

Rice cultivation in Africa <Part 3>

Upland rice cultivation in Uganda

Uganda's rice cultivation is mainly paddy rice, grown in the low-land wetlands in the eastern part of the country where it has been cultivated for the last hundred years. The country has 70,000 ha of paddy - rain fed and irrigated paddies combined. On the other hand, the upland rice variety is still new and cultivation has been very limited. However, as the NERICA variety was introduced, the cultivation area has been increasing rapidly – from 1,500 ha in 2002 to 40,000 ha in 2008. In order to meet the growing demand for rice, development of irrigated paddy is effective. In 2009, I participated in the NERICA Rice Promotion Project in Uganda as a short-term expert to study the current situation of the cultivation techniques of upland variety farmers. Here, based on the experience, I would like to introduce how farmers in Uganda are viewing and using the upland variety cultivation technique.

This investigation targeted farmers in the area around the National Crop Resources Research Institute near Kampala. The target site is a gently hilly area, and many farmers were cultivating in the relatively flat area in valleys rather than on the hill slopes. The lower flatter area is more appropriate for upland rice cultivation because of its higher water table and more fertile soil that has accumulated organic matter. Many farmers became interested in upland rice cultivation after seeing the crop cultivated by farmers who were trained and guided by project counterparts to start cultivation as initial extension targets. Most farmers had less than one year experience in upland rice cultivation, and many started cultivation with seeds that they bought from the pioneer farmers. Most of the farmers were cultivating NERICA 4, and the cultivation area was mostly small scale, or around 0.1 ha. The largest cultivation area was 1.7 ha.

As there was no existing cultivation technique, the basic knowledge of cultivation was also passed on by the pioneer farmers, and therefore followed the cultivation guidelines developed by the project. For

upland rice cultivation, weeding is the important point for increasing yields. In order to make weeding easier, it is important to plant the seeds in rows. We could observe all the farmers, including farmers around the target areas, seeding in rows. Inter-row space was between 25 and 40 cm, which was close to the 30 cm recommended by the project. All the farmers performed weeding three times during the cultivation period, which was also in accordance with the project's cultivation guidelines.

As explained above, techniques that the project promoted were absorbed by the farmers. However, there were also some examples whereby farmers were applying techniques used on existing crops to upland rice. Sickles for harvest were not commonly available, and farmers were typically using hatchets in large plots and harvesting only ear in small plots. Threshing was mostly done by hitting rice ears with a pole. For this, farmers said that harvest without straw is more convenient. The survey area was never before a rice cultivation area. This meant that there was no rice mill. For milling, the farmers needed to take paddy to the mills in a nearby town. For domestic consumption, many farmers were using pestles and mortars which they normally use for grinding maize. Furthermore, many farmers were practicing double cropping and inter-cropping between upland rice and maize, in contrast with paddy rice cultivation which is mostly single cropping. Although this is not directly related to cultivation techniques, I could see people using rice straw as thatch and for walls of huts near the rice plots. I felt that upland rice is penetrating the local people's lifestyles.

Still, upland rice cropping in Uganda is in its infancy. Although farmers are adding their innovation to cultivation techniques, in order to establish upland rice cultivation, it is important to increase production efficiency with the use of sickles and threshing machines, and to improve market access through measures including establishment of rice mills. In addition, it is necessary to pay attention to potential problems, for example pest outbreak, which may arise in future as the cultivation areas increase.



Upland rice field in the valley between hills



Pestle and mortar (left)
A hut with rice straw roof (right)