

Briefing Note

The Stockpile Management System (SMS)

1. Introduction to the SMS

The Stockpile Management System (SMS) is a bespoke mobile application-based digital inventory and management system for ivory and other wildlife products, developed by the Elephant Protection Initiative (EPI) in partnership with conservation, audit, and technology experts. The SMS software has undergone extensive testing to ensure its reliability, and since its launch in 2014, the SMS has been deployed in 15 African countries. The SMS is provided free of charge to government, and the EPI Foundation (EPIF) provides ongoing technical and financial support to SMS users for stockpile inventory and management.

The SMS comprises of a **mobile application (App)**, used on android tablets or smart phones to conduct inventories, record data, and a secure **country-specific online server**, hosting the data from the different storerooms around the country.

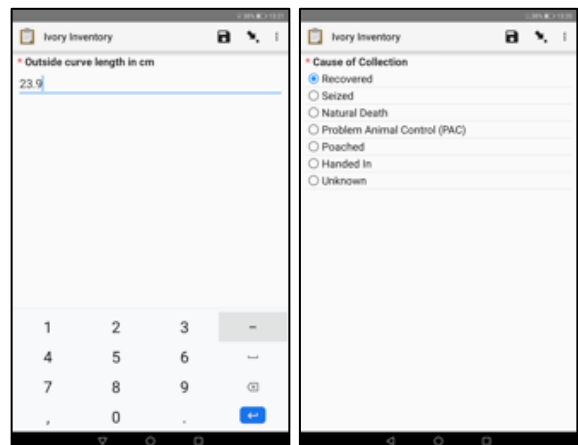
1.1 The SMS App

The SMS App provides a rapid method to digitally record details about each item held in the storeroom. It guides users through the data collection process, including capturing photos of the items. The data fields are tailored to meet the specific needs of the country. The App is user-friendly, and our team of experts can train individuals with no prior computer experience to use the App in less than 15 minutes.

Storeroom managers should digitally record data for all wildlife items, including ivory, rhino horn, and other wildlife items, the day they arrive to the storeroom. Once new data has been entered into the App, it is uploaded to the server using Wi-Fi or mobile data. This ensures that real-time stockpile data, from all storerooms using the SMS, is available on the server.



Taking a photo of the piece in the SMS.



Example SMS data questions.



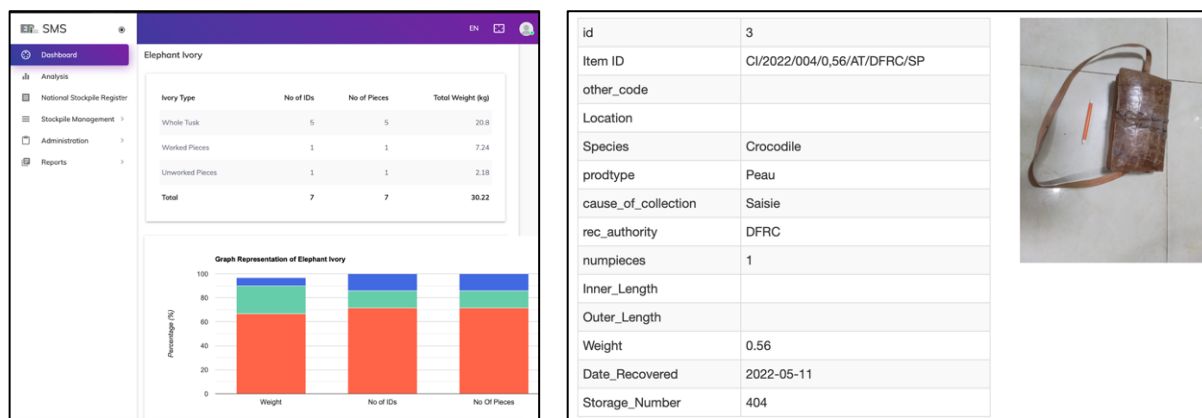
1.2 The SMS Server

The SMS is hosted on a country-specific secure server and is accessible online. Each country’s server remains confidential and the data is the property of the respective government department. The server stores all the stockpile data and provides clear real-time summaries of storeroom inventories (per site, in total, and per Weight item type), which can be used for management decision-making.

Detailed information for each individual item, along with its corresponding photo, can be viewed. Additionally, users can record the transfer of items between storerooms, establishing a digital chain of custody, and archive items as needed, for example, following a sale or destruction.

Access to the server requires personalised log-on credentials and passwords. Individuals are granted access to specific datasets based on their role. For instance, a National Park Warden may be given access to view only the data pertaining to the National Park storeroom, while the Head of Law Enforcement at the Wildlife Authority’s Headquarters would have access to data from all storerooms across the country.

The SMS is managed by one or two in-country **SMS Administrators** who are responsible for user management and monitoring user activity, including tracking who accesses the data and when. Additionally, the administrators oversee any modifications to the data fields. The EPIF will provide ongoing remote technical support, ensuring that staff using the system have access to assistance and trouble-shooting whenever needed.



Example of the summary dashboard and information on seized object.

2. Implementing the SMS

2.1 Preparation and planning

Typically, the partnership between a government and the EPIF to use the SMS begins with the Government requesting support from the EPIF. The EPIF will then work closely with the government, and if appropriate, a local NGO partner, to develop an implementation plan. This includes determining the specific requirements for the inventory and for the SMS, as outlined in the **Inventory Protocol**, for example identifying participating sites, personnel for training, specifying the data collection criteria, and establishing the methodology for marking ivory and



other wildlife products, etc. This customisation ensures the SMS aligns with the government's country-specific requirements.

During the planning process, the EPIF and the Government sign a letter of agreement or Memorandum of Understanding (MOU), including a confidentiality clause for the data. The data remains the property of the Government, and the EPIF cannot use the data without explicit permission from the Government.

The EPIF offers governments the SMS, training, and inventory support free of charge. However, we may collaborate with governments and local NGO partners to apply for joint grants to cover implementation costs.

2.2 Customisation of the SMS

The EPIF technical team will tailor and set up the SMS system on the agreed secure server location. The server location, whether on an EPIF-organised server, a government online server, or a local server, is determined during the planning phase.

2.3 Training

The EPIF will send a team expert to deliver training sessions, or alternatively, provide remote training as needed depending on the circumstances. The training includes:

- A one-day training course for the nominated **SMS administrators** and **government trainers** covering all aspects of the SMS, including how to use the App and server, along with basic administration aspects of the SMS.
- Subsequently, a one-day training course for **Storeroom Managers** on how to use the App, data entry, and how to access the server. This training course will be led by the newly trained **government trainers/SMS Administrators**, with EPIF technical support and presence. This process facilitates capacity transfer and software integration into government systems.
- Following the training, participants will proceed directly to inventory a storeroom using the SMS. This hands-on experience allows them to assimilate the information learned and see how the SMS operates in practice.



Weighing an ivory tusk.



Measuring the inside curve length of a tusk.



The EPIF has developed a training package including SMS manuals, training videos, and presentations, which will be distributed during the training sessions.

3. Advantages of the SMS

The advantages of the SMS include:

- The system can be used to inventory anything held in a wildlife storeroom – including ivory, rhino horn, other wildlife items, such as pangolin scales or snake skins, or arms. The data fields are tailored to match the need of the Government department.
- The SMS complements a manual ledger system. While manual ledgers are important, they can be challenging to share or analyse and are not in a format easily submitted to the CITES Secretariat.
- A securely backed-up copy of the digital inventory ensures data integrity, safeguarding against potential loss, an issue that may be encountered when relying solely on manual ledgers.
- The system records all necessary information required for submitting inventory reports to CITES, simplifying compliance with CITES Resolutions (for example, 10.10, 9.14, and 17.10).
- The system easily generates summary and detailed reports by year, location, and item type, which can be used for internal reporting.
- The App enables the upload of a photo for each item, linked to its data record. This functionality provides an additional means of verifying individual pieces during future storeroom inventories, enhancing transparency. Additionally, as the photo contains the CITES number, it can serve as evidence in court, such as in cases where confiscated ivory is suspected to have originated from a government stockpile.
- The SMS enables the recording and tracking of wildlife item transfers between storerooms, ensuring a complete digital record of the item's chain of custody.
- Data for an item in the SMS is never deleted. If an item is permanently removed from Government custody, for example, if it is destroyed or moved out of the country, its corresponding data is archived. Archived data can be accessed in the Archive section of the SMS, enabling historical retrieval if needed.
- The SMS is provided to countries free of charge; the EPIF does not impose any fees for its use.

4. Technical Specifications of the SMS

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 operate on MySQL. Presently, the mobile application is designed to run on the Android platform.

