

# Diversification of wheat based cropping system through the introduction of high yielding barley and durum wheat in the highlands of Ethiopia

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## Introduction

About 4.1 million farmers grow wheat in Ethiopia. Area coverage is 1.7 million ha. Wheat productivity is low due to diseases (rusts), grassy weeds and poor soil fertility, which is happening due to mono-cropping. Diversification of bread wheat production with high yielding and disease resistant durum wheat and barley is critical to improve food security and income of smallholder farmers.

## Key challenges and lessons

- Limited resources and access to early generation seeds to provide to community growers.
- Weak linkage with industries for durum wheat and malt barley.
- Limited involvement of female farmers in the research and BoA for scaling.
- Specific and wide adapted cultivars identified and taken by the Extension Department.
- Community seed growers and public seed enterprises involved in seed production.

## Method/Approaches

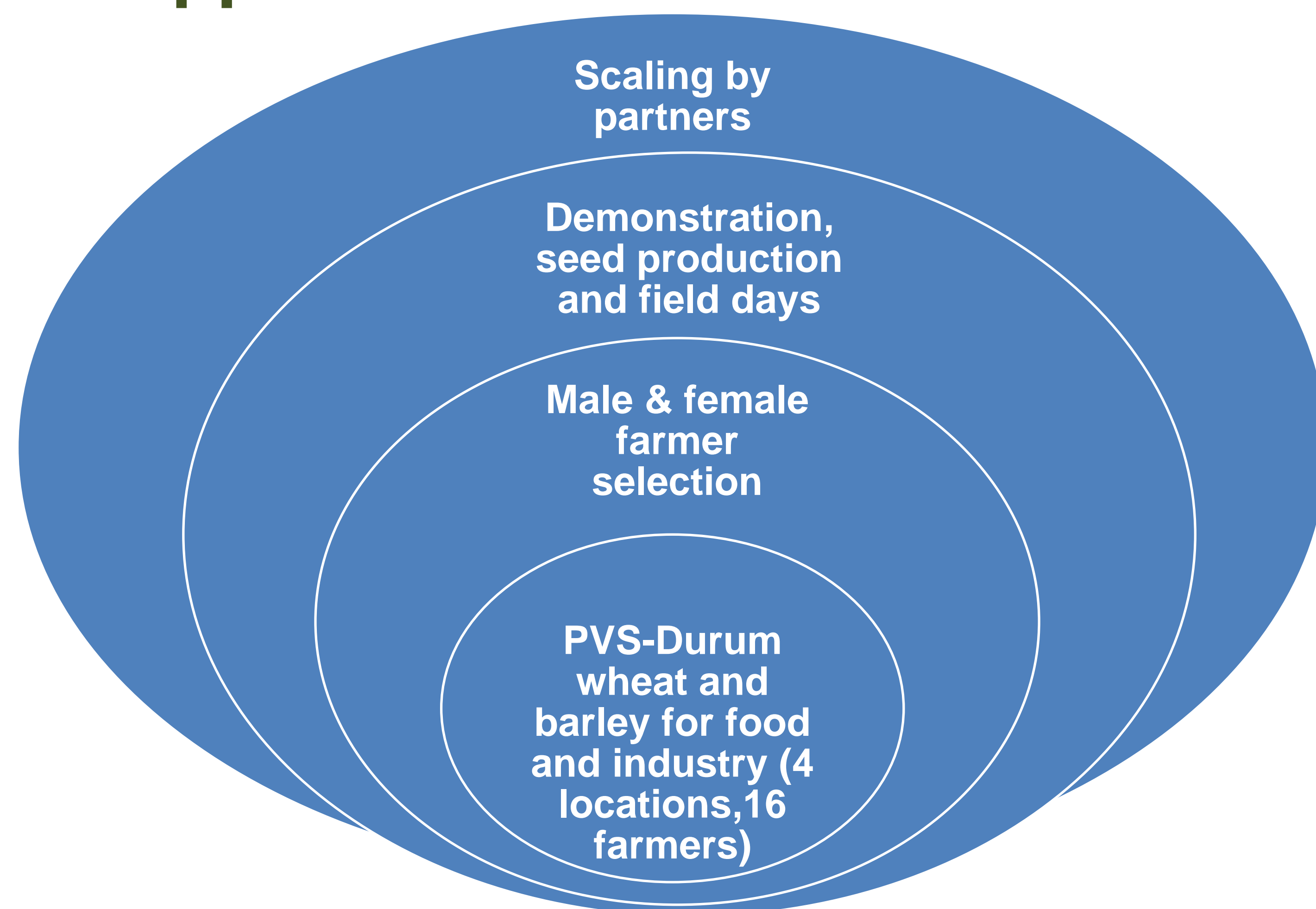


Table 1. Beneficiary male and female farmers-partners scaling

| Zones        | Male  | Female | Total |
|--------------|-------|--------|-------|
| Bale         | 7075  | 1057   | 8132  |
| North Shewa  | 8360  | 369    | 8729  |
| South Tigray | 512   | 169    | 681   |
| Hadiya       | 192   | 28     | 220   |
| Total        | 16139 | 1623   | 17762 |

## Results/Achievements

- Farmers produced 137 t of seeds through revolving seed scheme from the project in 2018/2019 season.
- Seven cultivars of durum wheat, malt barley and food barley selected from Phase I scaled by partners in 2018/2019 season.
- The average productivity of durum wheat (3 t ha<sup>-1</sup>) and both barley types (3 t ha<sup>-1</sup>) was higher than the national average (< 2 t ha<sup>-1</sup>).
- The spillover effect benefited 18 additional districts other than the four Africa RISING sites (Table1).
- Estimated area covered by partner scaling was 7818 ha in the four zones.
- To address soil acidity problem, linseed and food oat were selected by farmers.
- Over 1800 farmers and other stakeholders visited PVS, seed production and scaling activities in the four Africa RISING sites.



## Plan for 2019/20

- PVS of food barley cultivars.
- Demonstration and seed production of selected cereal (bread wheat, durum wheat, barley and food oat).
- Comparison of PVS with crowdsourcing approach using food barley.

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