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“Management of land use systems for enhanced food security:
conflicts, controversies and resolutions”

Crops for Healthy Diets: Linking Agriculture and Nutrition (Healthy-LAND)

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Abstract

At the beginning of the 21st century, differences among regions and countries in nutrition security are still big. Even if food security exists, many households face difficulties in achieving a diversified diet providing all necessary macro- and micronutrients as well as health-promoting bioactive substances. Besides global malnutrition, micronutrient deficiencies are typical manifestations. At the same time, caloric over-nutrition causes diseases, preventable through adequate intake of fruits and vegetables providing the bioactive plant substances. East Africa shows relatively high prevalence rates of malnutrition and faces a high need for diversified diets. Our goal is to discover to what extent and how a more diverse farming system contributes to diverse diets and nutrition security. We hypothesise that improvements in farming systems based on ecologically oriented farming has an impact on food diversity and nutrition security.

Expected outputs are a comparison of nutrition security, dietary diversity, agro-biodiversity and choice of crops among resource poor households in Ethiopia, Kenya, and Uganda. The target sites are classified as currently following monoculture survival strategies. Further outputs will be tested innovations in the farming system to increase food options by offering sustainable cropping alternatives including agro-forestry mitigating soil degradation. There are several multipliers and vicious cycles to be identified along routines in farming ending in a new concept. This concept will be described by a collection of indicators and underlying factors. The concept of diversified diets we use implies: (i) healthy nutritional statuses, achieved through intake of different foods provided by diversified farming and purchased from off-farm income; (ii) use of diverse crops to prepare meals serving nutrition needs based on a diversified crop production; (iii) use of healthy crops offering full ranges of nutrients; (iv) adapted preparation techniques of food and meals for a healthy diet. The work packages (WP) 1 and 2 focus on nutrition looking at status and change of vulnerable groups, institutional set-ups in households, gender relationships, mechanism of achieving change needs, and farming diversity. Vegetables and fruit trees being part of the traditional system will be investigated in WP3, looking at organic matter turn-overs and impact of land use on soil degradation. With respect to finding a translation mechanism between dietary and agricultural diversity, findings are put into a communication framework (WP4).

Finally, the research aims at contributing to capacity building. The focus will be on knowledge exchange, on status of nutrient provision and maintenance of health between consumption and production units using a trans-disciplinary approach, in which crop scientist, agronomists and nutrition experts work together with farmers, households and retailers.

Keywords: Agriculture innovations, agro-biodiversity, dietary diversity, nutrition education, nutrition — agriculture linkages