Capitalization document on livestock

ACF experience: provision of small livestock for Kayah State rural population

An experience from Food Security and Livelihoods Program (2011-2014)
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1. BRIEF GLIMPSE ON LIVESTOCK BREEDING PRACTICES OF KAYAH POPULATION

Kayah State is located in the Eastern mountain ranges that surround the central plains of the Union of Myanmar. The State has a central narrow valley running north to south, surrounded by rugged mountains and steep hills. Transportation and access to public services are severely constrained in the mountainous areas.

Kayah rural households' livelihoods are mainly based on farming and livestock breeding activities. The practice of raising livestock is common throughout the State and is an important investment and a source of food and income for families.

The most common types of livestock are pigs, water buffalo, cows, oxen and chickens, with buffalo being the most valuable livestock, and pigs the most common. Since in many villages people savings are a luxury (the limited cash is used for consumption), households with some extra cash invest in physical assets such as livestock. Livestock ownership is a critical factor in a household's food security strategy as livestock is usually the only possession that can be sold almost everywhere and quickly to generate cash. Livestock is often a safety net mechanism that impoverished rural households have.

The breeding capacity of each household is very limited. Most of the farming families are able to breed a pair of oxen, one to two pigs and some few chickens. Cattle are bred mainly for farming activities and manure production, but for important social events such as wedding and funeral cattle are slaughtered for consumption. Pigs and chickens are bred for household consumption and sometimes for income generation. In case of food gap the households can sell away some animals to purchase their main staple food in the markets.

Most of the animals are let free grazing in the forest and pasture lands during day time and are gathered at night to be kept in pens or in the house compound. In many villages, livestock are poorly managed (animals graze freely) and damage crops, causing major concern and sometimes creating social tensions among villagers. Animals' defecations are spreading here and there in the home compounds and can lead to health problems.

ACF intervenes in this area providing support to vulnerable populations, with a focus on mitigating conflict related vulnerabilities Small livestock production activity has been implemented for 3.5 years between 2011 and 2014 in the framework of the project "Integrated WASH and Food Security Project for Uprooted Communities in Kayah State, Union of Myanmar", funded by EuropeAid.

- Overall objective: To contribute to the improvement of the status (livelihood and health) of uprooted people in selected townships of Kayah State, Union of Myanmar.
- Specific objective: To create viable foundation for future development of the concerned areas through improved food security and livelihood, and access to water, sanitation and hygiene for at least 4,000 households in Demoso, Loikaw and Hpruso townships.

The livestock distribution activity was expected to contribute to the Result: "Gain of 2 months of food security per year for at least 1200 households".

2. RATIONALE FOR SUPPORTING SMALL LIVESTOCK PRODUCTION ACTIVITY

Food security is precarious in Kayah State due to:

- Low agricultural production at household level, due to restrained access to productive land combined with inadequate agricultural practices, poor soil fertility and low access to labor force.
- Limited job opportunities, which affect the capacity of the local population to buy food.
- Debts, since the main coping strategies developed by the population to cope with food shortage are borrowing rice and/or money to buy rice, with high interest rates.

To increase agricultural production, ACF engaged in agricultural extension through a Farmer Field Schools approach[1].

Additionally, ACF provided piglets and trainings on breeding practices to 180 farmers supported through Farmer Field School. Objective of the provision of piglets was to contribute to the improvement of households' food security through:

1 See ACF capitalization document on Farmer Field Schools

- An increased households' financial capital. Livestock represents a capital that can be mobilized in case of cash needs.
- An increase of income through the sale of pigs/piglets.
- A direct improvement of food consumption at household level through the consumption of pigs, that provides an additional source of food and animal proteins.
- An increase of food production at household level: animals provide a valuable source of manure that can be used to improve/maintain soil fertility and increase crops yields.

In order to have a multiplier effect, ACF fostered a revolving fund system among livestock beneficiaries. To promote and capitalize mutual help and self-reliance system among farmers, each receiver was expected to redistribute 2 of their born female piglets to the remaining Farmer Field Schools participants as a revolving capital.

3. IMPLEMENTATION METHODOLOGY

The activity has been implemented in partnership with local partners: KMSS (Karuna Loikaw), KHB (Kay Htoe Boe association) and KBA (Kayah Baptist Association).

Livestock beneficiaries have been selected among farmers participating to Farmer Field Schools. Selection criteria were based on their capacity to feed and breed pigs, the absence of other livestock at household level, the willingness to contribute to a revolving fund.

Once beneficiaries have been selected, ACF and the Township Livestock Breeding and Veterinary Department provided awareness building and technical training on proper livestock breeding practices, including topics such as food preparation, feeding practices, vaccination, animal care, diseases prevention and detection, shelter construction and manure collection. The objective was to ensure a good health of the distributed animals and a good productivity.

The day following the distribution, the piglets have been vaccinated against cholera.

ACF provided female piglets to 90 beneficiaries during a first distribution round (one piglet per beneficiary). Taking into account lessons learnt from the first round (May to September 2012), for the second round (August to December 2013) of distribution male piglets have also been distributed for reproduction (84 females and 6 males – 1 male for 14 females). In addition, based on beneficiaries' preference, the distributed variety was *Bokate*, a local breed chosen for its adaptation to local conditions, its fast growth and good reproduction results. This breed has the capacity to get pregnant at the age of 10 months and to give birth to young piglets after 4 months.

Farmers have also been encouraged to use pig manure to improve soil fertility: ACF and its partners provided advices on pig shelter construction with attached compost hole behind the stage. This was intended to raise pigs in a healthy manner and to collect manure.

ACF staff implemented regular follow-up visits, to monitor the condition of distributed animals (growth, diseases, deaths, reproduction) and in order to follow-up the redistribution of new born piglets to additional households by the first receivers.

4. FINDINGS, IMPACTS AND LESSONS LEARNT

Achievements and main findings

To be noted that the second activity monitoring was conducted 5 months after the second piglets' distribution, so at this time it was too early to assess the real birth rates.

Achievement of distribution	Number of distributed pigs who received vaccination	Number of distributed pigs who died after distribution	Number of distributed female who gave birth	Number of born piglets	Number of born piglets from the 1st generation who died	Number of born piglets redistributed to new beneficiaries
180 piglets to 180 Farmer Field Schools participants (174 females, 6 males)	180	38	24	132	22	32

In total, 21% of the distributed piglets died; probably due to improper care and feeding practices, but also to diseases (however, it is difficult for beneficiaries to identify the death causes). Only 14% of distributed sows gave birth to new piglets. Each of these sows gave birth to an average of 5.5 piglets. So far, out of the 132 piglets born (from 24 sows), 32 have been redistributed (from 11 distributing farmers to receiving 19 farmers). Additional distributions are planned for the remaining farmers.
6% of the distributed piglets were sold away because the breed provided was not appreciated by the receivers. Villagers created a village development fund with the money from the sale – 150 USD that has been used for micro-credit activities. Some pigs have also been consumed by households.

The monitoring of the first phase of distribution (90 female piglets) indicated that:

- 85% of the interviewed beneficiaries were satisfied with the quality and breed of the distributed pigs, but 11% were not satisfied since they received smaller animals – for some beneficiaries, some native piglets were distributed instead of *Bokate* variety ones.
- 92% of the distributed pigs were still alive and healthy, but 8% died (unknown cause).
- There was a lack of male from the *Bokate* breed in the distributed sites, thus only 8% of the distributed female pigs got pregnant.
- Regarding the use of manure: 50% of the interviewed beneficiaries stated they would compost manure, 27% stated they will directly use manure on home gardens, 11% stated that they would not use it (but did not mention why).

For the second round of distribution, ACF took into consideration monitoring results to adapt the implementation: male piglets have been included in the distribution and a special focus has been given during trainings on health aspects, in order for the beneficiaries to be able to identify the most common diseases.

The second monitoring (done on beneficiaries from both rounds of distribution) indicated that:

- 80% beneficiaries were satisfied with the quality and breed of the provided piglets. 10% were not satisfied because they received native piglets (during the first round of distribution) which were less productive than *Bokate* breed. Due to a lack of close follow-up of the variety provided by the supplier during the distribution, it appeared that some of the distributed piglets were not from the *Bokate* breed.
- 80% of the interviewed beneficiaries mentioned that they had no problem to feed the pigs. However, there have been some high mortality rates (21%) due to improper animal care and feeding.
- 35% of the interviewed beneficiaries had built a pig shelter.

Figure 1. Pig shelter facing sun rise

The main outcomes mentioned by beneficiaries were: 22% earned income by selling new born piglets, 15% collected pig manure for farming activities, 7% said it supported their food consumption, and 43% did not see yet a clear impact.

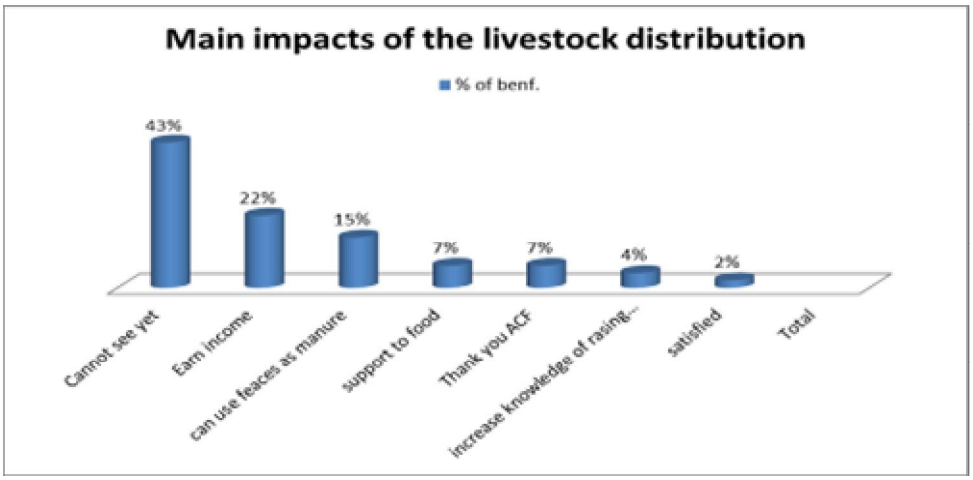

Figure 2.Main preliminary impacts mentioned by beneficiaries

The main findings and lessons learnt are presented below:

- Livestock raising was found to be integral to rural households in Kayah, representing an important source of income and protein for the rural poor. Mortality rates for the distributed pigs have been high, with beneficiaries reporting that the cause of death for virtually all was "improper care and feeding." Thus, the provision of pigs to vulnerable households, who have low access to food and low capacity to feed animals, did not lead to positive achievements. Of all the domestic farm animals, pigs are the most susceptible to diseases and improper feeding, resulting in potentially high levels of mortality:
  - Most farm animals will consume non-organic garbage that they encounter in the village; however, the pig's digestive system is more fragile than the one of ruminants, and this ingestion can be deadly.
  - In a significant portion of the project area there are feral pigs in the surrounding forests. Even if these feral pigs do not come close to the village or homestead, birds do. While feral pigs have built up resistances to many viruses, the domestic pig's resistance to such is much lower. So the birds help transport these viruses.
  - Perhaps the most serious threat to pig health is human food contaminated by human viruses or bacteria – namely "table scraps." Pigs can safely eat most human food as long as that food goes directly from the cooking pot to the pig's trough. When a household scrapes its "contaminated" table scraps and then feed it to the pigs, transmission of human viruses and bacteria is often deadly to the pig.
- The piglets had a better growth and reproduction when distributed to beneficiaries who regularly produce local liquor (the remnant of fermented sorghum, rice or corn are provided to pigs as food).
- There was a low availability of males from the same breed in the intervention area. The breed provided is common in villages around urban areas, but not in rural areas.
- Veterinary services are very weak in the State: there are no supplier shops for vaccines and very few veterinaries.
- Collaboration with the Livestock Breeding and Vaccination Department has been low due to insufficient human resources of local department (only 5 veterinarians for the whole State).

- Revolving fund scheme is challenging. The potential problems are numerous, but the most troublesome is when the female reproduces and "the mother" (in the form of the "self-perceived" owner) can find it difficult to part with the offspring.

5. RECOMMENDATIONS

- Prior to distribution, it is mandatory to well evaluate the animal feeding capacities of the beneficiaries. Feeding capacities of the households was a selection criterion, but should have been better cross-checked. It is not recommended to provide pigs to households who have low capacities for food production, as there priority will be human consumption. Livestock provision to vulnerable households with low food production capacity should be coupled with support to fodder/animal food production, in order to allow these households to have opportunities to better access animal proteins and potential additional incomes, while not undermining their own food consumption or the wellbeing of distributed animals.
- Of all the domestic farm animals (cows/bovines, goats, sheep, pigs, buffalo in this context, and horses and donkeys in other contexts), pigs are the most susceptible to disease and improper feeding, resulting in potentially high levels of mortality. Other animal species, less demanding in terms of food quantities and care, and more resistant, may also be considered for activities aiming at improving households' dietary intake.
- There is a need of carefully assessing the availability of reproductive males in the intervention area before any distribution. If assessed insufficient, some males from the same breed should be distributed in order to ensure that the beneficiaries, in each of their location, can ensure reproduction of the distributed breed.
- Refreshment trainings and regular technical counselling should be provided on care and feeding practices for animals in the local context.
- There is a need to train and provide capacities to local resource persons for vaccination injection (there are very few veterinarians in the State).
- For any livestock programme, there is a need to recruit a veterinarian within the team and work closely with the Township Livestock Breeding and Veterinary Department extentionists.