
Animal identification and recording systems in the Southern African Development Community (SADC): 2. Proposed I&R system for Malawi

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The design of the Malawi animal identification and recording system (I&R) has been completed and the supporting legislation was drafted. The I&R system provides for the identification and trace-back of any animal back to its original owner, traditional authority, district and country. It is based on the branding of large stock with a hot iron and tattooing of small stock in the ears. A pilot field test will be conducted in the near future. The supporting legislation will pass through parliament before the end of 2004, where after the I&R system will be implemented.

Key words: animal, branding, identification, Malawi, recording, SADC countries, tattooing, trace-back, veterinary control.

Livestock theft both within Malawi and across her unfenced porous borders (shared with Mozambique, Zambia and Tanzania) is reaching problematic proportions. Livestock theft is a central element in a complex series of interconnecting factors, which undermine the social and economic security of the local community and society in general. Although poverty may be implicated as the basis of some livestock thefts, there are definite indications that organised stock theft syndicates are involved on both sides of the border. Livestock theft has a serious negative impact on poverty, especially when animals belonging to the poorer livestock owners are stolen (Campher, Njunga, Campher, Chinula & Chibwana, 2003).

Summary

Introduction

As far as animal identification and recording (I&R) is concerned, Malawi is currently at a disadvantage when compared to countries like the Republics of South Africa, Namibia, Botswana, Zimbabwe and the Kingdoms of Lesotho and Swaziland which either have systems in place, or are busy implementing I&R systems in their respective countries. The Government of Malawi (GoM) realised that the full implementation of a complete livestock identification, trace-back, recording and data information system requires heavy financial investment either by the GoM itself, or from donor organisations. The GoM has already recognised the fact that the pre-requisite to the system is appropriate legislation, which was inadequate or mostly non-existent. For this reason a Technical Co-operation Project (TCP) was initiated with the aid of the Food and Agricultural Organization (FAO). In summary, the aims of the TCP was to design an I&R system and to draft appropriate legislation in support thereof to

- effectively remove stock thieves from society and thus reducing stock theft significantly;
- assist in curbing illegal cross-border movement of animals;
- have an easily identifiable identification mark to enable proper movement control in case of disease outbreaks;
- enhance animal health programmes;
- serve as the basis for a future genetic improvement programme; and
- allow for production/marketing data to be used in food security strategies.

The Malawi I&R system

The design

At various meetings on SADC level it was proposed that each country should have a unique identifying mark by which animals from that country can be identified. Should there be an area in a neighbouring country where a particular disease is prevalent, the authorities can easily identify animals from such a country and take the necessary steps to destroy the animal, quarantine it for further tests, or return it to the country of origin. In the case of Malawi, the image of the rising sun will be used (see Figure 1). In the case of bovines and equines, the left front leg will be used to identify the country of origin of the animal. In the case of small stock species (goats, sheep and pigs) the animal's right ear will be used.

Each of the 28 districts in Malawi will be identified according to the same alphabetical letters used in the current vehicle registration system. This will ensure that there is no confusion amongst livestock owners, veterinary officials, traders, police, and others. These alphabetical letters identifying the district will be placed below the country mark, on the front left limb of large stock or in the right ear of small stock.

To further distinguish between animals within the district, each of the Traditional Authorities (TA's) will be identified according to an assigned numerical character. This numerical character, for instance 6, will be



Figure 1. Image of the rising sun to be used to identify all Malawi animals

placed above the three alphabetical characters used to identify the original owner of the animal. With a system of using three different alphabetical letters, a total of 17 576 different combinations are possible.

The Registrar of Animal Identification, in terms of the envisaged legislation, will register every livestock owner in Malawi. The livestock owner will then be compelled to identify all their livestock according to the allocated identification mark within a certain period.

Since there are instances where livestock owners do not actually live in the village where the animals are kept, such animals are then cared for by herdsmen or herdboys. It is proposed that these full-time employed herdsmen must also be registered on the I&R system. Too often some of these people are involved in livestock theft syndicates. By being a registered herdsman, the person will realise that his/her information is now on a central database and if caught as a livestock thief, will result in losing his/her registration. Thus making it very difficult to find another job with a different livestock owner.

Another group of people who are often involved in livestock theft syndicates are those involved in trading animals for financial reasons on a regular basis, commonly known as traders. All traders, i.e. speculators, feedlot owners, butchers, abattoir owners, agents, etc. will also be registered on the I&R system. This will assist with the legalisation of the trading profession and if involved in any livestock theft case, such a person will lose his/her registration and can never be a trader again.

To prevent the illegal marking of any animal, only suitably trained, approved and registered livestock marking operators will be allowed to own branding irons, ovens, tattoo pliers, tattoo letters, immobilisers and other equipment used in the process of marking an animal. These trained livestock marking operators will also be registered on the I&R system.

Once all livestock owners, herdsmen, livestock marking operators and traders are all registered, there is no reason for any other person to be in possession of animals without an identification card issued by the

Registration on the I&R system

Registrar of Animal Identification. Should any person be herding, keeping or transporting animals without a valid identification, it will be *prima facie* proof of a crime being committed.

The registration process

All the livestock owners, herdsman, or traders will have to visit an animal identification registration office in his/her district to be registered on the national I&R database. Should a livestock owner have animals in more than one TA in the same district, he/she will not have to register an identification mark for each of the TA's in question. However, should he/she own animals in completely different districts, an identification mark for each of these districts and the relevant TA must be obtained? This is to meet the requirement of improved animal health movement control.

The personal details of the applicant (such as name and surname, gender, TA, district, village, dip tank, number of animals of each species on day of registration, etc.), the person's photograph and the fingerprints of all ten digits are captured directly onto the computer of the district office. Each applicant will choose three secret questions from a list of ten. The secret answers to these three chosen questions will be captured on the I&R system. Thus allowing the police or any other authorised person to identify a livestock owner, herdsman or trader who may for some reason not be in possession of his/her id-card by means of a phone call to the central database.

A temporary animal identification registration certificate is immediately issued and this must be returned when the owners, herdsman or traders return to fetch the centrally issued identification card and the permanent registration certificate.

Security in the I&R system

All the computer and administrative staff in the various district offices and the central office will only have access to the I&R system through fingerprint identification. The I&R will not allow any unauthorised person to operate any computer without prior identification. This not only ensures that unauthorised persons gain access to the system and captures the data of known criminals, but will also leave a clear track of which operator did what amount of work, and for which applicants.

At the end of each working day, the data captured in the district offices are sent through to the central office in Lilongwe. In the central office all data are verified, encrypted and stored on the mainframe computer. The encrypted data is then transferred to the bureau where the high security identification cards and permanent registration certificates are manufactured in a safe and secure environment. Both the registration certificate and the id-card will be authenticated with security features, including possibly 2 dimensional barcoding.

The id-cards and certificates are then returned to the districts where they will be issued to the applicant only upon again identifying the applicant as the true owner of the registration on the fingerprint identification system.

Either the id-card or the certificate must be shown to the registered livestock marking operator before the latter will be allowed to mark any animal. The number of animals marked for a particular owner will be recorded in the livestock marking operator's register.

The I&R system infrastructure will consist of the central office situated at the offices of the Director of Animal Health and Livestock Development (DAHLD) in Lilongwe. Each of the 28 districts will have at least one satellite data capturing office. The main database of the I&R system will contain all the relevant information of the registered livestock owners, herdsman, traders, livestock marking operators and every authorised staff member.

The DAHLD office in Lilongwe is central to the system and will be able to manufacture and issue the high security id-cards and the permanent registration certificate, as well as distribute the said documents to the various district offices, check and verify the machine readability of all documents showing the 2dimensional bar code and control the entire I&R system and the distribution of information for other agricultural projects, food security programmes, grazing and pasture management, livestock improvement, agricultural strategy and policy purposes, etc.

Every piece of equipment used to identify an animal will be uniquely identified with a numbering system. Hence, each set of branding irons, branding oven, tattoo pliers, immobiliser, or any other equipment issued to a particular registered marking operator, can be identified as the property of that particular person. The new regulations promulgated in terms of the legislation will declare illegal the ownership of any non-officially issued branding irons and tattooing equipment by any person, other than registered livestock marking operators. By doing this, stock thieves will not be able to have access to such equipment, unless stolen from a registered marking operator. A further important aspect is that a unique set of numerals and letters for use in Malawi exclusively will be designed. This design will differ from the irons used in neighbouring countries and Malawi animals will carry a mark made with letters and numerals designed in a specific unique way. It will not be possible to use irons not manufactured by the specific supplier on any animal in Malawi without the authorities having knowledge of this.

To address the issue of animal welfare, only upon successful completion of a comprehensive training course, livestock marking operators shall be. During such a training course all animal welfare aspects pertaining to the marking of animals in the most humane way, using an immobiliser and with the necessary medication at hand, will be taught to the trainees.

Administrative infrastructure

Marking equipment

Record keeping

By allowing only registered operators to mark animals, it will ensure the keeping of records of all animals belonging to a certain livestock owner, so marked. Only the mark shown on the official registration certificate and/or id-card will be allowed to be placed on any animal and this document must be presented to the operator before he is allowed to place a mark on any animal. Through the system of record keeping of all animals branded by any particular marking operator, the district agricultural officer will know exactly how many animals each livestock owner under his/her jurisdiction owns.

In the case of the transfer of ownership of an animal, the new owner will not be allowed to mark the animal with his/her identification mark. Any animal may only be marked once in its lifetime. Upon transfer the owner of the animal will visit the office of the TA to obtain a transfer of ownership document to be handed to the new owner. The TA will delete such animals from the TA register and complete the transfer document. The new owner is obliged to visit the TA office where the animals will be moved to. There the details of the animals will be entered into the register of that particular TA. The new owner is also obliged to keep all transfer of ownership documents. Should the animal be sold again, the same transfer document will again be given to the third owner. This means that as long as an animal is in the possession of its original owner, a so-called animal "passport" will not be issued. Once the animal is sold, the "passport" is issued by the TA and the passport will accompany the animal for the rest of its life time. In short, if any animal is found in the possession of any person, such a person must either produce the registration certificate on which the identification mark is shown, or alternatively the transfer of ownership document ("passport").

DNA analysis as a back-up system

The use of DNA-analysis as final indisputable proof of a particular animal will also be incorporated into the I&R system on a voluntary basis for valuable animals. The storing of the hair samples according to a well catalogued system will be done within Malawi itself. This would entail keeping two samples in two different locations to ensure that a catastrophe like fire, flooding or theft will not destroy all the samples. Should a theft occur and any tissue sample of the animal can be obtained, the matching hair sample and the tissue sample will be analysed to determine beyond reasonable doubt the original ownership of the animal in question.

Legal analysis and draft legislation

Although several pieces of existing legislation deal with animals, animal products, diseases and even the theft of animals, there is no dedicated and specific law in regard to the identification and registration of animals, and in particular livestock, in Malawi. The existing legislation were analysed by international and local legal consultants and it was concluded that a dedicated legal framework for the proposed I&R system that will fit into the present legal environment, be drafted.

The proposed new Animal Identification and Registration Bill, 2003 was presented to a national workshop of stakeholders and only minor revisions were suggested. After these changes were made, the Bill was presented to the legal department of the Ministry of Agriculture and Food Security. Currently the bill is being prepared for Parliament by the Department of Justice and it will probably pass through Parliament after the May 2004 general elections.

The design of the Malawi I&R system has been finalised and the legal support has been drafted. A field testing phase will be conducted soon after the general elections in May 2004. Upon completion of the final report donor organisations will be approached in order to find support for the full implementation of the I&R system. This implementation will be done district by district. A comprehensive media plan has been drafted and the full support and cooperation of the livestock keepers will be obtained.

It will soon be possible for Malawi to trace back animals to the origin, whether it is from a neighbouring country, or from any district and village situated within the country. Stock thieves will be apprehended and prosecuted more successfully. Animal health movement control will be on a much higher level and finally comprehensive data on animal numbers and production will also enhance livestock improvement programmes and food security planning.

The Government of Malawi has taken the lead in the eastern sector of SADC and she will support all similar efforts in the neighbouring countries.

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Conclusions

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