Land use diversification to improve resilience towards harsh climatic conditions in Ethiopia

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Introduction

- In response to climate change and climate variability-induced risks like drought and pest, rural farm households are responding in various ways which include:
  - Conversion of agricultural land use to woodlot and
  - Adoption agroforestry systems

Objective

To investigate the climate change resilience capacity of agricultural land diversification through tree plantation and agroforestry practice

Methodology

- Data from Ethiopian Central Statistics Agency (CSA) and FAO reports
- Mapping of land use land cover changes in selected three districts of Amhara, Oromia and Sidama region of Ethiopia.
- The data is triangulated and presented in graphs and maps

Land use changes within the last three decades in the study sites

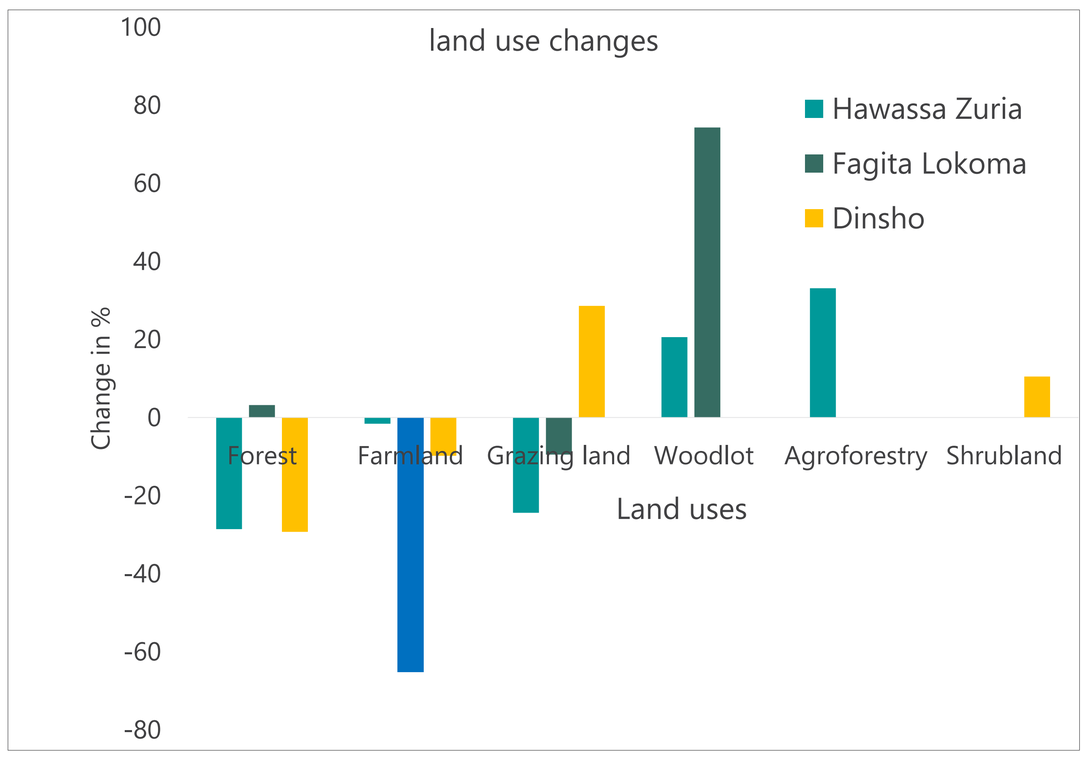

Figure : Land use changes from 1991 to 2021 in the study area

Results

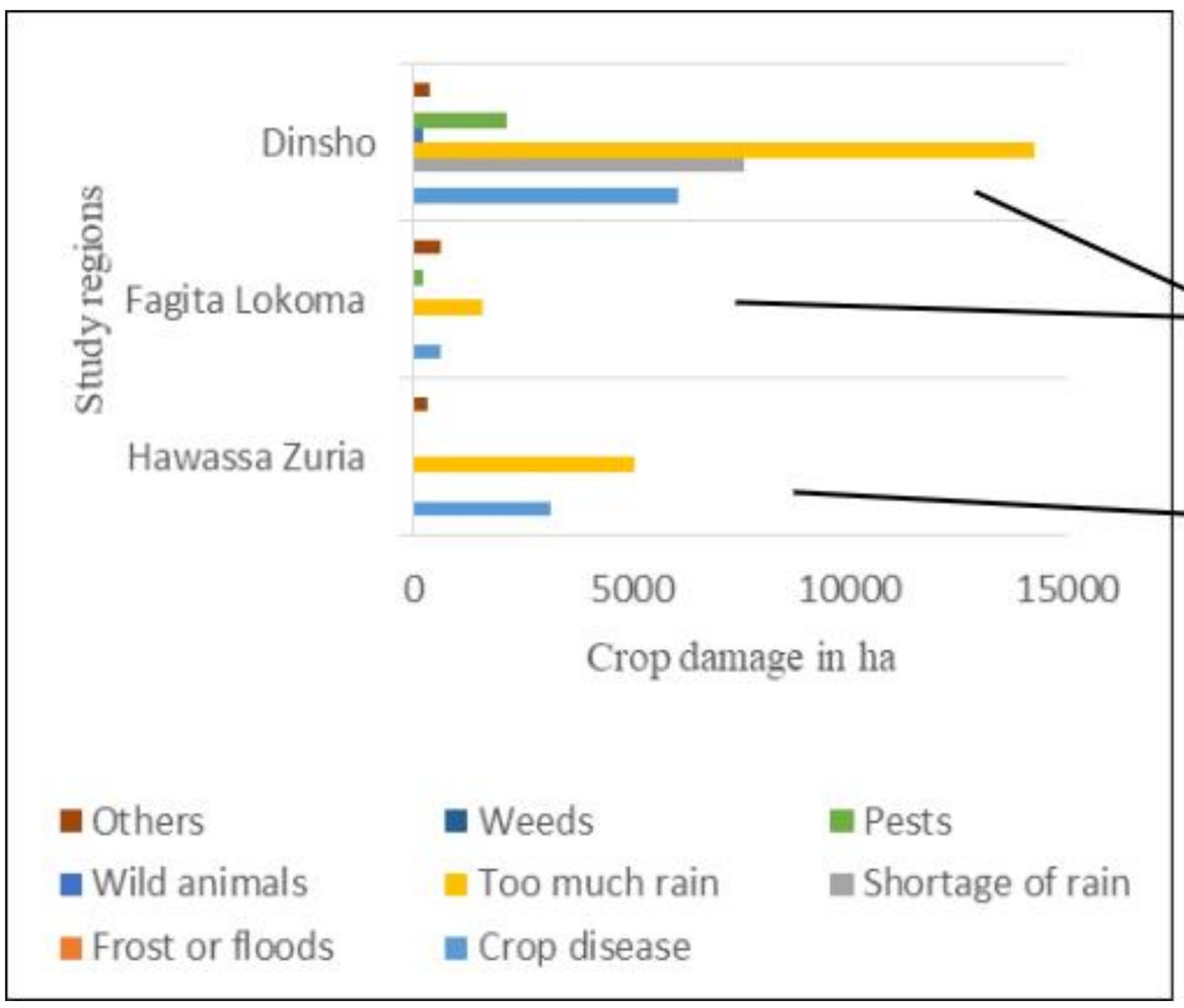

Figure: damage to crop production due to climate related factors in 2015
Source: Ethiopian Central Statistical Agency

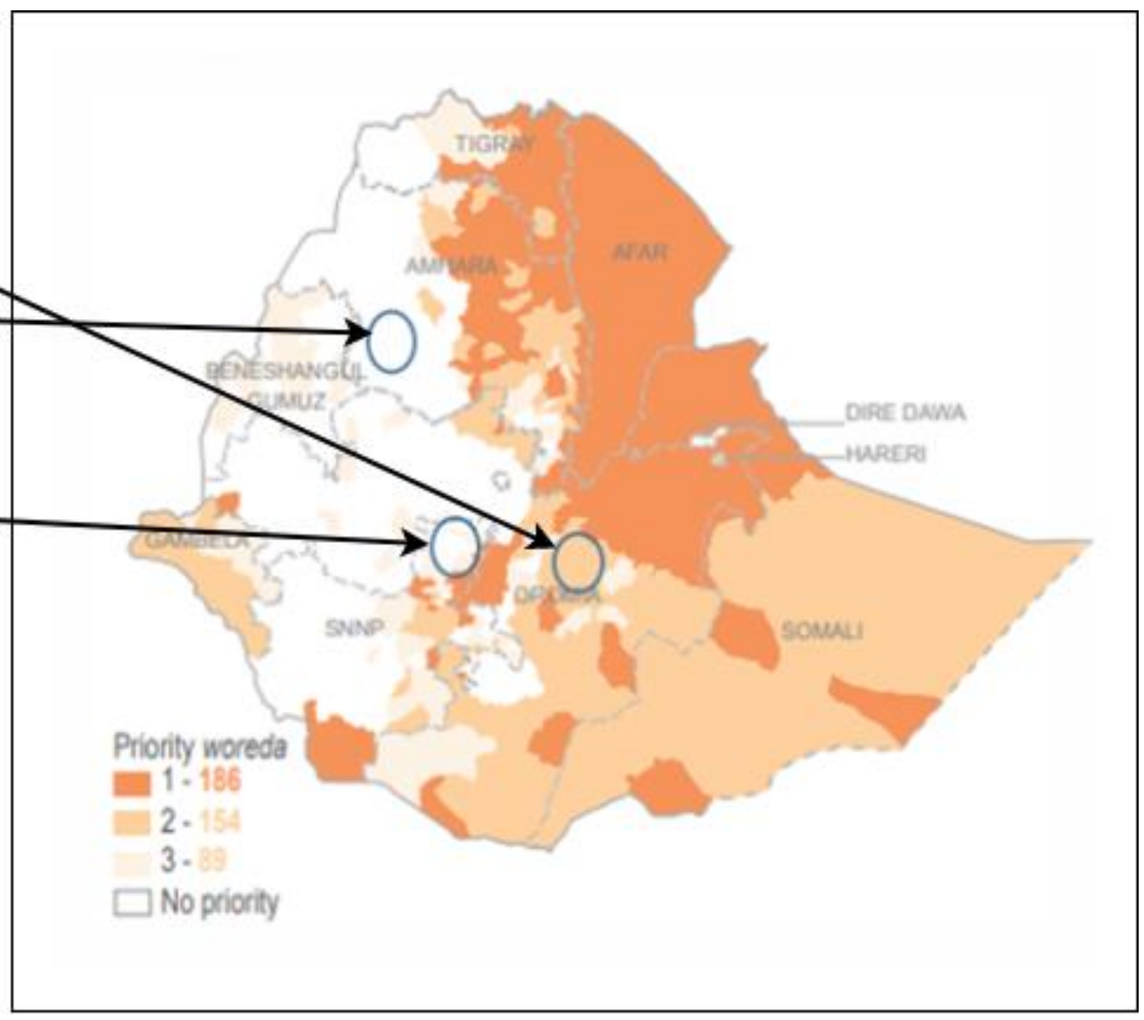

Figure : Identified food insecure priority areas due to 2015/2016 drought occurrence
Source: Inter-Agency Humanitarian Evaluation of the Drought Response in Ethiopia

- Dinsho: Grazing land has increased by 28%, monocrop of wheat
- Fagita Lokoma: 70% increase of Acacia decurense woodlot area on the expense of cropland
- Hawassa Zuria: increased land of agroforestry which is known for Enset and coffee based agroforestry system

Conclusion and recommendation

- Diversification of agricultural land can play a significant role to improve resilience of the smallholder farmers towards climate variability.
- Diversification models need to be designed carefully to ensure context specific fit

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