Intervention impact

› Important to measure impacts of interventions
- productivity and/or profitability
› Productivity gains relate to increases in livestock production
- number of calves born
- growth rate
- minimise mortalities
- kgs of beef produced
- etc. etc.

Measuring Productivity

› Provides feedback
- quantifies successes
- facilitates adjustment/improvement
› Useful in promoting interventions to other farmers/stakeholders
› Requires tool to capture key information
- weigh tape
- survey

1. Weigh tape

› Cheap
› Easy to use
› Easily transportable
› Suited to local Cattle and Buffalo
› Better than other methods
- Visual estimation
Benefits in assessing weight

Dry season  
Wet season  
Fattening  
Health & reproduction

Why a girth measurement?

- Girth: circumference around the body behind the shoulders
- Widely used and accepted
- Least influenced by other factors

Constraints to weight assessment

- Unlikely to have access to electronic scales
  - Expensive
  - Need to be maintained
- Accuracy of visual estimation
  - Cattle vs. buffalo
  - Age, sex, reproductive status
  - Season – wet vs. dry

Data collection and analysis

- Develop model to describe relationship between species, sex, weight and girth
- Used approximately 7800 girth and weight measurements from 2010 and 2011.
- Plot of ‘true weight’ vs. ‘girth circumference’ indicated reliable predictions of live weight using girth measurements.
To predict weight from girth the model fitted to each combined data set was:

$$\log_e \text{Weight} = \beta_0 + \beta_1 \log_e \text{Girth} + \text{Season} + \text{Sex} + s(\log_e \text{Girth}) + \text{Village} + \epsilon$$

where:

- Weight = weight of animal (kg);
- Girth = girth of animal (cm);
- Season = effect of season of data collection (first or second);
- Sex = effect of male vs female;
- Village = effect of village (random); and
- $\epsilon$ = random error.

Due to there being no difference between male and female measurements, conversions specific for either cattle or buffalo were developed.
2. Surveys

- Useful in capturing Knowledge, Attitudes and Practices of stakeholders
- Enables comparisons over time to gauge impact of interventions
  - low vs high intervention villages
  - identifies uptake of key messages

Requires careful consideration of questions
- consistency between interviewers and data collections
- considers translation into local language and responses back to English
- facilitates analysis
Information used to evaluate:
- project progress against objectives
- promotion if interventions to new stakeholders when scaling out messages.

Weigh tape and surveys are simple and effective tools for assessing smallholder productivity gains.

Information beneficial in evaluating project progress and promoting intervention uptake.

Questions