Project title:

- Improved feeding system for more efficient beef cattle production in Cambodia.
- Project start date 1 March 2008, finished 31 August 2011.

Project Target Area

Outline of presentation

- Project Summary
- What is the forages?
- Forages help farmers
- Forages management
- Cattle feeding management

2.1. Objectives

- Overall Objective
  - To improve profitability of cattle production and reduce labor demand for feeding cattle in smallholder farming communities in Cambodia.
- **Specific Objectives**
- To increase adoption of forage fodder banks, reducing time associated with feeding cattle.
- To increase small-holder farmer income from cattle production by improving feed quality, availability and feed use efficiency.

**What is the forages?**

**FORAGES**

- Grass
  - Short species
  - Medium species
  - High species

- Legumes

- Small Legumes
  - Liana species
  - Straight species

- Tree Legumes

**Why do we need both grasses and legumes?**

**Grasses give higher yields**
- Range from 4,000 – 8,000 kg of fresh, green feed /100 m2 per year depending mainly on soil fertility, rainfall distribution and management.
- Grass is main feed for ruminant livestock.

**Project Structure**

- National Team
  - Department of Animal Production and Health

- Provincial Team
  - PDA, OAHP, Kampong Cham province

- District Team
  - Farmer Group
  - Farmer Group
  - Farmer Group

Australian Team (UNE) CIAT RUA
Legumes improve feed quality and soil fertility
- Legumes can provide extra protein, as they have much higher.
- Animals need a lot of protein to grow well and produce milk for the calf.
- Legume leaves also provide essential minerals and vitamins for animal growth.
- Legumes yield range from 1500-3000Kg of fresh, green feed /100 m2 per year.

How can forages help farmers?
- Forages that can be planted to provide the additional feed to cattle throughout the year.
- Farmers have forages in cut-and-carry plots help them to increase feed availability to cattle.
- Forage adopters have possibility to increase their cattle production.

Adoption of forages reduces labor associated with feeding cattle
- Adoption of forages may provide increased opportunity for children to attend school
How can farmers grow grasses and legumes in mixtures?

- Planted by mix grasses and legumes in a plot on different row or tree legumes around plots.
- Farmers can plant forage by seed or vegetative planting material.

How should forages be managed?

The following management principles will help farmers to improve
- Forage quality and yield
- Forage persistence
- Animal production
Forage quality and yield management

**Optimum time for cutting**

- Quality
- Quantity

Forages persistence by management

**- Cutting heights for different types of forages**

- Grass
- Growing point: 10 cm
- Growing point: 15-20 cm
- Legume

Forages persistence by management

**- How much manure or fertilizer should we apply?**

In cut-and-carry systems where the nutrients are carried to the animals, so nutrients are must be returned to the forage area same as:

- Supply 2-3 cattle carts of manure /1000 m2 year
- Supply 20-25 Kg of Urea/1000 m2/year
- Supply 4-5 Kg of TSP/1000 m2/year

Cattle Feeding Management

The cattle feeding management is talking about.

- Quantity of feed
- Quality of feed
- Safety of feed
Feeding Quantity Management

- The cattle need to eat is approximately 10 – 15% of their body-weight in fresh forage each day.
- Similar 2.5 – 3% of their body-weight of dry matter feed each day.
Example:
- Cattle 200Kg need 20-30 Kg of fresh grass or 5-6Kg DM feed and water around 25-30 litre each day.

So for provide enough quantity for 2-3 cattle farmers should be planting forage 800-1000m2.

Feed Quality Management

Feed quality mean good feed for cattle, so farmers Should be have Experian about.
- Forages supplements for cattle feed.
- Select best feed to the most productivity of cattle.
- Possibility of forage for feeding cattle.

So feed quality think about palatable, easily digested and high crude protein.

Cattle feed safe management

- To improve cattle feeding system (pen, feed and water troughs).
- Supply good feed and water to cattle also provide better dry season feed.
- Timing for feeding cattle
-(provide feed 2-3 time a day)

Thank you