

ZIMBABWE'S BRICK GRANARIES

PUTTING THE FOOD SUPPLY ON A SOLID FOOTING

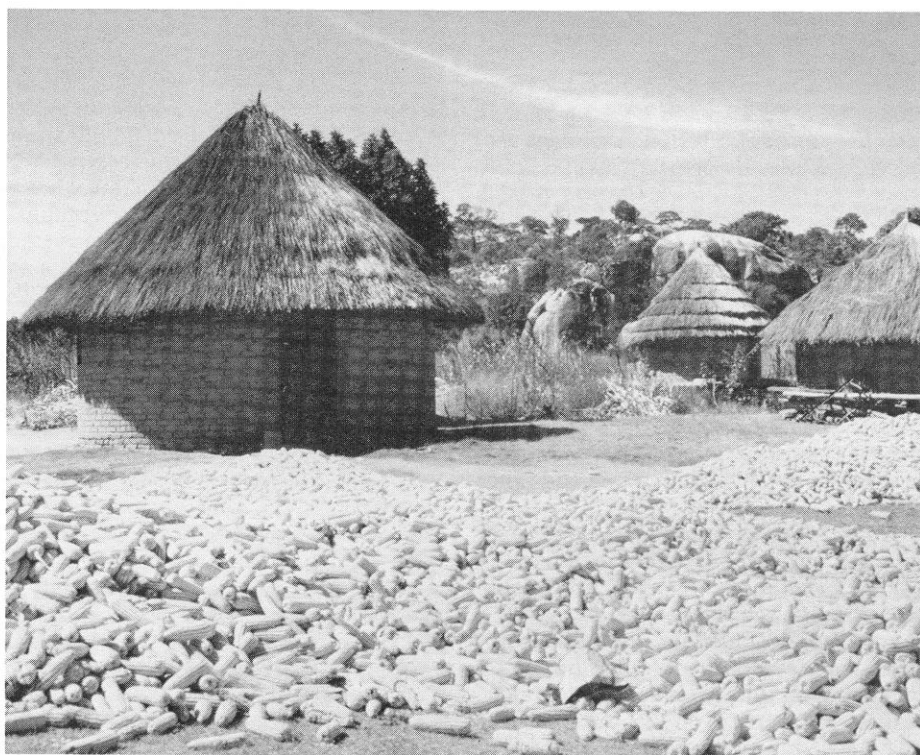
DENIS MARCHAND

Experts almost always stress agricultural production (improved farming methods, soil fertilization, and combating disease and parasites) as the way to solve the problems of poor diet or undernourishment," says Campbell D. Kagoro, an engineer at the Agricultural Technical and Extension Service (Agritex) in Zimbabwe. "Unfortunately, they only rarely mention the importance of reducing postharvest losses."

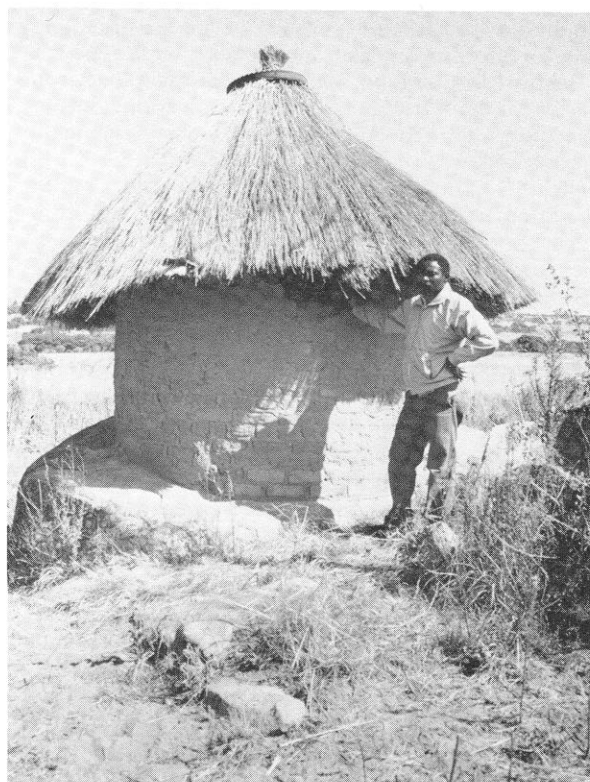
Mr Kagoro has worked for many years on the development of a new type of granary. Reducing food losses during storage remains his number one priority.

ENDA-Zimbabwe (Environment, Development, Activities) has joined with Agritex to undertake a major study of the subject, with financial assistance from IDRC.

In Zimbabwe, grain losses during storage aren't a big problem for large commercial farms owned by rich families. On the other hand, such losses continue to be a serious problem in the traditional com-



Corn piles up outside the newly-built brick granaries that protect the harvest from losses due to rodents, insects and disease. Photos by Denis Marchand.



Engineer Campbell D. Kagoro, of the Agricultural Technical and Extension Service, says grain losses pose a serious threat to communal farms which compose 42 per cent of arable land in Zimbabwe.

munal agricultural areas that feed most of the rural population. These areas, where farmers grow maize, millet, and sorghum, occupy about 42 percent of the country's arable land. For the most part, they are located in semi-arid regions prone to drought and erosion and degradation of soil.

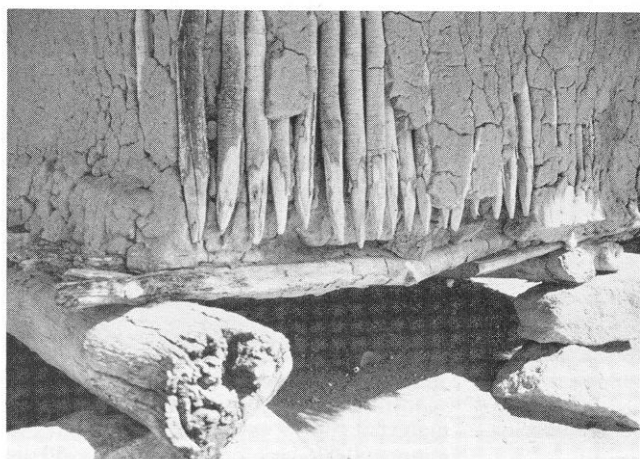
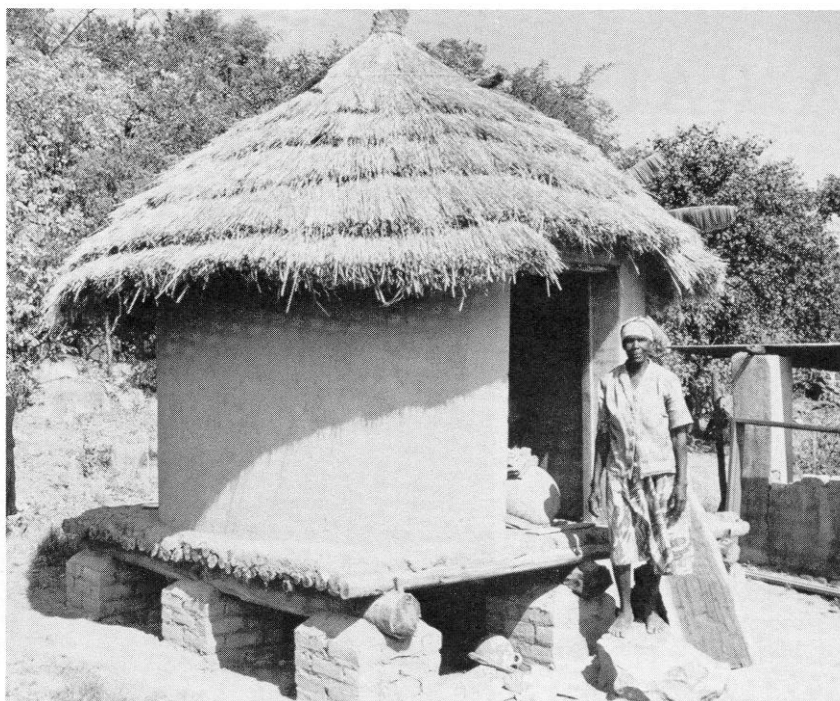
In 1985, according to Agritex figures, communal lands produced 771 000 tonnes of maize, 190 000 tonnes of millet, and 78 000 tonnes of sorghum, representing respectively 50, 90, and 92 percent of national production.

Most small producers are subsistence farmers and store their harvest in small granaries with a capacity of 1.5 tonnes.

It is estimated that 10 to 20 percent of this grain deteriorates during storage. The financial losses are enormous, but these are insignificant compared with the threat to the country's food self-sufficiency.

This is why ENDA-Zimbabwe undertook in 1986 to replace the traditional mud-

These brick structures, covered with a waterproof thatch roof and equipped with air vents, offer excellent protection against dampness. Each has an average capacity of 2.5 tonnes and up to five compartments to store various types of products.



Traditional wood and mud granaries are vulnerable to erosion. Grain losses are estimated at 10 to 20 percent annually.

covered wooden granaries with new structures developed by the Institute of Agricultural Engineering (IAE) and Agritex.

The ENDA granaries have been installed in disadvantaged, arid areas. They are built with bricks laid directly on gravel-covered soil or on rock. In some instances, the structures are built on wooden joists supported by masonry footings.

The wood floors are covered with a mixture of mud and mortar ("daga"), with sand added to prevent cracking and dung to repel rodents.

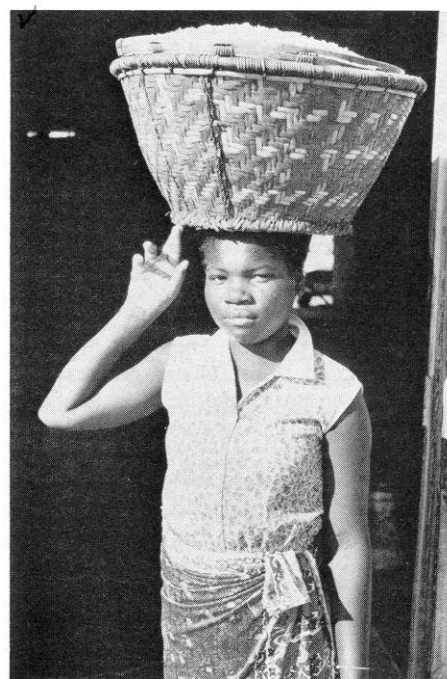
These brick structures, covered with a waterproof thatch roof and equipped with air vents, offer excellent protection against dampness, insects, and rodents. Each has an average capacity of 2.5 tonnes and up to five compartments to store various types of products.

Their brick composition is no accident. This material is a viable alternative to wood which is becoming increasingly

scarce in densely inhabited regions where deforestation is occurring. In addition, the manufacture of baked clay brick is a familiar process for the local residents. They already use this material to construct their homes.

Granary construction is part of a larger ENDA research project to develop new storage and drying methods. "The dilapidated condition of the traditional granaries is not the only cause of loss," says ENDA-Zimbabwe's director, Charles Gore. Insects, parasites, and insufficient drying also cause a great deal of damage. Nevertheless, the improvement of the granaries will greatly reduce annual losses."

Denis Marchand is a freelance Canadian photographer and journalist interested in development issues.



According to Agritex, communal farms provide 90 percent of the national production of maize.