LIVESTOCK TRACEABILITY

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Presentation outline….

- What is a Livestock Identification and Traceability system?

- Why is traceability is important?- for livestock / products?

- What are the current methods of livestock identification / traceability?

- ILRI / AU-IBAR / IGAD traceability pilot activities

What is identification? identification system? oie

- *Animal identification*

    The combination of identification and registration of an animal individually, with a unique identifier, or collectively by its epidemiological unit or group, with a unique group identifier.

- *Animal identification system*

    *The i*nclusion and linking of components *[identification of establishments/owners, animal owners, movements, other records]* with animal identification.

What is animal traceability?

- *Animal traceability* is the ability to follow an animal or group of animals during all stages of its life or back to the point of origin.

- It includes *"trace- backs"* and *"trace- forwards"*

- The p*oint of origin* could be a particular farm, or batch, market, ranch production line or time frame, field or supplier

- *Product traceability* - the ability to follow food [*production, processing and distribution*]

The need for animal traceability?

- Being able to *rapidly trace-back* in the event of a disease outbreak is a key element of traceability *[the faster, the less the loss...]*

- It offers a number of disease control options, including....

  - *early detection of outbreaks, quick response, surveillance, movement control, for sampling, for herd health, genetics, etc*

The need for animal traceability?

❑ Response to consumer demands- food safety and increased consumer confidence

❑ Certification for export purposes- access to lucrative markets

❑ Public health assurance— protection from illnesses, avoids food recalls

❑ To curb / address cattle theft at border points

❑ Can enable access to loans / credit facilities

The need for animal traceability...

- It is the outbreak of the mad cow disease in Europe – *urgency in traceability*
- Traceability challenges in the US (2003) U.S
- EU requirements for traceability followed- exporters also needed to comply

- The demand by consumers to be provided with safe products
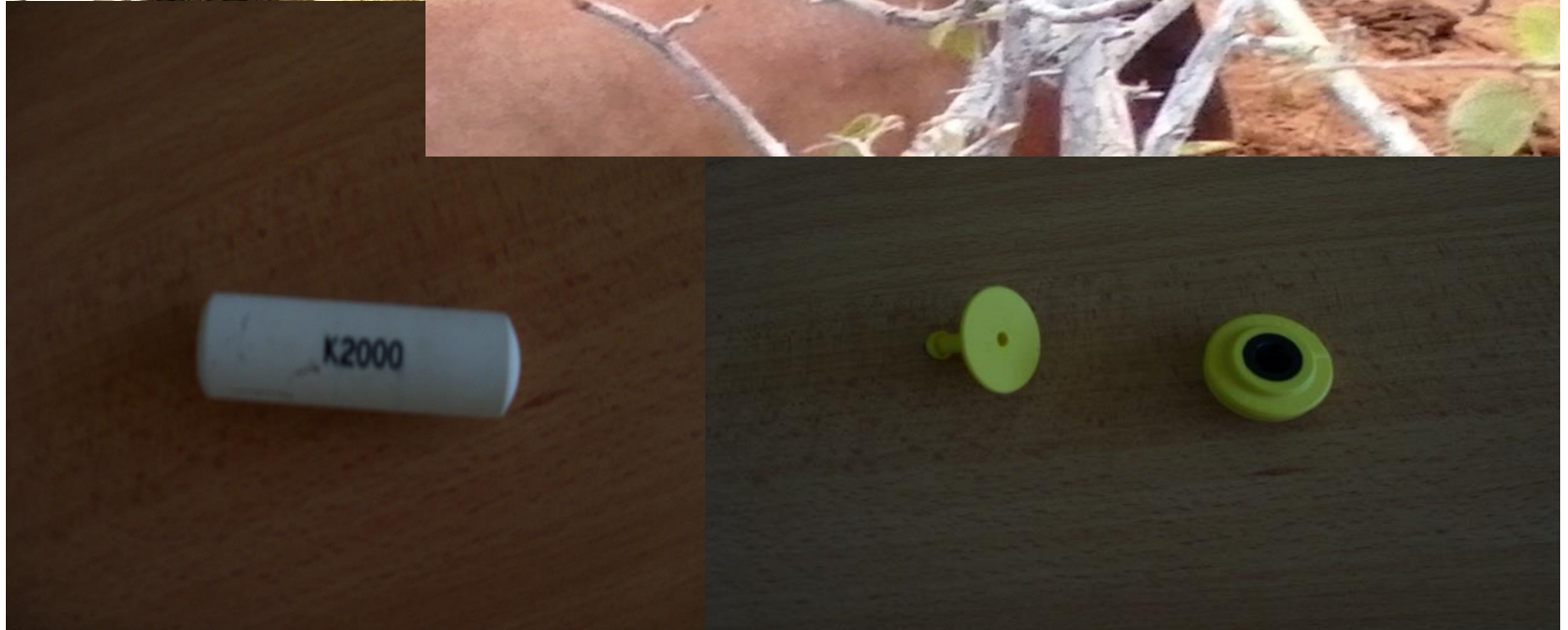
Methods of Animal identification

- Identification of animals traditionally used to determine ownership for theft control

- Hot iron branding, tattoos are old practices of animal identification

- Health of animals (and that of humans) was not a top priority

- The need for traceability has expanded to include the disease control and food safety
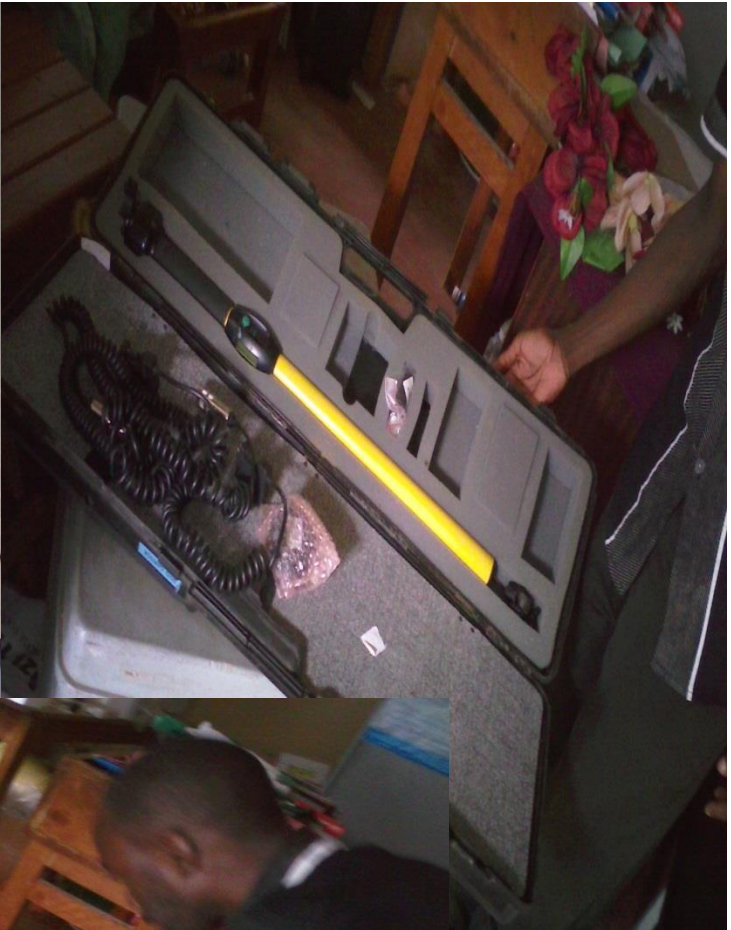
TRADITIONAL METHODS OF IDENTIFICATION

ALSO NAMING OF ANIMALS

MODERN METHODS OF LIVESTOCK IDENTIFICATION

RFID
METHODS

What does World Organization for Animal Health (OIE) require?

- ## OIE chapter 4.1

  Outlines the general principles on identification and traceability of live animals

- ## OIE chapter 4.2

  Outlines the basic elements that need to be taken into account in design and implementation to achieve traceability

PDF

CHAPTER 4.2.

DESIGN AND IMPLEMENTATION OF
IDENTIFICATION SYSTEMS
TO ACHIEVE ANIMAL TRACEABILITY

Article 4.2.1.

Introduction and objectives

These recommendations are based on the general principles presented in Article 4.1.1. The recommendations outline for Member Countries the basic elements that need to be taken into account in the design and implementation of an *animal identification system* to achieve *animal traceability*. Whatever *animal identification system* the country adopts, it should comply with relevant OIE standards, including Chapters 5.10. to 5.12. for *animals* and animal products intended for export. Each country should design a programme in accordance with the scope and relevant performance criteria to ensure that the desired *animal traceability* outcomes can be achieved.

Article 4.2.2.

Definitions

For the purpose of this chapter:

Desired outcomes: describe the overall goals of a programme and are usually expressed in qualitative terms, e.g. 'to help ensure that *animals* and/or animal products are safe and suitable for use'. Safety and suitability for use could be defined in terms such as animal health, food safety, trade and aspects of animal husbandry.

Performance criteria: are specifications for performance of a programme and are usually expressed in quantitative terms, such as 'all *animals* can be traced to the *establishment* of birth within 48 hours of an enquiry'.

Reporting: means advising the *Veterinary Authority* and other partner organisations as appropriate in accordance with the procedures listed in the programme.

Scope: specifies the targeted species, population and/or production/trade sector within a defined area (country, *zone*) or *compartment* that is the subject of the *identification* and *traceability* programme.

Transhumance: periodic/seasonal movements of *animals* between different pastures within or between countries.

Key elements of the animal identification system

| Element	Description
DESIRED OUTCOME	Animal health, public health, management of emergencies, for trade, animal husbandry- performance
SCOPE	Define species and sector- takes account of particular characteristics of farming system- e.g. cattle in a defined FMD zone
PERFOMANCE CRITERIA	Is it urgent? How long to trace? Highly contagious diseases- zoonotic- chronic
PRELIMINARY STUDIES	Pilot studies –to test system, info on design and implementation
DESIGN OF PROGRAMME	Consider the scope, performance, desired outcomes, pilot findings
	Choice of ID methods, other specification by vet department,
	Registration – establishments & keepers, animals, movements

Key elements of the animal identification system CONT…

Element	Description
MONITORING EVENTS	Unique ID number; Birth, slaughter and death of animal; Date of movement; source establishment; # of animals moved; to where; if change of ownership; animal observations (e.g. tests); Identifier details- lost, replaced, retired), etc.
DOCUMENTATION	Standardized and supported by legal framework
REPORTING	To veterinary authorities by those responsible – for example animals identified, movements, etc
INFORMATION SYSTEM	Should provide for the collection, compilation, storage and retrieval of information. Consider:- potential for linkage to traceability on other parts of food chain, minimize duplication, compatible databases, confidentiality, backups,
OTHERS	Laboratories, Abattoirs, penalties, legal framework- under the responsibility of veterinary authority, implementation

RECORD 1   RECORD 2   RECORD 3   RECORD 4

Individual or group Identification of animals at the farm level (for example animals are tagged)

Records are added as the animal moves along the entire chain
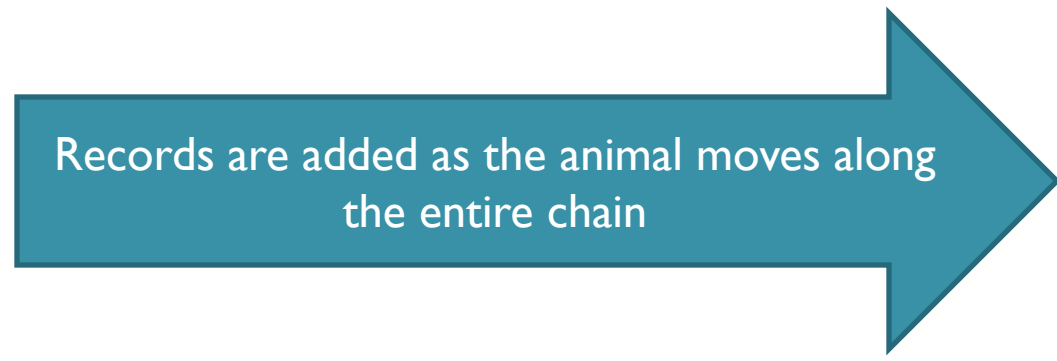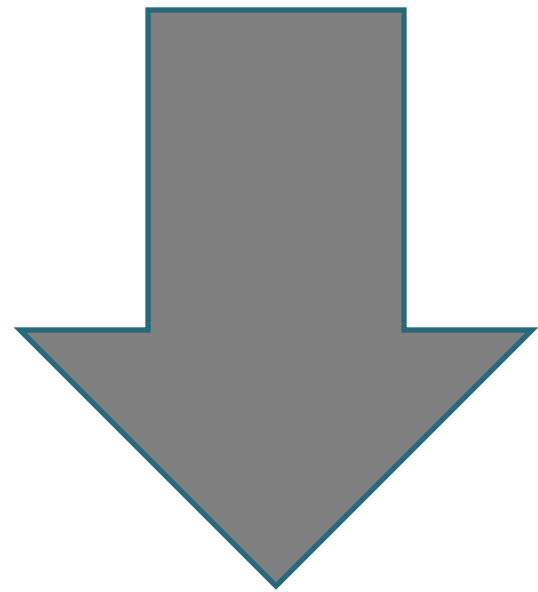
Animals are slaughtered or exported to other countries

What are the challenges linked to the use of current methods

Paints- is temporary

Hot iron Branding

- Branding damages and devalues the animal's hide

- Lack of a central control- differences in design

- Over-branding (for example if animals are stolen)

- Visibility- if done on young animals hair can overgrow, dirt, dung

- Welfare concerns due to the pain- others

Other challenges with ID methods

RFID methods

The bolus- costs, need reader, communication system; can sometimes fail to be detected; application in young animals;

But provides fast and accurate data, can be recycles

Ear tags

- *Can be lost, tempered with, etc.*

Implementing LITS is a challenging task – which even the developed countries have struggled to develop….

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Animal Disease Traceability Too Expensive, Rural Coalition Says

BY DAN FLYNN | JUNE 8, 2012

A coalition led by farmers and ranchers is using a last-minute strategy to stop USDA's new Animal Disease Traceability (ADT) program. The groups involved are using economic grounds – especially the added costs that animal identification will impose on rural America.

In a 9-page letter to the Executive Office of Management and Budget, a unit of the White House, the sixteen organizations in the coalition say animal traceability could cost the U.S. cattle industry more than $1 billion a year.

The so-called ADT rule is a replacement for the National Animal Identification System (NAIS), which became so unpopular with rural America that Congress for 2010 cut out its funding before it could be implemented.

ADT is essentially a diet version of NAIS. It is limited to animals moved interstate, will be run by state and tribal governments, is "low tech," and is being implemented only through transparent federal rule making.

As soon as USDA opened the new program to public comments last fall, ADT came under fire almost as much as the old NAIS had.

Now the opposition is centered on the financial impact ADT will have on farmers and ranchers, and some of the faulty reasoning it says USDA used in working up the proposal. For example, it says USDA's estimate that "only 30 million cattle" cross state borders each year is "contradicted by the publicly available data on the cattle industry."

"The USDA has not done their due diligence investigating the true fiscal impact this will have on the livestock industry," says Mark A. Kastel, senior farm policy analyst for the organic policing group called The Cornucopia
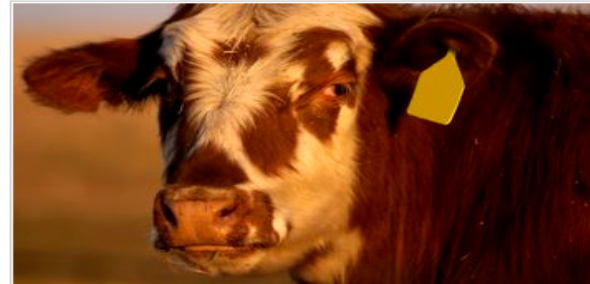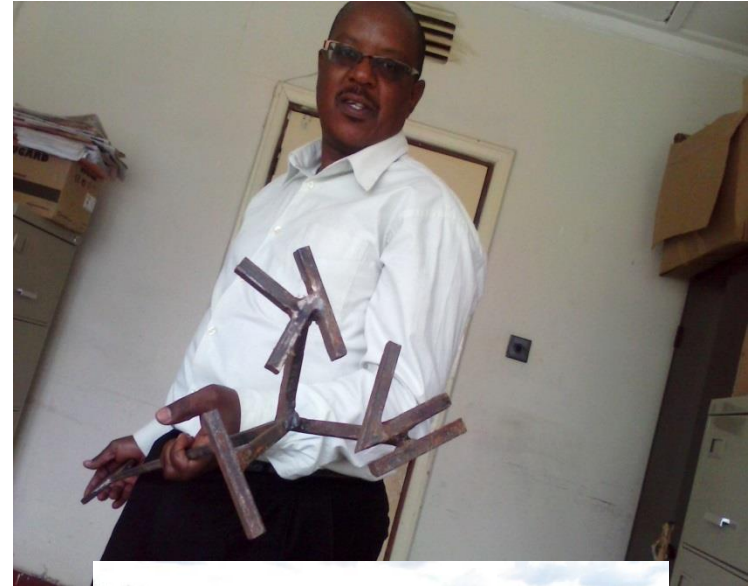
Livestock traceability (pilot) activities in Kenya

'DUMISHA AMANI I'

- In 2003, hot iron branding Cattle, camels & donkeys were branded.

'DUMISHA AMANI II'

- RFID boluses and hot-iron branding
- in cattle rustling prone counties

RFID (bolus + ear tags) by DVS and Terra Nuova in 2007- 2008

BRANDING OF STOCK ACT CAP 357 (1907), MOVEMENT PERMITS

Photo: Maritim et al

The LITS project by AU-IBAR / ILRI

...Develop a harmonized livestock traceability system for the IGAD region....

- Review the current practices on LITS in the IGAD region

- Review livestock traceability activities in other countries- what lessons have been learnt?

- Design and pilot test a livestock traceability option for use in the IGAD region [Kenya, Uganda, Ethiopia]

What next?

- The benefits of traceability are more than the costs related to system implementation

- We can learn a lot from past activities, on key factors to be considered
  - cost, simplicity, sustainability, how far back to trace, how precise is the system, what details are required for system, focus (animal health, food safety), government- industry partneships etc

What next?

- OIE has provided guidelines which countries can use to design their own systems

- AU-IBAR initiatives to develop a harmonized system for the IGAD region

- The options may include combination of options [ear tags, RFID, branding, etc]

- More lessons expected from traceability studies by ILRI / AU-IBAR

references

- *Maritim, Manga, Matete 2014*

- *Moreki et al 2012*

- *Bowling et al 2008*

- *OIE (2006, 2010)*

- *Besbes et al 2010*

- *Yordanov and Angelova 2006*

- *FAO/WHO (2004)*

Thank you