

**I**n Vietnam, the agriculture supplies 32% of the national income and employs 72% of the national labor force. As for the food production, especially rice production, the Mekong Delta supplies about 49% of the national rice output. In this delta, the average areas of paddy-field looked after by a household is 1.5 ha, producing 8 to 10 tonnes of rice a year, but there's a difference in average output and farming land area between regions and households. This household possesses dozen hectares of farming land while another one has to lead a miserable existence as a tenant farmer.

In recent years, the Government and the Party have tried their best to develop the agricultural production and give help to poor farmers. One of the most outstanding achievements in this aspect is the fact that Vietnam could supply enough food to the domestic market and export from 2 to 3 million tonnes of rice a year. These achievements are due to the application of new techniques (selecting seeds, using fertilizers, and insecticide, improving irrigation system, etc.) and new policies adopted by the Government. Although after-harvest stages of production (reaping, threshing, drying, storing, milling) have seen certain progress in recent years, but the storing stage hasn't been improved properly regardless of the fact that some 60% of rice produced are stored from 2 to 6 months in farmers' storehouse. In villages along roads or waterways, the storing time is shorter, from 2 to 3 months, but in remote villages rice could be stored for 7 months.

Poor farmers, representing 20%-30%, have no rice to store and sometimes they have to sell their crops before the harvest. Middle-class farmers, representing 30%-40%, could store from 2 to 5 tonnes of rice in 3 or 4 months (this amount of rice will be used as food, seed for new crops or for sale). Rich farmers, representing 8%-10%, could store from 5 to 10 tonnes of rice (or more) in 6-9 months, and sell them when the market price is up.

The reduction in quality and quantity of rice during the storing stage is caused by many factors. One of the most important factors is the way the rice is dried. In the summer-fall crop, this way of drying rice has affected strongly the reduction in quality and quantity of rice. Both farmers and experts in agricultural production are longing to reduce af-

terharvest wastage, especially in drying and storing rice, and to make rice dried at a possibly minimum cost.

At present, in the Mekong Delta, many local rice-driers are used along with ones imported from Denmark, Italy, the U.S... These driers are installed by many factories in Sóc Trăng, Cao Lãnh, Cái Răng. Most of them have been used for 6 or 7 years. Some others are made by local factories (Long An Food Processing Machine Factory, May 1 Engineering Company in Long An, An Giang Engineering Factory, Ô Môn Rice Institute...). These driers could consume husk as fuel. However, because of the poor mechanical skill of drier operators, the rice dried by machines was bought at a lower price in comparison with rice dried in the sun.

The number and capacity of rice driers could not meet demand of farmers so they had to dry their rice by putting it on roads (because most of them had no yard for drying rice). In the winter-spring crop, the rice dried on ground or roads contained a high percentage of sundries (from 1.8 to 2.5%). In the summer-fall crop, the rice wasn't dried completely and was mildewed, yellow-colored or produced bud. The rice dried on roads contained a high percentage (28%) of broken grain because it was run over by vehicles.

In farmers' houses, there is usually a big basket, or vat, made of bamboo, straw, plank... and lined with polythene sheet. It is used for storing rice. It has no cover, isn't ventilated or treated with pesticides. The rice stored in it has high humidity (over 16%), was eaten by fungus and other insects, so the percentage of spoiled grain increased.

In order to reduce the wastage in storing rice, the following problems should be solved:

- Reduce the humidity of rice produced in the summer-spring crop to 14% by making rice driers appropriate to local conditions, supplying loans to help farmers build drying yard (that is, to prevent them from drying rice on roads)...

- Design and produce rice storage containers of low price and introduce them to farmers. This kind of container should be made of local raw materials and could serve various purposes.

- Inform farmers about method of storing rice, using pesticides in storing rice or handling spoil grains...■

# ON PRESERVATION OF BROWN RICE IN THE MEKONG DELTA

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