

FARM AFRICA

Technical Guide to Indicator Units

Advice for Extension Agents
introducing the technique to new
areas.

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Notes for Extension Agents

1. Three herders should be selected whenever the technique is introduced to a new operational area.
2. Start with herders based near Alek.
3. Ask the local chief to call the herders together.
4. Explain the purpose of the new technology (recording).
5. As an incentive, connect the volunteering either directly or indirectly to access to veterinary medicines
6. Volunteers should be selected according to the checklist and a willingness to volunteer to record for 1 year.
7. Ideally, the chosen herds /flocks should be visited daily at the establishment of the system; then twice a week and, eventually, once a week when the system is fully functional.
8. Following agreement of the herders, **field visits** should be held at cattle camps where the indicator units are based, at the end of the first year when the performance results are available for discussion.
9. When visiting herds/flocks critical points to check for are:
 - Indicator unit is intact and located where stated.
 - Data bank (tins). are kept in a safe place.
 - Herders are putting the stones into the tins each day.
 - The tins are capturing the real events, tasks, inputs and outputs.
 - Information extracted is logical and conforms to general observations of the camp.

1. The Idea.

An absence of basic livestock data hinders livestock development in South Sudan. Realistic performance data for herd/flock and individuals cannot be obtained from either classical base-line surveys or focus group meetings due, in part to herders' reluctance to discuss numbers and, in part, to the nature of the information needed.

Under this scheme, herders are requested to identify a mini-herd/mini-flock of breeding females within their ownership that might be clearly marked, in an acceptable manner, and tracked by regular visits of the FARM AFRICA Vet and Extension Agents, according to a predetermined and universally agreed protocol.

Simple production and husbandry characteristics of the selected group, recorded regularly by the herders, using a physical (non-written) diary based on the stone-game "*awet*" (Dinka), are collected by weekly by FARM AFRICA Vet/ Extension Agent to be transformed into production indicators from which the group's performance can be determined. Expanded information is obtained by weekly discussions based on the *awet* data.

Comparing the indicators and associated factors obtained throughout the year against i) other herders in similar circumstances and ii) predetermined *benchmarks or standards to be achieved* will provide the platform for both herders and planners with to improve livestock performance through better decision making and a wider range of relevant interventions.

2. Herd/ Flock Selection

- Herds/flocks should be representative of the livestock management of area, West Gogrial, Warrap State.
- Their annual movement cycle should be within reach of FA Vet and Extension Agents at all times.
- Herders should be volunteers interested in collecting data regarding their own livestock and receiving and discussing detailed information about their animals' performance.
- FARM AFRICA should try to enrol 3 herders in each new area in order to generate data for meaningful comparisons.
- If level of literacy dissuades herders from volunteering, it should be clearly explained that data collection is a 2-stage process and that the

initial phase is not literacy dependent.

3. The Method.

The elements of one set are as follows;

- Means of identifying selected group of females.(viz ear tags, ear marks, tattoos, animal marking paint) backed up by group and individual female photographs.
- A lexicon of agreed terms and measures (units for feed, milk) is prepared with the herders.
- Four rows of 6 small tins bolted together in lines form the data bank.
- Plentiful supply of small attractive stones for placing in tins provides the data.
- Different colour stones may be used to good effect, child labour-white; adult labour-black
- Exercise books are needed for the Extension Agent to record the *awet* data.
- Access to laptop with Excel spreadsheet for FA Vet for livestock records and their analysis.
- Focus group formats to discuss results of recorded herds/flocks with owners, groups of owners, Ministry of Agriculture and Animal Resources staff.

Following herder selection;

- FA Vet, Extension Agent and herder observe the herd and select a stratified sample of females representing the age structure of the herd/flock to be the indicator unit.
- The unit should be at least 20¹ cows or 40 ewes-does and their followers.
- Each animal selected is aged (by teeth), marked as agreed, photographed, body condition scored and its physiological state recorded, (viz pregnant, non-pregnant, suckling with calf-at-foot,

calf weaned-lactating). These are details of the opening stock for the year and are entered into the spread sheet on the opening page. They will be compared to the closing stock in one year later.

- Recording tins should be prepared and the system of *awet* recording explained in detail to the participating herders, whereby small stones are placed into tins corresponding to events and husbandry tasks that have happened, inputs provided and outputs obtained during each week.
- A herd visiting schedule is planned together with the farmer and agreed to incorporate daily visits for the first week, then less frequent visits as the recording system becomes established until a routine of weekly visits is reached.
- During the weekly visits the FA Vet and Extension Agents discuss the story behind the stones and translate the information stored in the tins to data for the excel spreadsheet.
- The FA Vet enters the data and prepares monthly, seasonal and annual returns on all common livestock production indicators for discussion with farmers.
- The Extension Agents translate the information into local terms and deliver the findings to individual farmers and, where agreed, farmer groups.
- At the end of the first year, the FA Vet and Extension Agents discuss possible interventions to improve performance at herd level with herders and at county level with MoA officials.
- Herd/flock recording continues for a second year with the existing herders.

At the end of the first year, FARM AFRICA should offer the opportunity for more volunteers to join the existing group and a new group of participants should be opened in another part of Warrap State.

¹ Number to be determined locally

4. The Indicators.

For cattle

Tin Row 1

Bulling	Mating	Calving	Suckling	Milking	Weaning
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Tin Row 3

Hand Feed	Water	Graze over	Move pasture	Local treatmt	Labour
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Tin Row 4

Milk used	Milk sold	Stock sold	Stock gifts	A.T.	Dung used
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Tin Row 2

Slaught	Disease	Vac	Anti bio	Dead calf	Dead cows
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For sheep/goats

Tin Row 1

heat signs	mating	lambing	suckling	milking	weaning
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Tin Row 3

Hand Feed	Water	Graze over	Move pasture	Local treatmt	Labour Herding & husbandry
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Tin Row 3

Milk used	Milk sold	Stock sold	Stock gifts	Stock lost	Dung used
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Tin Row 4

Slaught	Disease	Vac	Anti bio	Dead lambs	Dead ewes
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The Spreadsheet

CATTLE	JAN	FEB etc
Females in Unit		
Labour, days-adult	0	0
Labour, days-child	0	0
Straw fed,kg	0	0
Straw source		
Price/kg	0	0
Watering, time or litres	0	0
Grazing over (days)		
Price charged /day		
Disease noted		
Vet. Treatment		
Nos treated	0	0
Price charged,	0	0
On Heat number		
Heat date	0	0
Mating date		
Mating Nos	0	0
Calving date		
Calving Nos	0	0
Weaning date		
Weaning Nos	0	0
Drying off date		
Drying off Nos	0	0
Milk prod litres	0	0
Milk sold litres	0	0
Price per litre	0	0
Milk processed, litres	0	0
Product sold kg	0	0
Price per kg	0	0
Calf born	0	0
Calf sold	0	0
Price per head	0	0
Calf dead	0	0
Adults bought or sold	0	0
Price per head	0	0
Body condition scores		
Adult dead	0	0
SHEEP AND GOATS	JAN	FEB
Females in Unit		
Labour, days-adult	0	0
Labour, days-child	0	0
Straw fed,kg	0	0
Straw source		
Price/kg	0	0
Other feed,kg	0	0
Feed source		
Price/kg	0	0
Watering, time or litres	0	0
Disease noted		
Vet. Treatment		
Nos treated	0	0
Price charged, Birr	0	0

Mating date ²		
Mating Nos	0	0
Lambing dates		
Females lambing	0	0
Lambs born alive	0	0
Lambs born dead	0	0
Lamb deaths	0	0
Adult deaths	0	0
Lambs sold	0	0
Price obtained	0	0
Adults sold	0	0
Price obtained	0	0

**Indicators to be calculated
and to be compared between herds;
establish benchmarks.**

Cattle

Calving %
Calving interval
Returns to service
Calf mortality
Adult mortality
Sale of stock
Slaughter of stock
Gifts of stock
Sale of milk/ milk products
Home use of milk and milk products
Adult labour days
Child labour days
Feed used kg
Value of feed used
Cost of feed bought in
Margin over labour costs
Margin over feed costs/value

Sheep/Goats

Lambing %
Lambing frequency
Returns to service
Lamb mortality
Adult mortality
Sale of stock
Slaughter of stock
Gifts of stock
Home use of milk and milk products
Sale of milk/other products
Adult labour days
Child labour days
Feed used kg
Value of feed used
Cost of feed bought in
Margin over labour costs
Margin over feed costs/value

² Introduce ram raddling using locally made paint
To assist in identifying mating and returns to service.