Changing storage practices

Adugna Haile

Farmers in the highlands of Eritrea grow a number of cereals such as barley, wheat, maize and sorghum, and pulses like faba bean, field pea, cowpea, chickpea and lentil. Most of these grains are stored for up to a year for later consumption or as seed for the next season.

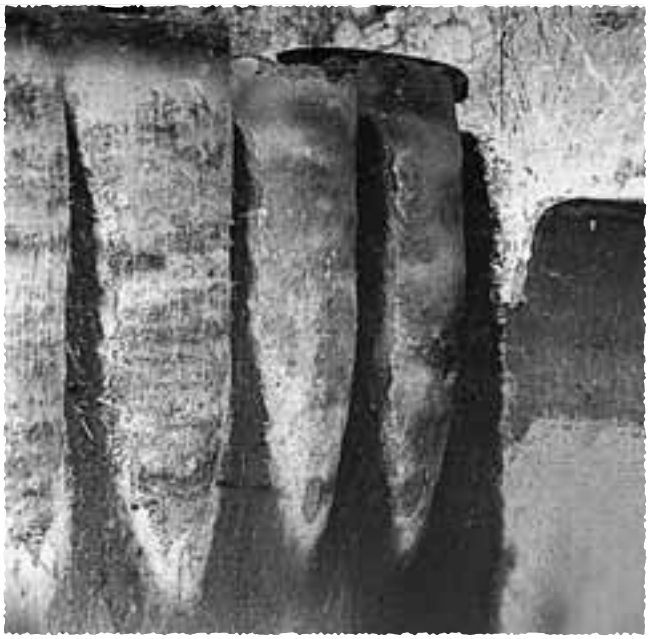

Photo: Author

Grain stores of koffos are built inside traditional houses.

Storage mostly takes place inside the house. The traditional house in the area, called *hidmo*, has walls made of stone and mud, and a roof consisting of a wooden frame covered with shrubs and plastered soil. Inside the house people build a typical storage structure called a *koffo*. *Koffos* are made of cow dung and ash and they partition the living area from the kitchen. They are oval shaped, 1.5 - 2 metres high, wider at the top and narrowing towards the base. There is an opening at the top for introducing the grain and near the base there is a second smaller hole for taking it out. This hole is normally plugged with cloth. The capacity of one *koffo* varies from 300 to 500 kg and there are three to six *koffos* in each house.

During the last 10 to 15 years there has been a gradual shift in house construction from the *hidmo* type to a *merebae* type of house, which has a cement floor and a corrugated iron roof. This, together with low agricultural production, has contributed to a change of storage technology. Farmers with a *merebae* type of house prefer to store grains in sacks or woven plastic bags because they believe that the cemented floor is too cool for storage pests and keeps them away. Bags and sacks also allow for better ventilation than *koffos*, which according to farmers helps keeping the pest population low.

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The household metallic silo

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The household metallic silo is a simple storage technology recommended by the *Food and Agriculture Organization of the United Nations* (FAO) for small and medium-scale grain and cereal farmers. The silos can be built locally, in different sizes depending on the needs of the local farmers. The capacity of silos currently used in countries like Bolivia, Nicaragua and Cambodia ranges from about 120 to 2000 kg. The silo has a number of advantages. It is airtight when closed, so that insects and rodents cannot reach the stored product. As a result the house is kept cleaner and free of rats and mice. Grains can be kept for a long period, which allows for selling at times when market prices are higher. However, it should be emphasized that prior to storage the grains should be dried to a maximum moisture content of 14 percent, otherwise heavy losses may occur. Considering the fact that the silo is durable (it should last for at least 15 years), its long-term cost is very low. The process of constructing the silos can also increase the local economic activity and generate employment.

The cost of a silo varies depending on the size of the silo and where it is constructed. A silo with a capacity of 120 kg costs US$20.00 in Bolivia but only US$10.00 in Cambodia. A silo with a capacity of about 500 kg costs US$60.00 in Bolivia, US$44.00 in Nicaragua and US$28.00 in Cambodia. FAO helps farmers to acquire a silo by creating facilities for rotary credits. FAO also offers training of trainer programmes, for example for local technicians and metal workers.

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Photo: FAO

The household metallic silo allows for long-term storage of grains.