Animal identification for traceability and performance recording: FAO's multipurpose and integrated approach

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Global context

- Massive increase in demand for food of animal origin
- Longer and more complex transport and value chains
- Intensification of production systems and development of industrial private sector
- Reduction of public investment, transfer of certain services to private sector and awareness of shared responsibility
- Awareness of consumers about food safety, quality, animal welfare and the environment
Global context

Meat: Million metric tons

Graph showing the trend of meat consumption in developing and developed countries from 1970 to 2050.
Farming systems evolution in Dvl’g Countries

from:
• Smallholder mixed to large-scale industrial
• Multifunctional to commodity-specific
• Local market to globally integrated markets
• Scattered to clustered production
• Diverse breeds/varieties to narrow genetic base
• Increasing dichotomy between large and small/middle size farms
Animal identification, traceability and performance recording
Definitions

• Animal identification is the marking of an animal, individually or collectively by its group, with a unique individual or group identifier.

• Animal identification system is the inclusion and linking of components such as identification of establishment/owner(s), the person(s) responsible for the animals, movements and other records with animal identification.

• Recording is the process by which data including parentage, characteristics, performance and relevant events, are collected, recorded and securely stored and made appropriately accessible to the users.
• **ISO8402**: The “aptitude to find the history, the use or the localisation of an entity by means of recorded identifications”

• **Codex definition (27th CAC 2004)**: Traceability/product tracing: The ability to follow the movement of food through specified stage(s) of production, processing and distribution.

• **OIE**: The ability to follow an animal, or group of animals, during all stages of its life
AI: Important tool for many purposes

- Farm management
- Genetic improvement
  - basis for pedigree and performance recording
  - artificial insemination schemes
- Biodiversity management
- Prevention & control of zoonosis & other animal diseases
- Trade opportunities
  - trade certification and access to markets for higher quality and geographically identifiable products
- Proof of ownership
  - subsidy payment schemes
- Theft control
AI & traceability as tools to

**Protect public health** (food safety)
- identify, trace and control animal movements
- identify, trace and recall unsafe foods (and feeds) at any stage of the food production and distribution chain
- tool of risk management

**Plant and animal health**
- Ensure inspection and certification for animal health

**Ensure fair practices** in food trade (WTO TBT Agreement)
- protect from deceptive practices and fraud in the market place and unsubstantiated product claims (e.g. geographic indication, food quality)
AI&R: FAO Multipurpose integrated approach

Livelihoods Impacts

Access to Market
Income generation

Policies
Strategies
Legislations

Production Improvement
better management & breeding

Animal Health
Public Health
Traceability system

Farm level

AI&R is a livestock development tool
This multipurpose and global approach increases acceptance and distribution of costs among all stakeholders.
Players – National level

• Breeders organisations
  – Production recording
  – Herd book and IPR
  – AI and breeding programme management

• Competent authorities
  – Traceability
  – Public health
  – Animal health and welfare
  – Animal movement

• Livestock and food industry
  – Market access
  – Traceability
  – Product branding
Players – International level

- Standard and guideline setting
  WTO, OIE, Codex Alimentarius (FAO/WHO), ICAR, ISO, private/retail/processing

- Support to standards implementation
  FAO, World Bank and other funding agencies, Livestock and food industry
FAO

regional offices

4000 staff - 192 Members
FAO

sub-regional offices

4000 staff - 192 Members
FAO

Seventy-eight Country Representations

4000 staff - 192 Members

liaison offices
• National Counterpart: Ministry of Agriculture, Livestock, Environment, Health, Planning, etc

• Partners: international conventions and bodies, REO, CGIAR/ARIs/NARS, NGOs, private sector
FAO’s Global Goals

- reduction of number of people suffering from hunger;
- elimination of poverty, increased food production, enhanced rural development and sustainable livelihoods;
- sustainable management and utilization of natural resources for the benefit of present and future generations.
Based on FAO’s comparative advantages:

- putting information within reach
- sharing policy expertise
- providing common fora for countries and stakeholders
- bringing knowledge to the field
FAO’s activities in AI&R

- Technical cooperation projects for formulating legislation and designing national AI&R systems; e.g. Chile, Uganda, Malawi, Lesotho, Moldova, Ukraine, India, Swaziland, Tanzania,....

- Organization of joint FAO-ICAR workshops: Tunisia, 2011, Hungary 2008; Finland 2006; Tunisia 2004; Switzerland 2002; Slovenia 2000; Poland 1998; India 1997

- Develop/update guidelines for AI&R, with focus on small-scale production

- Support to ICAR WG for Developing Countries
guidelines for AI & R

Secondary Guidelines for Development of National Farm Animal Genetic Resources Management Plans
Management of small populations at risk
A multilingual team summarizes and in many cases translates laws and regulations on topics falling within FAO’s mandate - agriculture, cultivated plants, environment, fisheries, food, forestry, land and soil, livestock, water and wild species and ecosystems. Legal information is received by FAO from Member Nations pursuant to Article XI of the FAO Constitution.

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Objectives:
- What is the current situation? Threats & Opportunities?
- What lessons can we learn?

Survey (Questionnaire)
- Existing systems (running, planned or being implemented)
- Purpose(s)
- scope
- Funding
- Type of production system
- ...
Do you have any animal identification and recording systems in your country?

Definitions:
- A system is being tested if it has been running for less than 5 years.
- A system is considered planned if there is an agreed strategy to implement by the stakeholders.
- There may be different systems of the same type at different stages in a country (e.g. 2 performance recording systems, 1 operational & 1 being tested).
If systems are planned, what is the progress towards implementation?

- **Funds available & implementation scheduled**
  - Identification
  - Performance
  - Traceability

- **No funds available to implement**
  - Identification
  - Performance
  - Traceability
What are the purpose(s) of the identification systems in your country?

- Traceability for animal health
- Traceability for food safety
- Performance recording
- Movement control
- Ownership verification/theft deterrent
- Pedigree recording
- Subsidy payment
What is the extent of the traceability systems that operate in your country?

- Farm to fork
- Farm to slaughter
- Farm to farm
What performance recording systems exist in your country?

- Single national scheme with central database
- Different schemes for different species/production systems with one database
- Different schemes with different databases
What are the purposes of your country’s performance recording systems?

- Herd management: 15
- Genetic improvement: 10
- Research: 5
- Characterization of genetic resources: 7
What are the main production systems with recorded animals in your country?
Challenges

- Countries’ relations: trade (WTO, TBT, SPS)
- Lack of political will, esp. in absence of direct motivation (trade)
- Lack of resources (human and financial) in developing countries to implement traceability
- Lack of infrastructure and support services
- Need for a better collaboration and coordination among international players
What can FAO do more?

• Reinforce capacity building and support to countries to implement compliant identification, traceability and perf. recording systems
• Ensure coordination with other international players, especially at the country level
• Play a bigger role in policy and standard setting - FAO may try to influence international agreements/standards so they focus more on results rather than the method