Stockpile Management System (SMS)

Briefing Note

1. INTRODUCTION TO THE STOCKPILE MANAGEMENT SYSTEM (SMS)

The Stockpile Management System (SMS) is a bespoke mobile application-based digital register and management system for ivory and other wildlife products. The SMS has been developed by the Elephant Protection Initiative (EPIF) in partnership with conservation, audit and technology experts. The SMS software has been very well tested, and the EPIF has provided technical and financial support to conduct stockpile inventories in 13 countries.

The SMS comprises of a mobile Application (App) used on tablet computers or smart phones to conduct inventories and record data, and a secure country specific online server hosting the data from the different stockpiles around the country.

1.1. The App

The App provides a rapid means to digitally record details on each item within the stockpile, guiding people through what data is required including a photo of the item. The data fields to be collected can be tailored to meet the country's needs. The system is very user-friendly, our expert team can train someone with no computer experience to use the App in less than 15 minutes. The EPIF can supply the App and tablets to conduct an inventory and to implement the SMS across the country.

The aim is for storeroom managers to be able to digitally record data on ivory and other wildlife items entering the storeroom on the day it arrives. Once new data has been entered into the App, the data is uploaded onto the server using Wi-Fi or mobile data. This results in real time stockpile data on the server.

Taking a photo with the App

Measuring and entering the data on tusk length

1.2. The Server

The SMS sits on a country specific secure server, which is accessible online, and remains confidential and the property of the respective Government department. The server stores all the data, and provides clear real time summaries of stockpiles (per site, in total and per type), which can be used for management decisions. All the data on each individual item can be viewed together with the photo. From the server, movement of ivory or other wildlife product from one stockpile to another can be recorded, and items can be archived (for example following a sale, or destruction).

Personalised log on and passwords are needed to access the server. Individuals are given access to specific data sets – for example a Warden for a national park can be given access to view only their stockpile data, whilst the Head of Law Enforcement at the Headquarters would be able to see data from all the stockpiles around the country.

The SMS is managed by one or two administrators who manage log-on settings and can check who is accessing the data and when. The administrators also manage modifications to the data fields. The EPIF will provide technical support remotely on an ongoing basis, so staff using the system always have a point of contact if there are any queries.

Example data on one piece of ivory

MW/2017/LL/136/0.53				Edit	

Ivory Id:	MW/2017/LL/136/0.53	Weight (kg):	0.53
Other code:		Number of pieces:	None
Location:	Lilongwe	Base circumference (cm):	14
Type:	T	Outer curve length (cm):	40
Description worked:		Inner curve length (cm):	33
Description Piece (Mid, tip, base):		DNA Sample (Y/N):	No
Comments:		DNA sample number:	
Location Recovered	Lilongwe None	Date Entered	
Authority recovered:	DNPW DNPW None	Reviewer	Miles
Date recovered	42791		

Photo:

Example summary data by location

By Current Storage Location			
Location	Total Weight (Kg)	No of Inventory IDs	No of pieces
Ka	4,880.73	1964	1964
Li	958.6	220	767

2. IMPLEMENTING THE STOCKPILE MANAGEMENT SYSTEM (SMS)

2.1. SMS implementation plan

A partnership between a Government and the EPIF to conduct an ivory inventory and establish a Stockpile Management System usually starts with a Government requesting support from the EPIF, usually thorough the Department of National Parks and Wildlife or equivalent. The EPIF then signs a Memorandum of Understanding (MOU) with the Government. This MOU includes a confidentiality agreement for the data. The data belongs to the Government, and the EPIF cannot use it without permission from the Government.

The EPIF works closely with Governments, and if appropriate a local NGO partner, throughout the planning process to ensure the logistics for an inventory or SMS implementation are agreed and in place in order to ensure an efficient, secure and transparent process.

During the planning process, the details and needs for the SMS are established, which are outlined within the Inventory Protocol. This includes which sites will be involved, who will be trained, what data is to be collected, the methodology for marking ivory etc. This enables the SMS to be tailored to meet the country Government requirements.

2.2. Tailoring of the SMS to meet the requirements

The EPIF technical team (EPIF staff and Bityarn Consult, a small Kenyan IT firm) will set up the SMS system on a country specific secure server (the EPIF can procure a server or use an existing Government server), and the forms for the App are created. Any country specific requests can be developed.

2.3. Training

The EPIF does not charge Governments for delivering training on the inventory process, or the SMS implementation, but we may work with Governments and local NGO partners to apply for joint grants to cover the costs of the implementation.

The EPIF will send an expert from our team to deliver the training (or provide remote training depending on the circumstances and requirements). There are different ways of running the training depending on the goal of the activity.

For an inventory only:

- A half day training course on use of the mobile App for the inventory team, followed directly by the inventory itself. This will be followed up by a half day training course with the data users e.g., management on accessing and using the data on the server.

For SMS implementation, the training is slightly different:

- Firstly, there will be a training course for the nominated SMS administrators/Government trainers on all aspects of the SMS including how to use the App and how to use the server, with some basic administration aspects of the SMS.

- Followed by a one-day training course for storekeepers on how to use the App and enter the data – this training course will be run by the newly trained government staff with EPIF technical support and presence.

- Followed by a third one day training course on server use for the managers, again run by the newly trained government staff with EPIF technical support and presence. This process facilitates the transfer of capacity and embedding of the software into the Government systems.

- A final detailed technical training course will be run with the administrators and trainers at the end of the programme to include all aspects of administering the SMS.

The EPIF has developed training manuals, training agendas and presentations, which will be provided during the training courses.

The training courses can take place at a central location, or the Department of National Parks and Wildlife may choose to run a series of courses at the different National Park sites across the country or in each region/State, according to where stockpiles are held.

In addition to the Users and Administrators, it may be appropriate to invite wildlife department managers and other agencies e.g., customs authority, police etc. to an introductory presentation to ensure a wider awareness of the inventory and ongoing SMS process.

During an inventory, additional staff will be required to help with logistics, e.g., moving ivory from one site to another, weighing, completing the manual ledger in addition to inputting data on the App.

3. ADVANTAGES OF THE STOCKPILE MANAGEMENT SYSTEM (SMS)

The SMS has been developed by a range of conservation, audit and technology experts and has been well tested by both experts and Users in the field in 13 countries. The advantages of the SMS system are:

- The system can be used to inventory ivory, rhino horn and other seized items e.g., animal skins
- It replaces a manual ledger system, which is difficult to share or analyse and is not in a format to easily submit to the CITES Secretariat. It can be used in combination with a manual ledger.
- A digital copy of the inventory, securely backed up, ensures that the data is not lost as may happen with a manual ledger.
- The system records the CITES number/weight/length/description of each item on standardized forms.
- The App allows a photo of each item to be uploaded and linked to the data record for that item. This functionality provides an additional check when trying to identify individual pieces in a storeroom in future inventories, adds a layer of transparency since the photo includes the CITES number and can be used as evidence in court, if for example a confiscated piece of ivory was suspected to have come from a Government stockpile.
- The linked Movement App enables the recording and tracking of movements of ivory from e.g., one storeroom to another to ensure a full chain of custody.
- The archiving function allows for ivory which has been e.g. destroyed, stolen or moved out of the country to be recorded and then archived to show that it is no longer held in the national stockpile.
- The system very easily generates summary and detailed reports by year/location/type of item etc which can be used in annual reports for the Wildlife Department.
- The annual ivory stockpile inventory, which all Parties are required to submit to the CITES Secretariat, is easily generated using the App reporting functions.

4. TECHNICAL

The server-side application is built on open-source tools, namely the python Django framework and the Open Data Kit data collection suite. The databases run on MySQl database. The mobile application is built to run on the android platform.