The Republic of the Union of Myanmar
Ministry of Natural Resources and Environmental Conservation
Forest Department
Forest Research Institute
Yezin

Trans-boundary Biodiversity Conservation in the Taninthayi
(Tenasserim) Range in Myanmar and Thailand (Phase-1, Stage-1)

Completion Report of Trainings

on the Regular Patrolling in the Taninthayi National Park
and SMART database system for Local Community and
Forest Department Staff

Forest Research Institute

September, 2018

Content

Executive Summary

Forest Research Institute (FRI), Forest Department, Ministry of Environmental Conservation jointly collaborated by International Tropical Timber Organization (ITTO) had conducted a basic SMART Ranger training with the aim to scale up staff capacity and apply adaptive management of proposed Tanintharyi National Park area, Tanintharyi Range. The main goal of the training was to improve knowledge of local communities for transboundary conservation through intensive trainings. Standard methodologies of SMART application followed by field exercises were provided. A total of 33 trainees were joined and the basic necessities of SMART patrols such as patrol accessibility, threats and wildlife distribution, staff competences have been identified during the training. Further information refining process, patrol areas defining, equipment needs, staff capacity building, advance SMART trainings have been recommended in order to have effective SMART patrol implementation in the Tanintharyi Range between Thailand and Myanmar.

Completion Report of Trainings on

the Establishment of Regular Patrolling in the Taninthayi National Park through Application of SMART Database System for Local Communities and Forest Department Staff

1   Introduction

In collaboration with Forest Research Institute, International Tropical Timber Organization (ITTO)-Myanmar Program has been providing technical assistance with the aim to scale up staff capacity and apply adaptive management of transboundary biodiversity conservation in the Taninthayi Range.

The Project of the Transboundary biodiversity conservation in the Taninthayi (Tenasserim) Range in Myanmar and Thailand (Phase 1, Stage 1) is being conducted by Forest Research Institute, Forest Department, Ministry of Natural Resources and Environmental Conservation.

In order to reach the purposes of transboundary biodiversity conservation in the Taninthayi Range, systematic law enforcement system has been applied to help protected areas to adapt to dynamic threats and maintain appropriate protection and threat reduction strategies. Spatial Monitoring and Reporting Tool (SMART) has been adopted as a tool for measuring and evaluating patrolling of protected areas in order to improve the effectiveness of law enforcement. SMART was started by a diverse group of conservation practitioners from different conservation organizations and government agencies. They understood the needs of front-line enforcement and recognized the day-to-day difficulties faced by many conservation managers and patrol staff across the world.

Forest Research Institute of Forest Department in the field of biodiversity conservation and protected area management is striving to introduce SMART in and around proposed area of Tanintharyi National Park. To enhance the application of SMART for local communities and Forest Department Staff, 'Basic SMART Ranger training in TNRP' was held on 5th to 7th September 2018 at Education Center, Base Camp of Plantation Site, Compartment (39), Taung Pha Lu Reserve Forest, Tanintharyi Township, Myeik District, Tanintharyi Region. This report summarizes all training methodologies and outputs of this training.

2   Objectives

The objectives of trainings are as follow;

(a)   To conserve biodiversity and ecosystem in Tanintharyi Range between Thailand and Myanmar

(b)   To establish human resource and install research instrument to implement effective conservation of biodiversity and its management

(c)   To improve knowledge of local communities for transboundary conservation through intensive trainings

3   Expected Outcome

- Spatial distribution of threats and wildlife in TNRP
- Accessible area of SMART patrol
- Additional GIS data for SMART patrol
- Ability of SMART application
- Competence of staff in TNRP

4   Period of Training

5th to 7th September 2018

5   Level of Trainees

Range Officers, Deputy Rangers, Foresters, Forest Guards and local communities

6   Number of attendance

There are 3 Range Officer, 2 Deputy Ranger, 1 Forester, 2 Forest Guard of Forest Department and 25 villagers who are staying in and around 8 villages of Tanintharyi Township, Myeik District, Tanintharyi Region.

List of participants are as follow:

Sr.	Name	Position	Dept/ Village/ Township
1	U Tin Maung Latt	Range Officer	Forest Department, Tanintharyi Tsp.
2	U Saw Lu The Shwe	Range Officer	Forest Department, Tanintharyi Tsp.
3	U Kaung Set Naing	Range Officer	Forest Department, Tanintharyi Tsp.
4	U Soe Win	Deputy Ranger	Forest Department, Tanintharyi Tsp.
5	U Sann Myint Oo	Deputy Ranger	Forest Department, Tanintharyi Tsp.
6	U Myo Set	Forester	Forest Department, Tanintharyi Tsp.
7	U Nay Linn	Forest Guard	Forest Department, Tanintharyi Tsp.
8	U Yan Kaung	Forest Guard	Forest Department, Tanintharyi Tsp.
9	U Htay Aung	Local villager	Chaung Naut Pyan Village, Tanintharyi
10	U Myo Htoo Naung	Local villager	Chaung Naut Pyan Village, Tanintharyi
11	U Thet Nay Myo	Local villager	Chaung Naut Pyan Village, Tanintharyi
12	U Khant Linn Oo	Local villager	Chaung Naut Pyan Village, Tanintharyi
13	U Aung Aung	Local villager	Chaung Naut Pyan Village, Tanintharyi
14	U Ye Linn Oo	Indigenous people	Chaung Naut Pyan Village, Tanintharyi
15	U Kyan Aung	Indigenous people	Chaung Naut Pyan Village, Tanintharyi
16	U Thet Zaw Latt	Local villager	Chaung Naut Pyan Village, Tanintharyi

17	U Kyaw Thet Oo	Local villager	Chaung Naut Pyan Village, Tanintharyi
18	U Nyein Chan	Local villager	Chaung Naut Pyan Village, Tanintharyi
19	U Yazar Win Khant	Local villager	Chaung Naut Pyan Village, Tanintharyi
20	U San Tun Aung	Indigenous people	Chaung Naut Pyan Village, Tanintharyi
21	U Soe Lwin	Indigenous people	Chaung Naut Pyan Village, Tanintharyi
22	U Min Htike	Local villager	Chaung Naut Pyan Village, Tanintharyi
23	U Aung Htway	Local villager	Chaung Naut Pyan Village, Tanintharyi
24	U Naung To	Local villager	Tamote Chone Village, Tanintharyi
25	U Naing Win	Local villager	Le Taung Ya Village, Tanintharyi
26	U Zin Min Oo	Indigenous people	Thein Khun Village, Tanintharyi
27	U Myo Zaw Oo	Indigenous people	Thein Khun Village, Tanintharyi
28	U Aung Thu Soe	Local villager	Thein Khun Village, Tanintharyi
29	U Win Bo	Local villager	Aye Tharyar Village, Tanintharyi
30	U Ye Kyaw Kyaw	Local villager	Kauk Ma Pyin Village, Tanintharyi
31	U Saw Htay Win Aung	Indigenous people	Nann Taung Village, Tanintharyi
32	U Saw Tun Kyaw	Indigenous people	Nann Taung Village, Tanintharyi
33	U Thaung Zaw Win	Local villager	Pa Wa Village, Tanintharyi

7 Venue of Training

Education Center, Base Camp of Plantation Site, Compartment (39), Taung Pha Lu Reserve Forest, Tanintharyi Township, Myeik District, Tanintharyi Region

8 Management Committee of Training

Sr.	Name	Position	Responsibility
1	Dr. Thaung Naing Oo	Director	Team Leader
2	U Ba Khin	Deputy Director	Member
3	U Hla Myo Aung	Assistant Director	Member
4	Dr. Phyu Phyu Lwin	Staff Officer	Member
5	Dr. Zar Chi Hlaing	Staff Officer	Member
6	Daw Tin Hmaung Aye	Range Officer	Member

9 Opening Ceremony

Opening speech was delivered by Assistant Director U Hla Myo Aung, (Former Park Warden of Tanintharyi Nature Reserve Project) Forest Research Institute, Forest Department. For the

time being Instructors and Trainers, Staff Officers, Range Officers and Trainees of Taninthayi Township Forest Department, and local villagers or communities and Indigenous people had attended in this opening session. List of trainees are attached in appendix (1).

10   Curriculum and Instructors of Training

(A) The following courses are discussed in the three day training.

1. Establish institutional mechanisms for the transboundary biodiversity conservation in the Taninthayi Range
2. SMART patrolling training
3. Threat analysis of Tanintharti National Park
4. Application of Magnetic Compass
5. Basic Principles and Application of Global Position System
6. Biodiversity conservation through applied research
7. Identification of Tortoise and Turtle
8. Installation of Camera Trap
9. International Conventions on Biodiversity
10. Wildlife and Wild Plant Conservation and Protection of Protected Area Law 1994
11. Causes of Deforestation in the Protected Area

(B) At the three day training, not only literature but also practical exercises were taught by instructors who are as follow:

(a) Dr. Thaung Naing Oo, Director, Forest Research Institute

(b) U Hla Myo Aung, Assistant Director, Forest Research Institute

11   Training Methodology

The training was started with a number of presentations including 1) The role of Law Enforcement Monitoring in Biodiversity Conservation and Protected Area Management in Myanmar & Application of SMART; 2) Basic GPS, Map and compass application; 3) National laws and rules for main threats in protected areas; 4) International biodiversity related conventions. The trainees were divided into five groups and each group was given name related with biodiversity and conservation needs.

Group exercise 1: Systematic threats analysis
Trainees were asked to identify all threats they faced and conservation interventions they conducted to mitigate and eliminate those threats. Then, they were asked to prioritize five most important threats by scoring each threat in terms of three criteria such as 1) area; 2) intensity; and 3) urgency. Temporal or monthly distribution of threats across the year was assessed by the trainees.

Group exercise 2: Explaining and filling up SMART patrol forms in the lecture room
The systematic filling procedures of all patrol forms were explained in details and let the trainees do for filling up the forms. After filled up by the trainees, each form was thoroughly checked by the training assistants.

Group exercise 3: Training energizing and motivation

In order to have energy and refreshment from long hours study of theories, concept and computer application, trainees were energized by playing conservation related games, debate and singing songs. Training was also planned for motivation program by grouping trainees and each group was checked for their team works, time management, understanding and attention on the training schedule.

Group exercise 4: Training evaluation

After the completion of all training schedule, trainees made evaluation on training for their understanding, interests, and comments for upcoming programs. On the other hand, trainers also made training evaluation in order to provide effective training schedules in the future.

12 **Schedule of Training**

Schedule of training is mentioned in the Appendix-2.

13 **Supporting Activities of Training**

During the training period, not only thematic lectures and hands on practices but also discussions were made among participants and trainers. In addition, the following supporting materials were distributed for trainees.

(a)   Note books and Ball pens

(b)   Exercise of GPS and Magnetic Compass

(c)   Application and Installation of Camera Traps

(d)   Forecast Group Discussion on Threat Analysis of Tanintharyi National Park based on intensity of occurrence of threats in and around area. The results of threat analysis are being mentioned in the appendix-3.

14 **Training Output**

Output 1: Systematic threat assessment

To increase effectiveness of law enforcement and patrolling, systematic threat assessment plays an important role in patrol planning. Trainees were asked to list all threats in their protected areas. After that, five most important threats were prioritized by scoring on three criteria - area, intensity and urgency. The definitions of those three criteria are: area - the portion of habitats in the site that the threat will affect in large or small scale; intensity - the impact or severity of destruction of habitats caused by the threat; and urgency - the immediacy of the threat to address. The score for each criterion was assigned from 1 to 5 and trainees were asked to score criteria for all threats. Total scores were calculated to prioritize five threats. After that, temporal distribution of threats across the year was assessed. The results of systematic threat assessment are reported in Appendix 3.

Output 2: Simulated patrol forms

In the simulated patrol performance, the use of existing SMART patrol forms was demonstrated. In particular the following forms tools were discussed: 1) patrol authorization from, 2) patrol movement, observation and action from, 3) conservation contract form, and 4)

patrol debriefing form. Trainees eagerly worked for the simulated patrol as there was competition among groups and training facilitators also accompanied with them.

Output 3: Training evaluation results

After the completion of training schedule, trainees were asked to evaluate for training agenda. Trainees learned well most of training agenda. Since the training is mainly focused on basic SMART application particularly for field patrols, it was provided for computerization just in general. The training evaluation scores also reveal the low understanding on the technical portions such as reporting, intelligence.

15   Monitoring and Evaluation

Regarding of the courses of training, lectures and practical exercises of last day were recaptured and discussed among trainees and trainers in order to realize and understand clearly. Moreover, lecture and lesson learned were discussed independently among trainees in the last of training so as to evaluate their levels of understanding on training.

16   Closing Ceremony

Closing ceremony of training was held in the education center of base camp of plantation site which are located in the No. 39 compartment of Taung Fayu Reserve at 15:00 to16:00 on 7th September 2018. During closing ceremony, Dr. Thaing Naing Oo, Director of Forest Research Institute has delivered closing remarks and distributed certificates to all of trainees once three day training was completed.

17   Review on Training
   a. Review on trainees
  1. Review found that Most of trainees are performed as active learning, discussion and group discussion.
  2. Moreover, most of trainees can learn both of lectures and lectures with practical exercises.

   b. Review on Training
  1. Subjects of installation and application of camera traps, threat analysis of TNR, Wildlife, wild Plant Conservation and Protection of Protected Area Law, 1994, and Causes of deforestation are most preferred by all of trainees during three day training.
  2. Most of trainees replied that some of subjects are very applicable and they can use these knowledge from training.
  3. Most of trainees are very satisfied teaching style and methods of trainers.
  4. Some of trainees want to increase more practical exercises in the training.
  5. Local community trainees want to learn more knowledge of forest protection in future.

18   Suggestions

In order to enhance capacity of local community of the Tanintharyi Range, more lecture and practical exercises will be educated to local community level villagers and trainees, most of

trainers need to take more time for teaching program based on their request. Moreover, trainers need to teach some interested subjects which are actively requested by local community such as forest and wildlife protection if time is adequate in future.

Further information refining process needed: During the training, most of the results such as distribution of threats and wildlife, accessibility of patrol, etc., were information generating and synthesizing exercises based on available data, experiences and knowledge of trainees. Those information and outputs should need to be further analyzed in for SMART patrolling.

Patrol accessibility: Since some areas of the Tainitharyi Range could not be accessed due to terrains and security reasons, the patrol accessibility should be discussed thoroughly and located on the topographic maps. Monthly patrolling plan or annual implementation plans for Forest Department Staff and local community should be considered depending on accessible area and the outputs of implementation also should be analyzed for the same area.

Equipment needed: During the training, the necessary equipment particularly GPS and camera traps were not available for all trainees. The GPS with specifications of high accuracy, large memory storage, faster access to satellites, low battery consumer should be provided to patrol team. Camera traps should also be provided particularly to local community for wildlife observation.

Promoting participation of local community in law enforcement activities: Collaborative management approach has been recommended for protected area management in Myanmar. Though policy and legal framework are not clear yet, community participation in law enforcement and patrolling should be promoted as there have been promising achievements in some protected areas such as Tanintharyi National Park. Moreover, some local guards have been recruited as government staff. The existing local community patrolling team should also be motivated and given incentives to have more effective participation.

Training improvement: There was a wide range of capacity variance among trainees and it reduced training effectiveness. Trainee size was also a bit large and the better size is about 20 individuals. All local community patrolling team and Forest Department staff should understand the SMART patrol forms and it is highly recommend that all patrol related staff should be given the basic SMART patrol training. It is better to make training reviews on daily base. Trainers and trainees should be accommodated at the same place to have personal contacts for further discussion after daily training schedule. Time management should be fixed with the training agenda for more convenience to trainees as well as trainers.

19   Conclusion

Training of Community based patrolling and application of SMART data base system is one of the capacity building training for local community and forest staff while Forest Department and ITTO are implementing the project activities of Transboundary biodiversity conservation in the Taninthayi (Tenasserim) Range in Myanmar and Thailand (Phase-1 and Stage-1). Due to the Tanintharyi Range is a place of rich biodiversity, enhancement of capacity of Forest Department Staff and also local communities is necessarily needed to be implemented as an important activity of project.

Therefore, training of community based patrolling and application of SMART data base system is very effective to support implementation of biodiversity conservation in the Taninharyi Range and sustainable forest management as well.

In summary, we can conclude that the training was productive by referring the training outputs. On top of that, some major issues for management and competences gaps were identified. To address those issues and gaps, obviously more coordinated efforts between Forest Research Institute and local community patrolling team will be needed. Those coordinated effort will lead to have more effective law enforcement and management of Tanintharyi Range.

17.   Appencix-1

Transboundary biodiversity conservation in the Taninthayi (Tenasserim) Range (Phase-1, Stage-1)

Trainings of
Establishment of Regular Patrolling in the Taninthayi National Park through Application of SMART Database System for Local Communities and Forest Department Staff

Agenda of Opening Session

1.9.2018 (Wednesday)

Sr.	Time	Program
1.	09:10 to 09:30	1. Announcement on opening of Training 2. Opening Speech by U Hla Myo Aung, Assistant Director, Forest Research Institute 3. Announcement on accomplishment of ceremony 4. Group photo 5. Refreshment (Tea and Coffee)

Appendix-2

Day/Date	09:00-09:30	09:30-10:20	10:30-12:00		13:00-14:20	14:30-15:00	15:00- 16:00	17:30 - 18:20
Wednesday 5.9.2018	Opening Session of training (Hla Myo Aung)	Introduction of Training (Hla Myo Aung)	Law Enforcement & Application of SMART Database System (Hla Myo Aung)	Lunch	Threat analysis of TNR (Hla Myo Aung)	Application of Basic Compass (Hla Myo Aung)	Principles and Application of GPS (Hla Myo Aung)	Dinner
Thursday 6.9.2018	Biodiversity Conservation and Finding of Wildlife Research (Hla Myo Aung)	Identification of Tortoise and Turtle (Hla Myo Aung)			Installation and Application of Camera Traps (Hla Myo Aung)			
Friday 7.9.2018	International Conventions of Biodiversity Conservation (Hla Myo Aung)	Wildlife, Wild Plant Conservation and Protection of Protected Area Law, 1994 (Hla Myo Aung)			Drivers of Deforestation (Dr. Thaung Naing Oo)		Closing Session of Training (Dr. Thaung Naing Oo)	

Appendix-3

Ranking of Threat Analysis based on Intensity of Threats

Sr.	Threats	Score
1.	Shifting Cultivation	93
2.	Encroachment of Agricultural Land	61
3.	Forest Fire	52
4.	Illegal Logging	40
5.	Conflict of Indigenous People's Right	36
6.	Encroachment of Village in Reserve Forests	31
7.	Conflicts of Law from Armed Ethnic Groups	30
8.	Small Mining	27
9.	Infrastructure Development	24
10.	Subsistent Hunting	14
11.	Commercial Mining	13
12.	Subsistent Logging	11
13.	Difficulties of Relation with Armed Ethnic Groups	8
14.	Settlement of Migrants from Thailand	6

Appendix-4

Recorded Photos of Trainings on
the Establishment of Regular Patrolling in the Taninthayi National Park through Application of
SMART Database System for Local Communities and Forest Department Staff

Group Photo of Opening Session of Training

Community Based Patrolling System with SMART Lecture by Assistant Director U Hla Myo Aung

Recorded Photos of Trainings on
the Establishment of Regular Patrolling in the Taninthayi National Park through Application of
SMART Database System for Local Communities and Forest Department Staff

Community Based Patrolling System with SMART Lecture by Assistant Director U Hla Myo Aung

Discussion of Trainees to SMART Patrolling System

**Recorded Photos of Trainings on
the Establishment of Regular Patrolling in the Taninthayi National Park through Application of
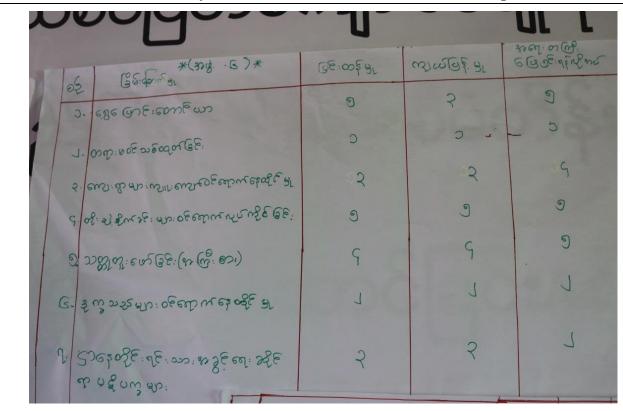SMART Database System for Local Communities and Forest Department Staff**
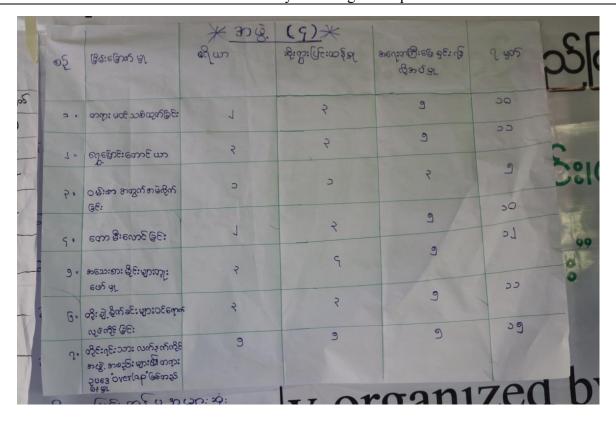

Ranking of Threat Analysis through Group Discussion

Presentation of Threat Analysis based on Group (3) Discussion

Recorded Photos of Trainings on
the Establishment of Regular Patrolling in the Taninthayi National Park through Application of
SMART Database System for Local Communities and Forest Department Staff

Results of Threat Analysis through Group Discussion

Results of Threat Analysis through Group Discussion

**Recorded Photos of Trainings on
the Establishment of Regular Patrolling in the Taninthayi National Park through Application of
SMART Database System for Local Communities and Forest Department Staff**

Presentation of Threat Analysis based on Group (4) Discussion

Demonstration of Installation and Application of Camera Trap for Wildlife Observation

Recorded Photos of Trainings on
the Establishment of Regular Patrolling in the Taninthayi National Park through Application of
SMART Database System for Local Communities and Forest Department Staff

Demonstration of Installation and Application of Camera Trap for Wildlife Observation

Drivers of Deforestation Lecture and Presentation by Dr. Thaung Naing Oo

Recorded Photos of Trainings on
the Establishment of Regular Patrolling in the Taninthayi National Park through Application of SMART Database System for Local Communities and Forest Department Staff

Transboundary Biodiversity Conservation Lecture and Presentation by Dr. Thaung Naing Oo

Certificate of Training awarded by Dr. Thaung Naing Oo