

Project Document 09.03. PROJ014 DOC91.02

Title of Project: Postharvest technology

t.311 Zentralamerika 11 (formerly t.311 Honduras 8)

Seguridad alimentaria:

Comparación de impactos socio-económicos en la tenencia del silo metálico versus sistema tradicional de almacenamiento

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Year:	1991
Collation:	80 p. + annexes.
Language:	spanish
Type of Media:	Print document
Type of Document:	research report
Classification:	09.03 - storage methods and facilities
Descriptors:	grain crops; farm storage; postharvest losses; postharvest technology; storage; storehouses; kidney beans; maize; sorghum; food security; socioeconomic development; food security; prices
Geographic Region:	Central America; Honduras

Abstract:

In the present study emphasis is put on the differences between the farmer using the metal silo and the farmer using the traditional system with respect to the socio-economic impact of both structures. The objective was to know the characteristics of both technologies and the changes that a new technology like the metal silo can provoke. In a survey conducted in three regions of the country with farmers using metal silo and farmers using the traditional system about 15'000 data were collected and analyzed concerning socio-economic aspects, agricultural practices and post harvest handling of basic grains.

The average interviewed farmer has a family of 7.2 persons and 63% among them have visited primary school until second grade. Small farmers (medium farmers) have 1.9 ha (4 ha) of arable land, 33% (49%) of which is owned by the farmer, 24% (3%) is rented and the rest of 43% (48%) is cultivated by a group or cooperative. There are no significant differences between farmers using the metal silo and those using the traditional system. The most important crop is maize covering 60% of the fields of farmers using metal silo and 72% of the fields of farmers using the traditional system. This means that the farmers with metal silos are more diversified and can cultivate more rice (Olancho and Intibucá) or more sorghum (Choluteca). 63% of those farmers have a silo to store 18 qq (817 kg), 23% have a capacity of 12 qq (545 kg), and 14% have a silo for 30 qq (1362 kg).

Metal silos provide more food security in quantitative and qualitative terms than the traditional storage system since 80% of the farmers owning a silo have enough maize for the whole storage period or even a surplus while 80% of the farmers using the traditional system experience a shortage of maize and are forced to buy part of the maize for their own consumption. The metal silo strengthens the situation of the farmer in the market and improves his financial and economic situation in general. 44% of farmers with silo buy maize from January to April when prices are low to fill up their silos. Only 6% of farmers with traditional storage buy maize during these months of favorable prices; 40% buy between may and July and 55% in august or September when their stores are empty. Moreover, 43% of the farmers with silo can

sell surplus at favorable prices while none of the other farmers has a surplus. If they sell they do it because they need money at a certain moment or they do not have enough storage room or their maize has suffered severe damage during storage. The average annual benefit of the farmer with silo is 474 Lempiras, the others having a benefit of only 161 Lempiras.

This improvement of the economic situation - 63% of farmers with metal silos confirm having more money than before - causes several impacts: first of all, it causes several changes in agricultural practices. 6% of the farmers with silo diversify their cropping pattern changing to higher yielding crops or increases his production of basic grains about 28% since he has enough storage capacity. He uses 10% more fertilizer and manure, mechanizes the labour in the fields about five times and employs 10% more field workers than farmers with traditional storage. This is also reflected in the yields: farmers with silos have an average yield of 14.8 qq/mz (960 kg/ha), those with traditional storage 10.1 qq/mz (694 kg/ha). Farmers with silos also store 43% more maize than others, including the maize he is buying.

The silo also provides an advantage for the women since the grains are not stored on the cob so that the work of shelling the maize is done by the men before storage and not by the woman at the moment of preparing the meal. This is the argument number one mentioned by farmers' wives when asked about the most important change since the introduction of the silo.

The higher liquidity of farmers with silos makes them spend more money. They buy more food, clothes and shoes and also invest in animals and fertilizers, and in improving their houses. Therefore it is not astonishing that farmers with silos have more cows (2.5 versus 1.3) and oxen (0.7 versus 0.4) and 44% more horses or donkeys than farmers with traditional storage system. On the other hand the latter owns 3 hens more than the silo farmer, the number of other animals like ducks, pigs, goats and rabbits being about equal. Though no difference has been observed in the amount of maize consumed by both types of farmers the daily diet is more varied for the family of the farmer with silo. They themselves have observed this change. Housewives also confirm that their houses are cleaner since they have a silo because there are less pests around. As a consequence of a better diet and cleaner houses, the health of children from farms with metal silos is clearly better: other children have 32% more diarrhea and 29% more parasites.

Through the present study it has been confirmed that impacts caused by the metal silo go much further than only post harvest loss reduction. The impact can be considered as a socio-economic impact because it concerns almost all aspects of daily life.
