Hay production saves a family farm

By Francis K. Njange

Mr Maina, a small-scale farmer in Lare, Kenya, narrates how he saved his milking cows from a severe drought in 2009.

Although his family also engage in other farming activities like horticulture, poultry and sheep rearing, the dairy enterprise yields more in terms of cash, which enables him re-invest in farming; for instance, his land was initially only one acre, given to him by the parents in 1998, but with the money from the dairy cows he has been able to buy another 12 acres.

Lare faces erratic rainfall, with less that 700mm a year and sandy soils that remain dry the better part of the farming seasons. It also has few water sources like rivers and dams. Only one community dam that is only used for domestic water and no irrigation is allowed by the community bylaws. The dam is seven kilometres from Mr Maina's farm.

With all these realities on the ground, it calls for very efficient and deliberate measures to harvest any available resource, for example rainwater and pasture that later can be used directly by the crops, people and animals. “Most of my neighbour's livestock have died because of lack of feed,” says Mr Maina, who, though he seemed to have been burning in the hot sun the whole day at work, started his very moving and educative story on how the drought had affected his village in particular, though he did all that he could to save his three milking cows, a replacement heifer and a bullock.

To Mr Maina, growing, harvesting and conserving the hay at the right stage and in the right way can save the animals in very dire times, when there is rain and therefore no grazing pasture is available.

To produce good quality hay, he first buys good grass seeds from the nearby agro-chemical stores, prepare the land just before the rains and spreads the seed carefully to ensure the right seed-rate and even distribution.

At the four-leaf stage – when the grass has covered the big portion of the ground and is firm enough not to be uprooted by incoming water -- Mr Maina opens the water channels from the nearby earth road to harvest run-off to the grass field. This water helps the grass to grow even after the rains because it is well conserved in the soil because of reduced incidences of evaporation by the good cover already established.

"I harvest up to 100 bales of grass in the first round after two months of rain, up to 200 during the second harvest and up to 300 bales in the third harvest. I then put them under a good shade to protect them from direct heat and water. These can denature and sometime the grass rots. It is paying, because I have used the grass I stored since the year 2004, till last December 2008 and for this year, I am using what I started harvesting from March this year."

While animals feed on dry grass, they require plenty of water. Mr Maina advises that animals drink the water adrib; that is, with no limitation. The challenge however is: where do farmers get such a big amount of water, especially during drought? This farmer harvests rainwater using all possible means from the house roofs, by use of water pans from the road and making sure that most of his crops are mulched or grow a cover crop to reduce evaporation, to make sure his main farming enterprises are safe.

The sale from milk, bananas and vegetables has enabled Mr Maina to buy in total 12 acres of land, though in phases. He now owns a total of 13 acres from his initial one acre in 1998. Now he can produce even more grass and maize and sells some to his neighbours and even to schools.

"Even if am offered a formal employment, I will simply say a big no, because I am already comfortable with the income and food I am getting from my farm where I am my own boss... it is really satisfying."

With a lot of praise to Baraka Agricultural College for having introduced him to a wide range of good farming practices, he had advice for the rest of his good friends: "We farmers need to grow, harvest and store enough grass for our livestock as well as enough water to make our work bear good fruits... farming can only be fun and profitable while we maintain a good relation with our soil and have water all the time to support a good fodder and food crops. Love and be committed to the work you do every day

Today many farmers visit Mr Maina's farm to learn his style of farming, especially after the drought hit them hard. Most of those who have come across Mr Maina take his advice seriously if ready to make a difference in their lives.

Baraka Agricultural College trains people in sustainable agriculture and rural development in Molo District, Kenya. The college was one of the first members of PELUM Kenya.

Hay production tips

Grass should be cut at ear emergence in order to ensure a big amount of good quality hay. Close off the fields about six to eight weeks before the anticipated cutting date. Grazing a field before closing off will delay the onset of ear emergence and eventually the whole process.

The soil pH should be 6.2 - 6.8. Adequate quantities of soil nutrients such as nitrogen, phosphorus and potassium need to be applied to ensure good hay crop slurry is a useful source of these nutrients.

Good quality hay is dependent on good weather. Proper timing is necessary. Harvesting needs to be done in dry weather to avoid waste.

Conditioning, tending and turning are all operations designed to shorten the time between cutting and baling as much as possible. These operations aim to speed up the drying process so that the grass reaches the desired 20-25% moisture content required for bailing.

Once baled, hay should be stored or stacked immediately to protect against deterioration from bad weather.

Spoilt hay can easily be detected visually and by smell, since poorly preserved forage will be darker in colour and have a rotten smell.