

Towards more sustainable livelihoods

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Livelihoods in Bamendjo, in the Bamboutous Division of West Province, Cameroon, are based around agriculture. This area in the western highlands has a rather cool climate and abundant rainfall, and is characterised by an extremely high population density that greatly limits the availability of land. As a consequence, farmers cultivate the same small piece of land for many years without fallowing. Maize is the staple food in the whole region, and, with rapid developments in the commercial poultry sector, its price has increased sharply over the years. But farmers have not been able to benefit much from the increased demand for maize and its higher price, as most families can hardly produce enough for their own consumption, basically because of the poor soil conditions on their farms. Farmers here cannot afford farm inputs like fertilizers. Some people move to urban areas in search of alternative means of making a living.

Integrating animals on farms

Many development organisations in Cameroon promote the use of organic fertilizers in order to improve crop productivity, and one way to do this is by keeping farm animals for food or for economic reasons, with animal manure as a useful by-product. Intensive pig-rearing is most often suggested to farmers in densely populated areas where lack of land is a barrier to the traditional, free-range systems of keeping animals. Pigs were already common farm animals in Bamendjo when some NGOs, in collaboration with the Ministry of Fisheries and Animal Husbandry, started working on introducing small-scale intensive pig-keeping to farmers. The rearing of pigs has, in recent years, experienced a rapid move from the traditional free range systems to a management system in which greater numbers of pigs are kept permanently in the pigsty. Compared to the traditional systems, there are many advantages of keeping pigs in proper enclosures. For example, they cannot destroy crops, diseases can be controlled more easily, manure can be collected and used more efficiently, as well as there being fewer cases of the animals being lost or stolen. However, farmers who started keeping their pigs in enclosures also experienced a lot of challenges, which in some cases even threatened the continuation of the project.

Small-scale farmers encountered technical as well as socio-economic constraints during implementation of the more intensive system of pig-rearing. Animal health programmes were not functioning well and regular vaccination of animals, nor parasite control could be guaranteed. Diseases, such as African swine fever and *Erysipelas*, had a devastating effect at times. Equally, feeding the animals posed challenges to intensive pig-keeping. Small-scale farmers were not able to produce a lot of feedstuff themselves, nor could they afford the high cost of feeding pigs commercial feeds all year round. Marketing opportunities for pig products were also not assured. The main factor here was that some villages or areas are dominated by Muslim people who do not consume pork. But there are also great differences in dietary preferences between different groups of non-Muslims. Therefore, market outlets for pig products were not always available to farmers and prices for pork varied largely from one area to another.

Holistic approach

Heifer International has been promoting the integration of animals in local farming systems in the fight against hunger and



Photo: Heifer International

The programme actively involves women in breeding or fattening pigs.

poverty in Cameroon. However, for this international development organisation, farm animals are the entry point for their work with communities interested in moving towards more sustainable farming systems. They use a comprehensive approach to rural development, considering all the different aspects of local livelihood systems, and involving farmers right from the start. This way, Heifer Cameroon has been able to understand the major constraints experienced by local communities, and develop appropriate measures to counter them. In all their activities, women are encouraged to participate and a substantial number of the farmers who received attention, training, and animals from the project are women. More importantly, a family centred approach is encouraged, which promotes full participation of all family members.

Heifer Cameroon works with farmer groups who have shown an interest in developing sustainable agriculture on their farms. When a new application by a farmer group is received, a Heifer project officer in charge of the zone where the application comes from will assist the group members in making a comprehensive assessment of their farms. Together they examine, for instance, the available resources, like land for food and fodder production, existing bottlenecks such as the prevalence of pests and diseases, but also what opportunities there are for selling farm produce in local markets. Another important consideration during this assessment is the management capacity of the group leaders. Proper management, as well as good collaboration and understanding between members in the group, are seen as very important factors. The group as a whole is expected to be in charge of monitoring and evaluating certain criteria, of planning new activities and taking decisions where needed.

In Bamboutous Division, Heifer is supporting four farmer groups. One of these groups is common initiative group *Eleveurs Agriculteurs Solidaires de Bamboutous*, consisting of 10 local farmer families. Keeping pigs and eating pork is part of their culture. Most families in this area have long-term experience with

keeping pigs, but productivity has been low. Only 2-6 piglets were born per sow, while fattening of the animals could take up to 16 months before they could be sold. Generally, they kept their animals in fenced areas, sometimes with cemented floors. Often, the animals were allowed to roam free after the crops were harvested. While in confinement, the animals were fed only with some kitchen waste, grass and, if within their means, sometimes a little bit of concentrate feeds. There was often no money for vaccination or routine deworming of their animals and African swine fever was rampant. The manure produced by the animals was rarely used to improve crop production. Consequently, in the past, pig-keeping did not contribute much to improving the livelihoods of farm families here.

Providing new knowledge

After the farm assessment with Heifer staff, the members of *Eleveurs Agriculteurs Solidaires de Bamboutous* participated in a training on technical issues in sustainable livestock and crop production. This training included how to make compost from animal dung and crop residues, which could then be used by farmers to fertilize their crops. The use of compost has indeed increased crop yields; maize yields in particular are now much higher. There were also training sessions on leadership capacity, and building cooperatives in order to improve the functioning of farmer groups and their ability to compete with other producers. Family focused trainings included awareness raising related to HIV and AIDS, as well as training on gender issues, with the aim of promoting participation by all, irrespective of sex and age.

Before they received any animals, the members of *Eleveurs Agriculteurs Solidaires de Bamboutous* were also trained by Heifer staff on proper animal rearing techniques, taking animal welfare and the impact on the surrounding environment into consideration. During this time it became clear to the group that the intensive system of pig-keeping does not require so much financial investment, but more time and effort needs to be spent on the pigs, while the farmers will need some new technical knowledge. After the training, some members who were selected by the group received four weaned piglets (2-3 months old) of a strong breed from Heifer Cameroon, and also some specific feed ingredients, some seeds, and certain agricultural equipment. At a later stage, these first farmers pass on four piglets to other farmers in the group, and this will be repeated until all group members have received piglets.

Improving the system

Because animal diseases are a major problem, several adaptations to the traditional pig-keeping system were designed together with farmers. Observations had shown that stray pigs are a serious infection hazard and farmers are now encouraged to build a fence around the sty to prevent all contact between their animals and stray pigs. Many farmers are now also keeping their pigs in the sty on a raised slatted floor at between 0.7 and 1.5 meter above the ground to reduce the contact that the animals have with their own droppings.

Heifer also provides training to some selected farmers in each farmer group on basic and low risk health care operations like deworming, external parasite control, and administration of antibiotics. This has greatly reduced the costs for such preventive operations. Strengthening existing indigenous knowledge on animal health care forms the basis of Heifer

Cameroon's ethno-veterinary project which aims at promoting local knowledge on the use of plants in the treatment of animals, and to help farmers establish special gardens of medicinal plants. All these measures have considerably reduced health problems and pig mortality.

Another way for families to save on production costs in the intensive pig-keeping system is by substituting commercial feeds with maize they grow. Feeding costs can account for more than 60% of total pig production costs. By using compost made with pig manure, yields of crops, including maize, have considerably increased. As farmers master the techniques of compost making, they will soon be able to further reduce expenses for animal feeds, and the compost can also be used when growing other crops.

Improving returns

Heifer Cameroon has encouraged farmers to specialise in specific products and activities in certain areas. As far as pig-rearing is concerned, farmer groups located in areas with little demand for pork meat, such as villages with large Muslim populations, are encouraged to focus on the breeding of pigs. Because of a relatively low pig population in such areas, and consequently low incidence of diseases, these farmers are best able to produce healthy young animals that can be sold to other farmers who, in turn, concentrate on fattening the pigs. These farmers are found where people like eating pork meat and where selling pork is no problem. Heifer Cameroon has some project groups in Koutaba, in the Noun Division, who are focusing on breeding while the four in Bamboutous Division, including *Eleveurs Agriculteurs Solidaires de Bamboutous*, are fattening groups. Several members of this group now generate substantial income from the sale of pigs for slaughtering as well as from selling any excess crop produce such as maize, cocoyam, potatoes and vegetables produced using pig manure as fertiliser.

In order to ensure that these successful pig-keeping enterprises can be sustained by the farmer groups after the project ends, each group has been encouraged to start an account into which each member pays 30 percent of the costs of feeds, drugs, or seeds received for free from the project. Such a "savings account" or "insurance policy" belongs to the group and is managed exclusively by its members. Heifer Cameroon only ensures, through training and some follow up, that there is a participatory leadership in the group to prevent money being mismanaged and to promote the participation of all members in deciding how the funds are used or invested. Apart from building financial reserves, the groups are also encouraged to develop into small cooperatives. The main aim of this is to be able to buy feeds in bulk at lower costs and have the possibility of developing other economic activities.

This Heifer approach to community development, with intensive pig-keeping as its central concern, has managed to support farmers in Cameroon in the transition to more rewarding and sustainable farming systems. ■

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