



Myanmar National SMART User Training

13 - 16th October 2014

Final Report



Prepared by WCS on behalf of the SMART Partnership



Executive summary

A Myanmar National SMART user training was conducted at the Forestry Research Institute, Yezin, Myanmar from 13 – 16th October 2014. The 4-day intensive training targeted protected area staff who are responsible for the management, analysis and reporting of ranger patrol data. Appropriate staff to join this training were individuals based at park offices who are involved in the entry of patrol data onto computer, analysis and interpretation, management and administration of patrol data, or people in the Nature and Wildlife Conservation Division office who have direct responsibility for managing data coming from conservation sites. A total of 30 participants from 18 protected areas joined the workshop. The course covered: the philosophy of adaptive patrol management and the role SMART plays in facilitating this; how to use the SMART software (V3.0.2) and adapt it to the needs of the site. Overall, both the training and the SMART software were well received with 99% of respondents agreeing that the SMART approach to law enforcement monitoring (LEM) is relevant and useful to their conservation site and 99% agreeing that they can apply the knowledge and skills learnt to their work. The course was taught by Tony Lynam, with support from Saw Htun and Than Zaw. Saw Htoo Tha Po, Annie Chit and the FRI staff provided logistical support.

Report prepared by

Tony Lynam, Saw Htun and Than Zaw

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AFD, Wildlife Conservation Society

Workshop hosted by

Forest Research Institute, Yezin .

Acknowledgements

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Introduction

A Myanmar National SMART technical training was conducted at the Forest Research Institute, Yezin from 13 – 16th October 2014. The training targeted administrative staff who work in important wildlife conservation areas within Myanmar and are responsible for managing, analyzing and reporting patrol data, holding such positions as site-based data entry staff, senior rangers, patrol supervisors and national-based enforcement data managers and administrators.

Training aims and objectives

The training course aimed firstly to increase the number of protected area staff able to use and implement SMART at their sites. Secondly to sensitize protected area staff to the SMART approach for adaptive patrol management within Myanmar's protected areas.

The main objectives of the training course were to:

- 1) Provide instruction in use of the SMART conservation software as a tool to support protection efforts.
- 2) Train protected area staff and national NWCD staff how to use SMART.
- 3) Plan for implementing SMART v3.0.2 at sites and familiarization with data collection procedures

Expected outputs from training

The expected outputs from the training are:

- 1) Specific skill in the use of the SMART conservation software.
- 2) Increased appreciation of the importance of ranger-based data for decision-making and management of conservation areas.
- 3) Improved organization of law enforcement monitoring data.
- 4) Increased effectiveness of patrolling and field enforcement strategies.

Training handbook and software

An updated Training of Trainers manual was provided for SMART 3.0.2, which was customized for this training course. Additionally the support materials were developed specifically for the workshop and were tailored based on the participants and the venue (e.g., shapefiles were of the FRI area in Yezin, employee list included all workshop attendees). Participants were provided a hard copy of the manual and they received all training materials, presentations, and information on a USB drive. For the purposes of instruction in this workshop, the trainers and attendees used SMART 3.0.2, which was recently released.

Trainers and Participants

The course was taught by:

- Antony Lynam (CITES MIKE Sub regional Support Officer, Southeast Asia and WCS Asia Programs)
- Saw Htun (WCS Myanmar Programme)
- Than Zaw (WCS Myanmar Programme)

The course was coordinated by WCS and the Forest Research Institute.

A total of 30 participants joined the workshop from 18 Myanmar protected areas. At some of these sites SMART is already implemented. At other sites, law enforcement monitoring is already in place under MIST, and they are moving over to SMART. At other sites, data collection during patrols is occurring, though with an inadequate data management system. Therefore, SMART is being established for the first time as a law enforcement monitoring tool.

Workshop Format and content

The agenda for the workshop followed a standard format (Annex 2). Training was structured with introductory presentations about the philosophy of adaptive patrol management and the role SMART plays in facilitating this, and data collection tools, followed by instruction based around the SMART training manual for v3.0.2.

Training on each module consisted of an overview in plenary followed by a classroom exercise that enabled each participant to work individually through the step-by-step guidelines in the manual, with trainers circulating the room to provide assistance. Training was interactive in that participants were able to raise questions as they worked through the exercise. Each module concluded with a debriefing in plenary and a summary of questions/problems encountered. Practical examples were given throughout the training based on the trainer's experience from Asia.

On the first day the class was divided into small teams (3 persons per group) to practice patrol data collection with standardized Myanmar language patrol forms. Each team navigated to a set of 10 waypoints. At each waypoint, the team recorded observations at the crime scenes or wildlife observations. Participants learnt the importance of accurate and complete field data recording.

Eight SMART training modules were covered: 1. Setting up a Conservation Area; 2. Map navigation and GIS; 3. Patrols; 4. Analysis: Queries and Summaries; 5. Reports; 6. Planning and intelligence; 7. Data Model Management; 8. Administrative Tasks.

The order of instruction was adjusted to ensure the optimal flow of information. The instruction began with Modules 1, 2, 3, 4 and 5 on the first three days and was based around a predefined conservation area using the Yezin University of Forestry as the conservation area limits. During the following last days Modules 6, 7, and 8 were taught.

Module 1 was taught first to enable participants to learn how to set up a conservation area. Participants set about creating a own conservation areas in SMART based on a set of human activity, wildlife, and features (Myanmar conservation area data model). The trainers have made themselves available to troubleshoot problems and provide advice to the participants as they move forward with creating data models, setting up conservation areas, and implementing SMART at their sites.

Module 6 (planning and intelligence) was demonstrated with a practical example from Seima, Cambodia, where, monthly patrol planning at this site incorporates sets of numeric and spatial targets for patrol teams. The group was shown how actual patrol efforts are compared with the targets set up in the planning module, and how these become part of the discussion at the monthly meeting.

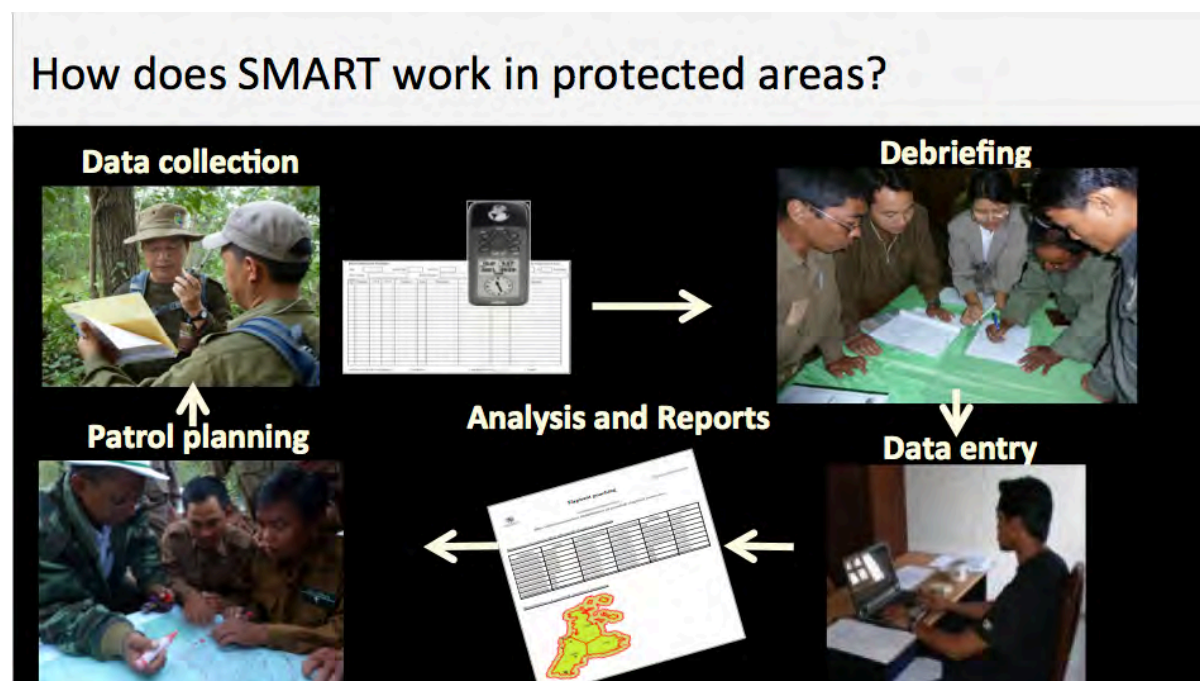
In addition to the software modules, presentations were provided on adaptive patrol management processes. Demonstration was given using the examples of Alaungdaw Kathapa, Seima Protection Forest (Cambodia) and Huai Kha Kaeng (Thailand) of the adaptive patrol management process from data collection to data entry, analysis, and feedback to rangers. A standard reporting template is

used to summarize key effort and results from law enforcement. Information from remote sensing data is used in conjunction with patrol based monitoring to identify deforestation/land clearance hotspots and advise the deployment of field teams.

All software bugs reported during the workshop were inputted on the SMART Assembla website (www.assembla.com/spaces/smart-cs/wiki). Furthermore, a comprehensive list of feedback and requests for new features raised by participants were also added to the SMART Assembla site.

SMART Training in Myanmar protected areas - next steps

The steps for implementation of SMART at a field site will require preparation of resources for patrolling and protection, and staff training at different levels, including: 1) ranger training on data collection; 2) SMART user training for the data base managers, including data entry, management and data transfer processes; and 3) adaptive management training for the senior park staff on how to use the data to make informed decisions.



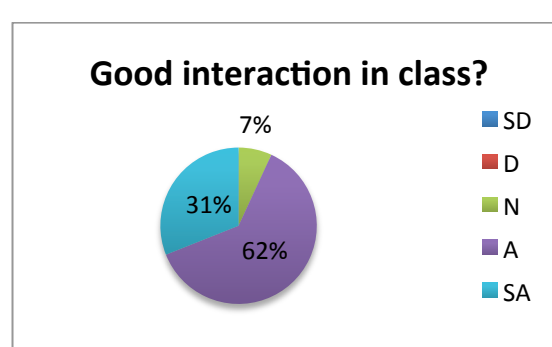
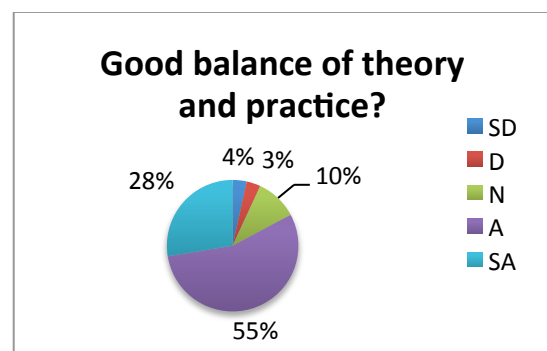
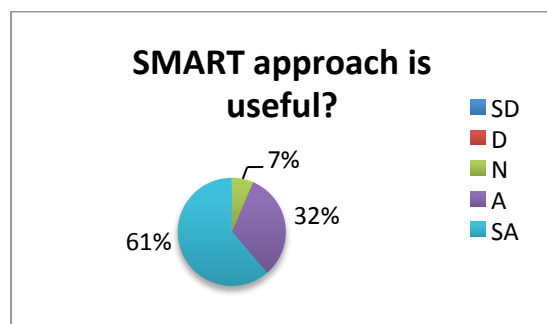
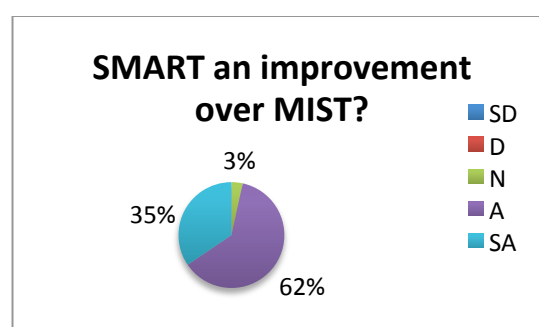
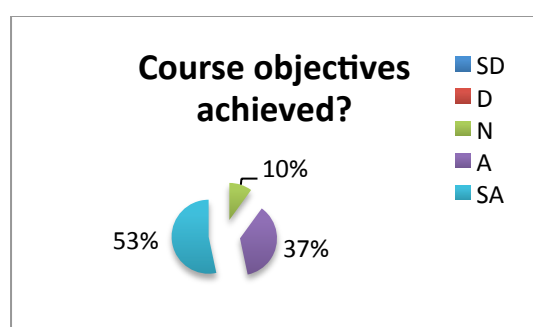
Many protected areas have already received 1) above. 2) is now complete although follow-up training should also be done at each site, and 3) is yet to be done. It is essential that Wardens of protected areas understand their role and responsibility in the process of adaptive management. The next step in the training programme in Myanmar will be to conduct the adaptive management training for senior park staff.

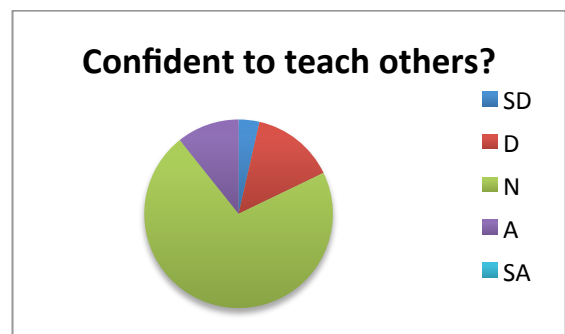
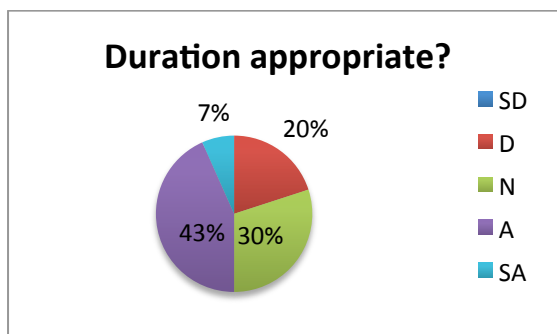
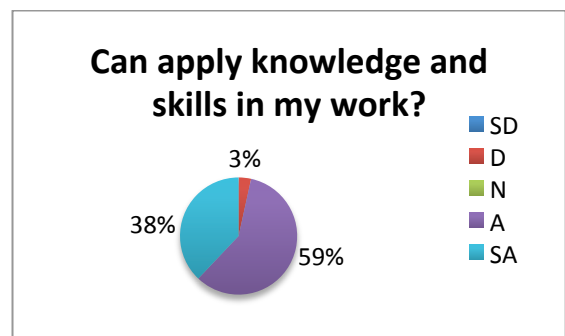
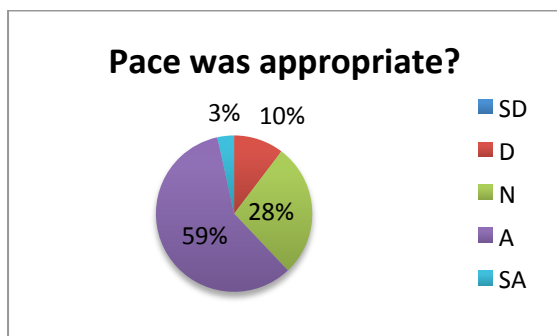
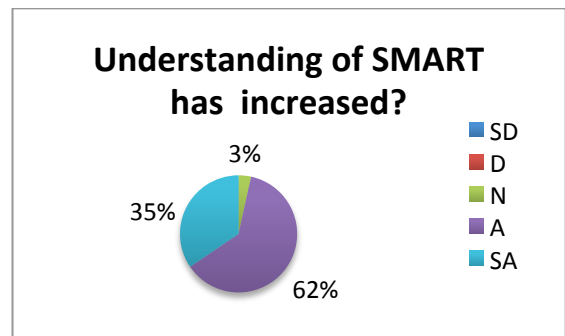
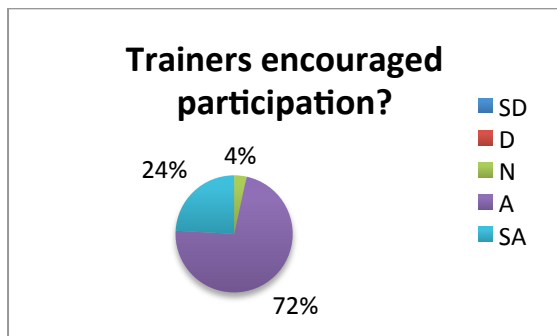
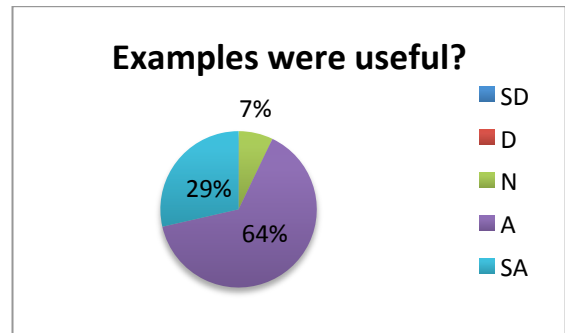
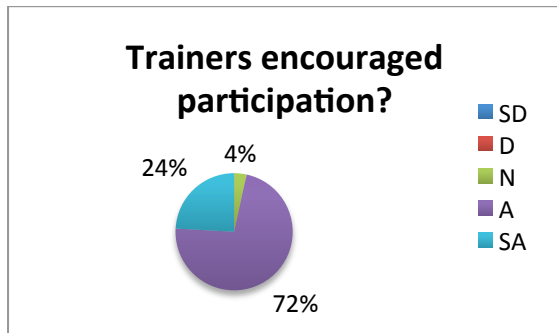
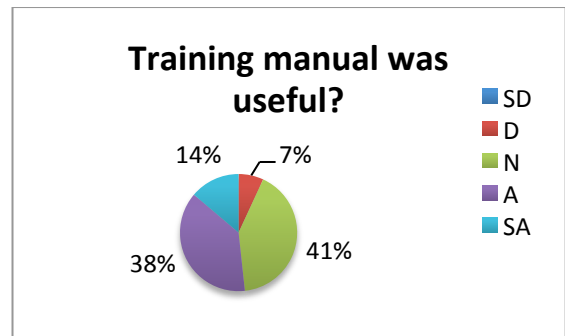
A set of revised training outlines will be distributed along with the report from the training to the Yezin University of Forestry Rector. In future, the Yezin University of Forestry could institutionalize these SMART training courses so that protected area staff could come to the University to learn about SMART from Myanmar-based trainers. Once SMART is translated into Myanmar local language based training will be possible.

Participant responses to the training

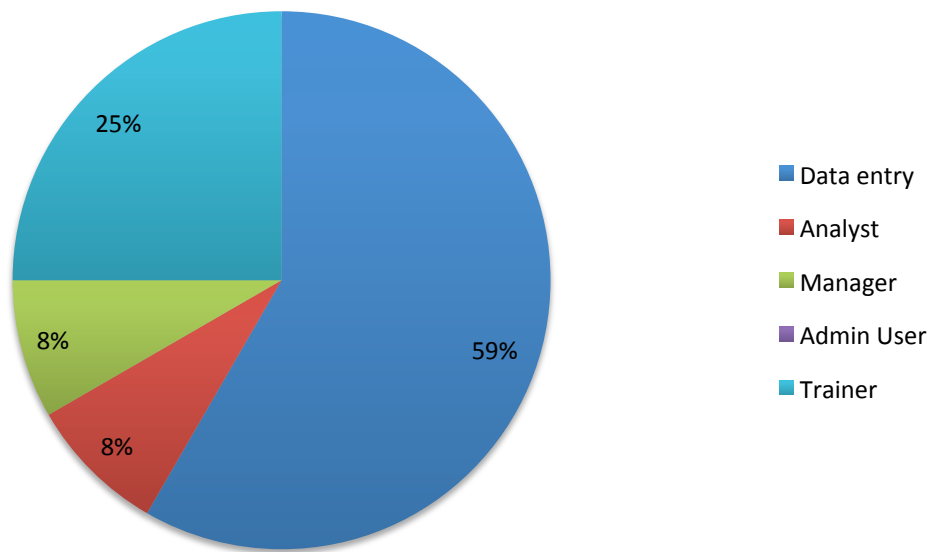
A questionnaire was circulated to all participants at the end of the training (see Annex 3). All 30 participants responded. Overall, both the training and the SMART software were well received: 90% of respondents agreed that the course objectives were met, and that the SMART approach to LEM is relevant and useful to their conservation site. Almost all agreed their understanding of SMART had increased through the training, and that they can apply the knowledge and skills learnt to their work, but few responded they felt confident enough to teach others how to use the SMART software. A few had concerns about the pace and duration of the workshop and the technical training manual which is natural as the training was conducted in English language which for all was a second language. Results of the questionnaire are summarized below.

SD = Strongly Disagree D = Disagree N = Neutral A = Agree SA = Strongly Agree

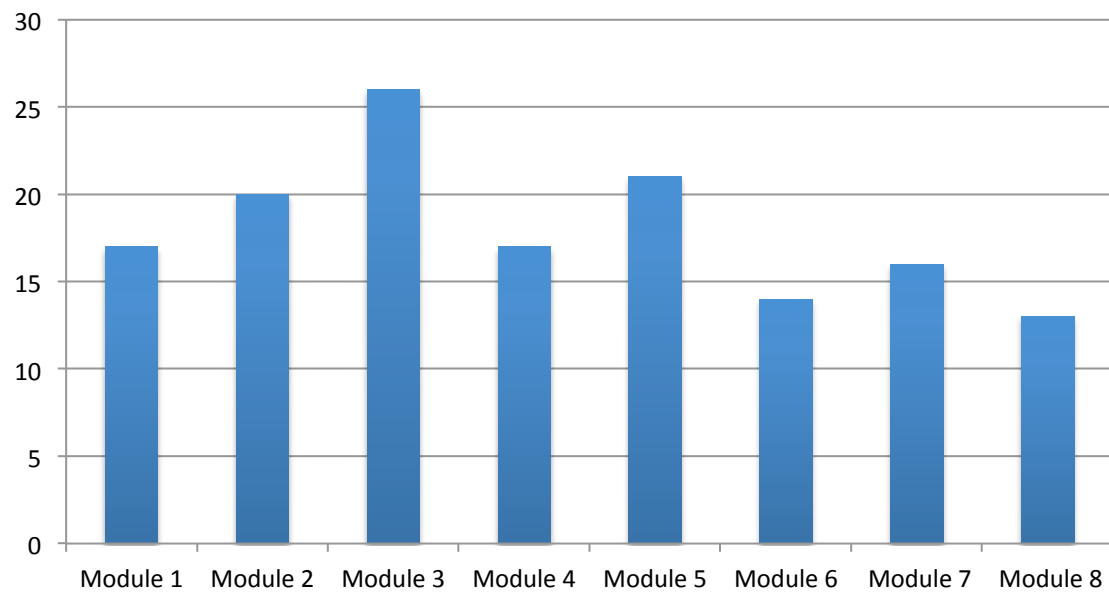




What is your role in using SMART?



Which SMART modules are useful for your work?



Participant's feedback on SMART implementation

Resources needed for SMART implementation at their site

Participants indicated several broad categories of resources that were needed, including equipment, tools, technical support, strategic planning, and language support.

- Equipment: most sites stated that they will require new equipment to implement SMART
 - Computers (25)
 - GPS (23)
 - Camera (16)
 - Printer/fax (5)
 - Internet (1)
- Technical support:
 - Additional trainings especially in Myanmar language
 - On site instruction and support
- Training:
 - Need longer training, more field practice
- Language: Myanmar training materials.

How does SMART compare with other law enforcement monitoring tools, e.g. MIST?

- The majority of participants who answered this question indicated that SMART is more convenient and easier than MIST







What would add value to SMART?

The broad areas that participants suggested would provide added value to SMART included: equipment, software enhancements, technical support, information sharing outlets, and buy in. An overview of the suggestions provided is included below.

- More training in Myanmar language
- More field practice, more training days
- SMART should be used in every park



Annex 1. Workshop participants

No.	Name	Designation	Working Station	Photo
1.	U Kyaw Zin Tun	Ranger	Indawgyi WS	
2.	U Nay Myo Tun	Ranger	Indawgyi WS	
3.	U Win Zaw Lun	Ranger	Chatthin WS	
4.	Daw Tin Moe Swe	Ranger	Chatthin WS	
5.	U Zaw Myo Naing	Ranger	Rakhine Yoma Elephant Range	
6.	U Hay Mann Lin	Ranger	Rakhine Yoma Elephant Range	

7.	U Kyaw Zin Aung	Ranger	Htamanthi WS	
8.	U Myint Thein	Ranger	Htamanthi WS	
9.	U Soe Naing Aye	Forester	Inn Lay Lake WS	
10.	U Nay Win Swe	Forester	Inn Lay Lake WS	
11.	U Thein Zan	Ranger	Shweseettaw WS	
12.	U Myo Lwin Oo	Ranger	Shweseettaw WS	

13.	U Than Hlaing	Ranger	Popa Maountain Park	
14.	U Tun Naing Oo	Forester	Popa Maountain Park	
15.	U Aung Soe Than	Ranger	Alaungdaw Kathapa NP	
16.	U Aung Naing	Forester	Alaungdaw Kathapa NP	
17.	U Min Kyaw Htet	Ranger	Shwe-U-Daung WS	
18.	U Win Lwin Oo	Forester	Minsongtaung WS	

19.	U Myint Soe	Range Officer	Namattaung NP	
20.	U Khaing Htoo	Forester	Moeyungyi Wetland WS	
21.	U Win Lwin Oo	Ranger	Kyaikhtio Wildlife Park	
22.	U Zin Win Tun	Range Officer	Lanpi Marine NP	
23.	U Nay Zar Soe	Forester	Hukaung Valley WS	
24.	U Tun Zaw Lwin	Ranger	Lawkanandar WS	

25.	U Aung Zaw Lin	Ranger	Pitaung WS	
26.	U Aung Myo Lin	Ranger	Panlaung and Pyadalin Cave WS	
27.	Daw Nilar Pwint	Ranger	Director Office,NWCD	
28.	Daw Khin Mar Thin	Ranger	Director Office,NWCD	
29.	Daw Saw Marlar	Animal Grade 3	Director Office,NWCD	
30.	Daw Khin Thuzar Kyaw	Animal Grade 3	Director Office,NWCD	

Annex 2. Training schedule

13 October	
08:00-08:15	Introductions and training outline.
08:15-09:30	Presentation: Introduction to Law Enforcement Monitoring (LEM) using SMART
09:30-10:00	Discussions on the different patrol types + patrol strategies.
10:00-10:30	Break
10:30- 12:00	Discussions on current data collection procedures at Myanmar conservation areas
12:00-14:00	Lunch
14:00-15:30	Data collection field exercise using GPS + data sheets
15:30-15:45	Break
15:45-16:30	Installation of the SMART software + Overview of SMART software
14 October	
08:00-10:00	Module 1. Setting up your own conservation area
10:00-10:30	Break
10:30- 12:00	Module 2: Map navigation and GIS
12:00-14:00	Lunch
14:00-15:30	Module 3: Patrol data entry using GPS and datasheets
15:30-15:45	Break
15:45-16:30	Module 3: Patrol data entry using GPS and datasheets
15 October	
08:00-10:00	Module 4: Patrol data analysis – queries and summaries
10:00-10:30	Break
10:30- 12:00	Module 4: Patrol data analysis – queries and summaries
12:00-14:00	Lunch
14:00-15:30	Module 4: Patrol data analysis – queries and summaries
15:30-15:45	Break
15:45-16:30	Module 5: Patrol reports
16 October	
08:00-10:00	Module 5: Patrol reports: review of the reports developed.
10:00-10:30	Break
10:30- 12:00	Module 6: Planning and intelligence
12:00-14:00	Lunch

14:00-15:30	Module 7: Data module management
15:30-15:45	Break
15:45-16:30	Module 8: Administrative tasks <ul style="list-style-type: none"> • Data base management (setting up, backing up the database) • Data management – GPS raw data, photos. • Reporting

Annex 3. Training modules

Module 1. Configuring a Conservation Area.

Content: This module covered how to create and setup a new Conservation Area, define parameters of the law enforcement structure and organization, and prepare the database for entering patrol information.

Competency: Starting SMART on your computer for the first time; naming and describing the Conservation Area; creating user accounts; choosing a data model; defining spatial boundaries; creating a list of stations; defining participating organizations and ranks; creating employees; defining patrol teams, transport types, objectives and mandates. This is the core modules used to design and create their own conservation area.

Trainer's assessment: This is core knowledge for all SMART administrators who are responsible for creating and managing a SMART conservation area. The module was given on the last day of training, and led into a session where participants began setting up their own conservation area.

Module 2. Map navigation

Content: How to use SMART's mapping features. Learn how to create custom maps, export maps, set basemaps and access attribute information directly from the mapping windows.

Competency: Icons and navigation; adding datasets; styling and labeling; exporting data; setting basemaps; setting map projections; identifying features.

Trainer's assessment: This is core knowledge for SMART users whose task is data analysis for example staff involved in monthly patrol reporting.

Module 3. Patrols.

Content: Covers the process for entering in new patrol data using either datasheets, as well as how to edit and manage data in SMART. Details of patrols is first entered, then waypoint and track data imported from GPS or GPX files. The process of entering observation data associated with waypoints is straightforward.

Competency: Creating a patrol; loading waypoints; loading or setting tracks; entering observations; viewing a patrol map; making manual corrections; multi-leg patrols; exporting and importing patrols; patrol view filters; fixed patrols. This module linked to data collection training is important for database managers to make the link between the data collection and data entry into SMART. The exercise was done using GPS, and datasheets. Waypoints and tracklogs from the GPS can either, be transferred to the desktop of the computer then imported as GPX files, or imported directly from the GPS.

Trainer's assessment: This is core knowledge for SMART users whose task is data entry. To support this module, a practical exercise was conducted around the Training site, where participants had to navigate using the GPS "go-to" function and record observations at a set of "crime scenes". Data was collected using datasheets/GPS, this data was then used as the example data to be imported into SMART - creating a patrol and importing GPS data, and entering the crime scene observations.

Module 4. Analysis: Queries and Summaries.

Content: Learn about queries and summaries, a powerful tool that lets the user perform a wide variety of different analyses, for example define catch per unit effort statistics, and spatial distribution of threats, and export the results. The overall purpose is for users to extract patrol and observation information from the database. There are four different types of data queries/summaries and five different patrol queries/summaries which can be defined within version 3.0.1. The process of building these queries can be completed through the new Query Wizard facility which helps users choose which query type to use.

Competency: Creating a simple query using patrol filters; creating compound queries using patrol filters; creating queries using data model filters; creating queries using spatial filters; understanding & changing query properties; saving & deleting queries; exporting & importing queries; creating simple summaries; and creating complex summaries. Users need to have an overall understanding of each query and summary type that can be created and how observation and incident filters can be applied.

Trainer's assessment: This is core knowledge for SMART users whose task is data analysis for example staff involved in monthly patrol reporting, administrators and site managers. The querying functionality is more advanced than previous versions of the software therefore extensive time needs to be spent on getting users familiar with building all types of queries/summaries.

Module 5. Reports.

Content: Presents the process of creating, editing and populating a SMART report. SMART reports are highly configurable and allow for a wide range of standardized reporting. The information on the reports can be dynamically generated based on the results of SMART queries and summaries. A major component of SMART is its mapping ability, and SMART reports allow maps to be included and customized to suit the report

Competency: Understanding the components of the report editor; configuring data access; creating headers and footers; creating master pages; updating the library; building a report; running a report; exporting reports

Trainer's assessment: This is core knowledge for SMART users whose task is data analysis for example staff involved in monthly patrol reporting, administrators and site managers.

Module 6. Patrol Planning and intelligence

Content: Managers may desire to use information on patrol coverage, gaps, and problem areas, along with desired targets for patrol teams to create a monthly patrol plan including patrol routes (tracks) for the conservation area. The new patrol planning plug-in was presented as an exercise to generate a patrol plan using examples from a site in Asia. Information on illegal activity may be acquired from non-patrol based approaches e.g. from informants, reports from other field teams. This information can be incorporated as intelligence records that may be used to help shape the enforcement response.

Competency: Create patrol plans from scratch for individual substations, and for the conservation area; add targets, start and end dates, employees, patrol hours targets, numeric, spatial and administrative targets. Understand that targets can be evaluated for a conservation area, station/team, or individual patrol. Create new intelligence records, define source of data, descriptions, plot locations on map, add, photographs, and create patrol plans based on the intelligence records.

Trainer's assessment: This is specialist knowledge for SMART users who are data analysts, and site managers. This is a potentially extremely useful module for staff who need not be involved in the detailed analysis of patrol data but want to incorporate just the key information from SMART directly into monthly workplans for enforcement teams, and want to monitor such workplans.

Module 7. Data Model Management.

Content: How to manage the Data Model within the SMART system. How to create, disable or delete categories and attributes in line with best practices and principles of data modeling

Competency: Know the structure of the SMART data model; categories, sub-categories and attributes. Starting with a base data model consisting of human activities, position, animals, and features, add, edit, disable or delete categories and attributes to distill or expand to a working data model for the conservation area. Save data model changes.

Trainer's assessment: This is core knowledge for all SMART users. This was taught at the end of the course and led into the practical exercise where participants started to think about setting up their data models for individual conservation areas. The data model needs to be carefully considered when bringing existing MIST data across, and when designing new or refining existing patrol report formats.

Module 8. Administrative tasks.

Content: Learn administrative functions to ensure a productive working environment in SMART.

During this module, you will look at the export/importing capabilities, backing up and restoring of a conservation area, along with other best practices that will ensure a minimal amount of downtime if disaster strikes

Competency: Changing your username and password; exporting and importing patrols; exporting the data model; importing a new common data model template for your sites; exporting and importing a conservation area; system backup; configuring automatic backups; backing up and restoring the database

Trainer's assessment: This is core knowledge for SMART users who are responsible for administering or managing databases.

Annex 4. Post workshop evaluation form

Enter an X in the appropriate box for each numbered question. Codes are as follows;

SD = Strongly Disagree D = Disagree N = Neutral A = Agree SA = Strongly Agree

A	Course Objectives	SD	D	N	A	SA
1.	The objectives of the training course (listed below) were achieved. Become familiar with all components of the SMART software Be able to perform tasks; e.g. data entry, create and run queries, creating reports Refer to technical training manual as a resource					
B	SMART Approach	SD	D	N	A	SA
2.	The SMART approach to law enforcement monitoring is relevant and useful to my conservation site.					
3.	SMART is an improvement over other law enforcement monitoring tools, e.g. MIST (you may leave this blank if you are not familiar with any other LEM tools)					
C	Training Approach and Content	SD	D	N	A	SA
4.	The training presented and communicated ideas, concepts, and information clearly					
5.	Questions raised during the workshop were adequately answered.					
6.	The training approach encouraged questions and participation.					
7.	There was a good balance of theoretical and practical activities.					
8.	There was good interaction between the training team and participants.					
9.	Pace of the workshop was appropriate.					
10.	Duration of the workshop was appropriate.					
D	Training Materials	SD	D	N	A	SA
11.	The Technical Training Manual was relevant and useful.					
12.	Practical illustrations, examples, and sample datasets given were useful					
E	Overall	SD	D	N	A	SA
13.	My functional understanding of SMART conservation software has increased as a result of what I learnt during the course.					
14.	I can apply the knowledge and skills learnt to my work.					
15.	I feel confident enough to teach others how to use SMART conservation software.					

16. What is your role in using SMART software:

- a. data entry b. analyst c. manager d. administrative user e. trainer
f. other, please specify:

17. Which components of SMART software are most useful to your work? Please check as many as apply.

	Module 1 – Configuring a Conservation Area
	Module 2 – Map Navigation & GIS
	Module 3 – Patrols & Data Collection
	Module 4 – Queries and Summaries
	Module 5 – Reports

	Module 6 – Planning and intelligence
	Module 7 – Data model management
	Module 8 – Administrative Tasks

18. What resources do you need to implement SMART at your site?

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19. How does SMART compare with other law enforcement monitoring tools, e.g. MIST?
(you may leave this blank if you are not familiar with any other LEM tools)

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20. What would add value to SMART?

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Additional comments:

.....

.....

.....

Optional:

Name:

Email address:

Department/Agency:

Thank you very much!