questionnaire results:

Respondents

To which stakeholder group(s) do you belong (tick any relevant boxes):				
SG1 Student (present or potential enrollee)			0	
SG2 Teacher			2	
SG3 Education manager/administrator			6	
SG3 Government			4	
SG4 NGO			0	
SG5 Community representative			3	15

Course type preferred – 1-semester diploma Junior College (mid) level – 3 credit course

Which level of forestry education is <i>most</i> needed (tick one):				
FE1 High School			5	
FE2 Diploma (Junior College)			7	
FE3 Bachelor's degree			3	15
What length of course is most appropriate (tick one):				
LC1 Short intensive—1 week, study all day			3	
LC2 Short informal—4-6 weeks, 3-6 hours per week			2	
LC3 1 Semester—10-15 weeks, 3-6 hours per week			9	14

**Prioritized
course contents
– knowledge and
theory**

Course contents	
Knowledge and Theory (tick only <u>up to 6</u> that you consider <i>most</i> useful and important)	
KT1 The value of forest ecosystems	13
KT11 Forest restoration – matching techniques with degradation level	10
KT3 Recognizing and understanding forest types	8
KT13 Role of wildlife in forest ecosystems	8
KT2 The drivers of deforestation	7
KT4 Theory of forest succession	6
KT8 Tree seedling establishment and predation	6
KT10 Trees – recognizing species	6
KT14 Traditional local uses of forest trees – economic and cultural	6
KT5 Forest phenology – seasonality of flowering and fruiting	5
KT7 Seed dormancy and germination mechanisms	5
KT9 Fire – impact on forest ecosystems	4
KT12 Other plants – recognizing species	4
KT6 Seed dispersal and predation	2

**Prioritized
course
contents –
practical skills
– nursery and
field**

GT2 Seed collection and storage techniques	13
GT1 Tree nursery design and management	11
GT3 Breaking dormancy and enhancing germination	10
GT5 Nursery care of seedlings – pruning, fertilizer, pest-control	8
GT6 Quality control of planting stock	4
GT4 Potting seedlings – containers and media	0
GT7 Production scheduling	0

FT7 Sustainable management of restored forest	13
FT1 Tree species selection for forest-restoration	10
FT6 Incentivizing local stakeholders to get involved	8
FT3 Rapid site assessment and restoration planning	6
FT5 Caring for planted trees – fire management, fertilizer, weeding etc.	5
FT2 Site selection	2
FT4 Implementing tree planting events	1

**Prioritized
course
contents –
practical skills
– monitoring
and socio-
economics**

MR2 Monitoring biodiversity recovery – return of wildlife	14
MR1 Monitoring survival and growth of planted trees – comparing species	8
MR7 Socio-economic surveys to understand local community motivation	8
MR6 Forest phenology studies to optimize seed collection timing	5
MR3 Monitoring carbon accumulation	4
MR4 Nursery experiments to improve planting stock production	4
MR5 Testing different silvicultural treatments on planted trees	2
SE7 Human rights and forest restoration/sustainable management	13
SE1 Sustainable harvesting of forest products	7
SE3 Watershed services and management	6
SE5 Principles of community forestry	6
SE6 Governance and funding	6
SE4 Incorporating education and outreach	4
SE2 Preparing to monetize carbon (carbon credits)	3