

# Paradigm shift in common bean production, productivity and marketing through generation and promotion of demanded common bean varieties in Ethiopia

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## Introduction

Common beans are important sources of food and cash for small holder farmers and plays a major role being as one of the main export commodity in Ethiopia. Common bean breeding in Ethiopian bean program has been done through hybridization, using local landraces and introduction of advanced germplasm from the CIAT/PABRA through evaluating these genotypes across years and locations. However, in the past although several varieties have been released, the adoption and dissemination rate was sluggish. The main limitation during the past technology generation was, there were limited participation of producers and market actors to capture their interest. Furthermore, there was also limited access of those improved varieties seed. As the result, most of the bean producers obtain seed of improved varieties from few seed suppliers, who are unable to sufficiently produce and sell seed at reasonable price. Thus, mapping the interest of producers as well as traders and improving the accessibility and availability of seed of improved varieties at the community level were fundamental for enhanced bean based technology generation and promotion. Therefore, the objective of the national bean program was to generate high yielder, demand driven and resistance for major diseases bean varieties and promoting using participation of multi-stakeholder seed system.

## Methods

Clients and stakeholders were consulted when setting the breeding goals, trait prioritization, during implementation, monitoring, learning and evaluation. While promoting the bean based technologies, common bean value chain actors were actively involved in choosing of the variety for promotion and seed production. Various methods were employed in variety promotion including; use of farmer research groups, enhancing quality declared seed, strengthening formal extension, partnering with farmer cooperatives unions, strengthening and stimulating formal seed system.

Moreover, through PABRA and exporters, bean varieties with known market attributes have also been imported and went through fast tracked evaluation and best ones released for production. In situ population development was also carried out and varieties were evaluated for the target market classes.

## Results

The release of bean varieties sought to cover the navy bean with broader export market class, regional markets with high value types including sugar bean and local as well as regional preferred small red market. Hence, the last 10 years 11 varieties for commercial purpose and a total of 26 bean varieties having different color (red, red mottled, cream, yellow) preferred by consumers has been released for production. At multi-stakeholder led seed system, a total of 1211.4 t of basic seed & with a production of 11844.2t of seed of different type, the technology promotion extended to more than a million farmers.

**Table 1: Common bean varieties released for export market** **Table 2 Amount of basic seeds supplied from 2004/5 to 2013/14**

No	Name of Variety	Seed color	Year of release
1	Ado (SAB 736)	Large White	2014
2	Tafach (SAB 632)	Speckled	2014
3	Awash-2	White	2013
4	Deme	Red Speckled	2008
5	Batu	Large White	2008
6	Acos-red (DRK)	Dark red	2007
7	Cranscope	Red Speckled	2007
8	Chorie	White	2006
9	Chercher	White	2006
10	Argene	White	2005
11	Nazret-2	White	2005

Cropping season	Number of varieties	Amount of seed distributed (t)
2004/5	5	137
2005/6	6	66
2006/7	6	83
2007/8	7	56
2008/9	10	122.4
2009/10	7	112.2
2010/11	6	88.9
2011/12	7	95.9
2012/13	5	273.1
2013/14	6	167.3
TOTAL		921.8

**Table 3 Land coverage and amount of seeds produced by partners 2004/5-2011/12**

Cropping season	Area covered (ha)	Amount of seed produced (t)	Number of farmers reached
2004/5	234	11,268	16,816
2005/6	234	253.1	2677
2006/7	707	227.7	12,119
2007/8	604	201.1	11,380
2008/9	1121.6	1679.2	12,170.4
2009/10	1039.8	1641.2	11,750.4
2010/11	880	1421.2	10,280.4
2011/12	860.5	1116.7	10,010.4
2012/13	680	1249.2	20,000
2013/14	630	457	21500
Total	8785	11,344.2	1,010,268

### Outcome of the innovation

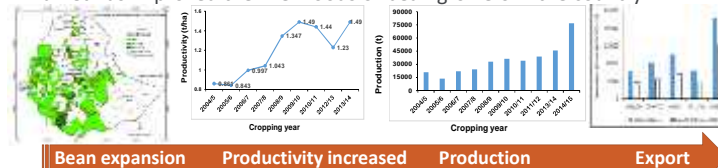
- ❖ Institutional changes (EIAR & partners shared roles and catalyze access)
- ❖ Increased seed production and access
- ❖ Change in production, productivity, export, and price
- ❖ Impact on farmers' income & livelihoods
- ❖ Investment along the value chain actors (farmers, small & large, exporters numbers, employment from e.g. ACOS, government (ET. Commodity Exchange market (ECX))



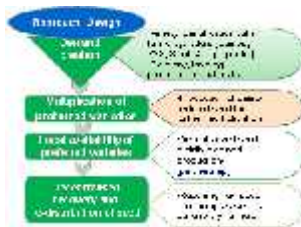
ACOS ET

## Conclusions

The intervention in demand led breeding enhanced access of preferred varieties of by growers and exporters. Between 2004 & 2014, the synergetic efforts contributed to increased bean productivity from 0.615 tons/ha to 1.5 tons/ha, representing 243.9% increase. Area under beans has increased by 80%, from 181,600 ha to 326,465.88ha. Revenues from navy beans export alone increased from 20 to 100 million USD. The paradigm shift in bean productivity, production and market has improved the livelihoods of bean growers in the country.



Bean expansion    Productivity increased    Production    Export



Small & large packs



Promotional materials



Participatory Variety Selection



Produced for the  
Pan-African Grain Legume  
& World Cowpea Conference

