

GENDER ISSUES IN GRAIN STORAGE MANAGEMENT INTEGRATING THE GENDER DIMENSION IN THE EFFECTIVE GRAIN STORAGE PROJECT (EGSP)

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The issue of postharvest grain losses

Maize is the main staple crop in most East and Southern African countries and over the last decade the region has been facing significant maize production deficits, forcing countries to increase their food import bill or sometimes, even, rely on food aid for the poorest population. Low productivity levels have been identified as one of the main reasons behind this situation, and historically public policies and private sector strategies have been focusing on addressing this challenge through promoting the adoption of improved maize varieties and the complementary utilisation of fertilisers. Yet another factor significantly impacts on maize production levels in the region: postharvest losses. Post-harvest losses refer to measurable quantitative and qualitative loss in a given farming produce that can occur during any of the various stages in the food supply chain, from production through to retail and consumer levels. An FAO/ World Bank report published in 2011 estimates the financial value of cereal post-harvest weight losses to be USD 4 billion per annum for sub-Saharan Africa, a value that exceeds the total value of food aid received by the continent for the period 1998-2008 and is roughly equal to the cereal import bill for 2000-2007. In East and Southern Africa, the area of highest concern (i.e. where the greatest % of crop losses are recorded) is at the pre-farm gate amongst smallholder farmers, where poor harvesting, handling (incl. transport), drying, processing and storage of crops occur. In particular, up to one third of the grain crop can be lost during the storage stage alone under poor storage conditions. These losses are caused by insect pests such as the large grain borer and the maize weevil, fungal pathogens as well as rodents. In addition to the actual loss in weight/volume (quantitative loss), there is also deterioration of the quality of the damaged grains, which can restrict product use and sale or affect people health and well-being as damaged grains might not be suitable for human consumption anymore (e.g. contamination by toxic aflatoxins, highly carcinogenic). Inadequate traditional storage practices and lack of appropriate technologies are the main contributing factors to this situation. As a result, the household food and nutrition security as well as income levels are negatively impacted. Indeed, the strategy adopted by smallholder households to address this serious storage challenge is often to sell most of their grain crop straight after harvest when prices are the lowest, which not only reduces the quantity of maize they are left with to feed their family but also forces them to buy maize during the lean season when prices are the highest. Therefore the issue of grain storage losses has substantial multi-dimensional impacts on smallholder households and rural communities at large, and addressing it by promoting enhanced grain storage management has the potential to significantly contribute to reducing food and nutrition insecurity and improving the social and economic well-being of the population in East and Southern Africa.

The gender dimension of grain storage management

There is paucity of knowledge as to rigorous assessment of gender roles and relations in grain storage in Africa. Yet empiric observations show that both men and women are involved in grain storage management. Moreover this stage of the post-harvest segment of maize production has an impact on other post-harvest activities that are more gender specific, such as shelling (usually the sole responsibility of women) or granary construction (usually the main responsibility of men). Another major activity linked to storage management is the utilisation of the stored grain: for home consumption, animal consumption or selling, which requires that decisions are made about what priority to give to which utilisation at any specific time. Also, in Southern Africa, complete grain pooling is far from being universal in smallholder households. Spouses may keep separate grain stores for their own specific usage in addition to the common one. In case of polygamy, the different wives manage different food stores. Thus, in smallholder households, there is a constant bargaining over who has access to and controls food stores. This bargaining is a function of resources that each individual member owns and the division of labour between them. In order for men and women to have access to stored grains, they must engage in some form of active or subtle negotiation and positioning within households and in society as a whole. Individuals use these negotiations to maneuver within the existing constraints of social relations in order for them to pursue and achieve their separate and joint interests. Informal arenas often play an important role in the process of negotiating access to stored grain and decision making with regards to grain storage.

Gender specific impact and challenges of introducing improved grain storage technologies by the EGSP project

The Effective Grain Storage Project (EGSP) is an SDC project implemented by CIMMYT (International Maize and Wheat Improvement Centre) in Kenya, Malawi, Zimbabwe and Zambia. The aim of the project is to promote improved grain storage technologies for smallholder farmers, particularly hermetic technologies such as the metal silo technology and hermetic bags, with the view to enhancing the livelihoods of smallholder households through improved food security and increased incomes by reducing grain post-harvest losses. The project is designed around three components:

- Testing and provision of improved storage technologies to the target populations ;
- Promotion of informed enabling policies for effective storage management at national and regional levels ;
- Capacity building for scaling-up the adoption of the technologies promoted by the project through, in particular, the development of sustainable local markets for both the storage technologies promoted by the project and quality grains.

Originally the project mainly focused on the effectiveness of the promoted technologies against pest attacks as well as on the economic/monetary benefits smallholder households could expect from using metal silos and/or hermetic bags (gender blindness). However, it became clear from a very early stage that introducing a new grain storage technology might impact differently on men and women and affect gender relations within the targeted households. This could not only hamper the uptake of the promoted technologies (in case men or women not willing to adopt those technologies) but also have unexpected negative consequences in terms of gender equity, i.e. by introducing gender inequalities or accentuating existing gender gaps. For example, the upfront unit cost of the metal silo represents a major obstacle for women, who are generally more constrained resource-wise, to access this technology. Also, the bulky shape of metal silos, usually of 1 ton capacity, makes it difficult for women to handle the storage container. As a result, women could be prevented from benefitting from the advantages offered by the technology and remain affected by grain damages while men would enjoy better pricing of their better quality grains stored in silos. Conversely, women who have access to metal silos could increase their bargaining power over when to sell the grains while damages occurring during storage are no longer an argument in favor of selling straight after harvest when prices are low and they don't need the money. Their husbands might be reluctant to accept a technology that diminishes their own decision power within the household. Therefore, an additional outcome aiming at ensuring the integration of the gender dimension of grain storage was added to the project in order to take into account the specific challenges and needs of men and women in terms of improved grain storage technologies in the design of project modalities and activities (gender awareness/sensitivity). Eventually, the project seeks to ensure equal opportunity to both men and women to participate and benefit from the intervention.

What does the EGSP project intend to do to address these gender specific challenges?

To address the gender specific challenges posed by the introduction of new enhanced grain storage technologies, the EGSP project came up with the following strategy:

- 1) Undertake an in-depth gender analysis in the four countries of implementation to gain a better understanding of pertinent gender issues as they relate to grain storage management; this process will lead to
- 2) The development of a precise gender strategy and action plan in each country of implementation to address the specific issues identified by the analysis, with the aim of increasing the chance to foster gender equality and anticipate unintended negative outcomes for particular groups in targeted communities. This strategy and action plan will delineate aspects such as what can be done to foster gender equality in grain storage, how, by whom, when, at what cost and with what expected outcomes; the strategy will have to also take into account the capacity of implementing teams (which might require some strengthening);
- 3) The design of relevant gender equality indicators;
- 4) The integration of the gender dimension into project on-going activities and monitoring; and
- 5) Knowledge sharing about gender issues in grain storage management as well as success and challenges on how to address these issues when introducing new storage technologies based on EGSP experience - between the countries where EGSP is implemented, between stakeholders at national level (incl. policy makers), within CIMMYT and SDC as well as within the larger cooperation development community.

The gender analysis was launched in early 2014 with a twofold main objective: i) to better understand gender issues in the area of technology development and dissemination (at artisan level), ii) to better understand gender relations around household grain storage and grain marketing management (t farmer household level). Overall, the aim is it to make it possible to develop for each country a tailor-made strategy that maximizes the probability of attaining gender equality outcomes at technology development, promotion and adoption levels as well as within households and at community level.

The methodology used for the gender analysis is based on a social relations gender analysis framework. Research questions were partly informed by insights gained from a preliminary participatory rural appraisal exercise. They were designed to not only catalogue gender differences in grain storage management, but also understand the cultural and symbolic dimensions of gender in the targeted communities and how these dimensions are invoked in specific post-harvest actions, rights, responsibilities, power. Another objective of the research questions was to provide clarity on how and in what context men and women are involved in controlling and accessing stored grains, where conflicts may arise and where cooperation takes place within household in grain post-harvest management. A qualitative approach was used for evidence collection. Specifically, data were collected through semi-structured interviews with key informants, sex-disaggregated focus group discussions as well as other ethnographic methods such as participant observation.

Field work was carried out in the four implementation countries in March-April 2014 using local gender experts under the supervision of EGSP gender coordinator. Evidence collected are currently being analysed and the analysis findings will be presented and discussed at the upcoming EGSP annual review meeting scheduled for the end of June. Thereafter the project implementation strategy and logframe will be revised where necessary as the project is entering the second half of its second phase of implementation. The gender analysis findings will also be key in developing a gender sensitive project document for the third phase of the project.
