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## Assessing the Effectiveness of the Community-Based Seed Supply System for *in Situ* Conservation of Local Wheat Varieties

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### Abstract

Ethiopia is one of the countries with a high diversity in crop genetic resources. Between 1995 and 2003 the IBC/E (Institute of Biodiversity Conservation/Ethiopia) started to establish community-based seed banks at 12 locations in different agro-ecological zones. The main purpose being to enrich the diversity of locally cultivated crops and achieve an effective *in situ* conservation of endangered landraces. The objective of this study was, to document how gene banks presently respond to farmers' needs in order to approach a participatory and sustainable *in situ* conservation of plant genetic resources by the example of wheat. The Ethiopian durum wheat varieties, which contain numerous desirable traits for breeding, are particularly endangered due to lack of seed sources, market-oriented production, and competition with improved hexaploid wheat varieties. Farmers' motives to prefer certain varieties, to diversify their gene pools are determined by factors like original and current seed sources, consumption patterns, abundance and livestock type, access to land and seed, and risk aversion related to market uncertainty and difficult environmental conditions. In this study, four Ethiopian wheat production areas with different agro-ecological and socio-economic features were visited, in three of which seed banks existed. Per site 20–30 households, belonging to a Crop Conservation Association (CCA) or not, and cropping traditional wheat varieties or not were interviewed. Interviews covered their market situation and socio-economic conditions, as well as farmers' perceptions regarding properties of wheat varieties cultivated and production constraints in their environments. Additional data from group interviews and market surveys were used to reveal the distribution and/or gene flow of improved and traditional wheat and how they are influenced by the locally based seed supply system. At the seed bank sites of Gimbichu and Lome, seed supply of landraces is mainly through the seed banks, because farmers appreciate the lower transaction costs and interest rates for borrowed seeds. They practically do not consider other seed sources for landraces. Despite the formally equal access, seed banks do not entirely meet farmers' demand for highly appreciated landraces because social structure and interpersonal relations and/or information flow within the CCA play a dominant role for seed distribution.

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