Improving large ruminants livestock systems

Bulls and buffaloes for sale @ SADU, 2009

Large ruminants: a key component of upland farming systems

Cattle and buffaloes are an important component of northern Laos upland farming systems since they provide saving facilities, draft power, manure, and cash income. Cattle and buffalo are raised under extensive systems with grazing patterns influenced by the cropping season. During the rainy season when crops are grown, large ruminants are either confined in makeshift housing near cropland areas where they provide draught power and manure or are otherwise sent to distant forests to prevent crop damage. The main identified constraints related to big livestock raising are: high mortality rates, lack of feed during the dry season, lack of feed at critical times during the wet season (e.g. at planting and harvesting, when labor is limited to care for animals), loss of animals due to thieves, fall and predators, and damage to other farmers' fields. Integrated approaches including animal health improved management, increased and improved fodder resources for the wet and the dry season, and a better valorization of animal dejections are necessary to improve large ruminant's livestock productivity and profitability. In 2015, EFICAS project supported activities related to large ruminant livestock system improvement in 11 villages.

Sensitization and service provision for improved animal health management

Production is constrained by two epidemic diseases - foot and mouth disease (FMD) and haemorrhagic septicaemia (HS) - one highly pathogenic nematode parasite (Toxacara), and a range of non-lethal parasites. FMD outbreaks although rare, may become more frequent with the increasing trade in cattle across borders with neighboring Viet Nam and China. Smallholders have very limited knowledge of health and production constraints and have limited skills and resources to implement interventions to overcome them. Therefore, broad sensitization, identification and training of village veterinary workers, and animal health revolving funds are necessary to improve animal health management.

Left: Training of village veterinary workers in Houaymoun, Houamuang district @ Chanthavone, 2015

Right: Equipment and animal medecine provided in Samsoum village , Viengkham district @ Sisavath, 2015

Vaccination in Vangxaeng, Viengxai district @ Chanthavone, 2015

In 2015, a total of 346 farmers were sensitized to animal health improved management, 24 farmers were trained as village veterinary workers, 11 animal health revolving funds were settled and a total of 334 big ruminants were vaccinated and marked (using tag, spray) to convince farmers of the positive impact of vaccination on animal mortality decrease.

Improving big livestock feeding systems

There are many options for improving the quantity and quality of feed without adding significantly to the household labour burden.

• *Introduction of improved forages*

The introduction of forages allows enhancing overall levels of productivity and can be used in many strategic ways as a supplement to native grasses, rice bran or, in times of great feed shortage, as a complete diet; forages can be used in fresh, in dry, or after a simple processing (silage) to increase the energy, protein, and minerals content of animal feed.

Above: Animal are marked using tag after vaccination in Sanamha village, Samphan district @ Soulikone, 2015

Right: number of big ruminants vaccinated per village in 2015

Village	Nb head
Phialouang	32
Sanamha	26
Phia	0
Hadxam	27
Houayvat	41
Pouthong	110
Samsoum	41
Vangxaeng	13
Phoukang	8
Naphieng	27
Houaymoun	9

Above: Ruzi grass plot in Pouthong village, Viengkham district
Right: Nepia grass plot in Samsoum village @ Sisavath, 2015

Left: Silage production using ruzi grass in Naphieng village, HMG district @ Chanthavone2015

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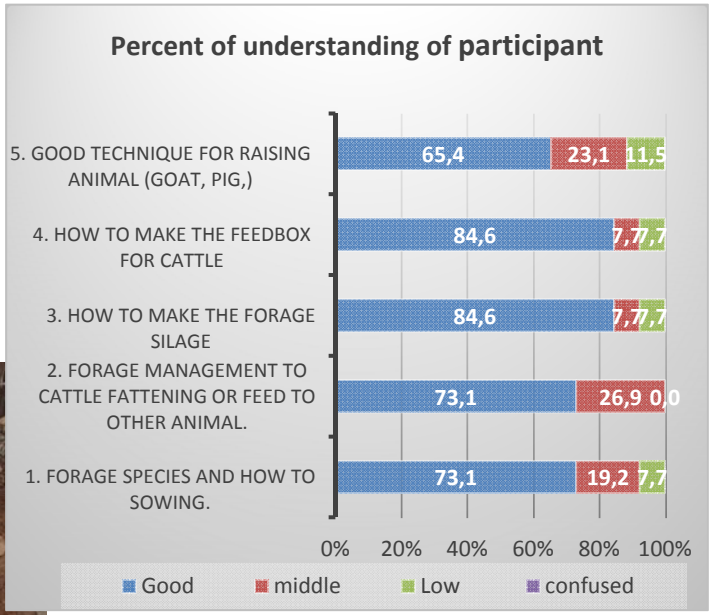
Training on forage management and feed boxes in Houayvat, Pakseng district @ Sisavath, 2015

In 2015, a total of about 700 kg of forage seeds (ruzi, mullato, guinea, paspalum grasses, and stylo legume) and 8 trucks of nepia grass cuttings were provided for a total improved pasture area of about 60 ha planted in livestock areas as prioritized by the village communities.

- ***Local production of feed boxes to increase animal minerals intakes***

Local production of feed boxes in Hadsam (Pakseng district) and Phialouang (Samphan district) @ Sisavath & Soulikone, 2015

In 2015, a total number of 305 farmers participated to the training on forage management and complementary feed boxes. The rapid assessment of farmers understanding after the two trainings provided (i.e. animal health and forage management) show a positive impact in capacity building.



- **Promoting animal water tanks, EM production and use to clean water**

Animal production is constrained by access to healthy water; project support the building of water tank and the local production of effective micro-organisms (EM) products to insure better water quality.

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large ruminants makeshift housing with manure pits @ Pascal, 2011

Increasing animal manure collection and transformation

Manure collection and transformation is still limited in Lao Uplands. Increased animal confinement in stalls may help increasing crop-livestock systems sustainable intensification (i.e. soil and plant fertility management).

The project support manure increased collection (protected manure pits), valorization (e.g. biogas), and/or transformation (compost production)

Improving herd management

Beyond animal health and feeding systems improvement, the improvement of herd management through e.g. movement control, calf weaning, segregation of bulls, night time communal grazing etc. is a step forward large ruminant livestock system intensification.

Left and above: Biogas production in Hadtham TSC, Mai district @ Soulikone, 2015

Right: compost production in Phialouang, Samphan district @ Soulikone, 2015

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