

Africa RISING in the Ethiopian Highlands

Potato Technologies for Improved Food Security and Better Income

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Introduction

Potato is an important crop & a major source of household income in Ethiopia. It is identified as a nutritious, high-value, short season crop, appropriate for the Ethiopia's highland agro-ecologies. Despite ideal environment for potato production, yields of the crop is typically very low (6-8 t/ha). Availability, accessibility & distribution of quality seed potato is a major challenge for many farmers in rural areas: over 90 % of potato producers have no access to quality seed. This is the **aim of this activity** to develop a system to address these bottlenecks in a sustainable manner.

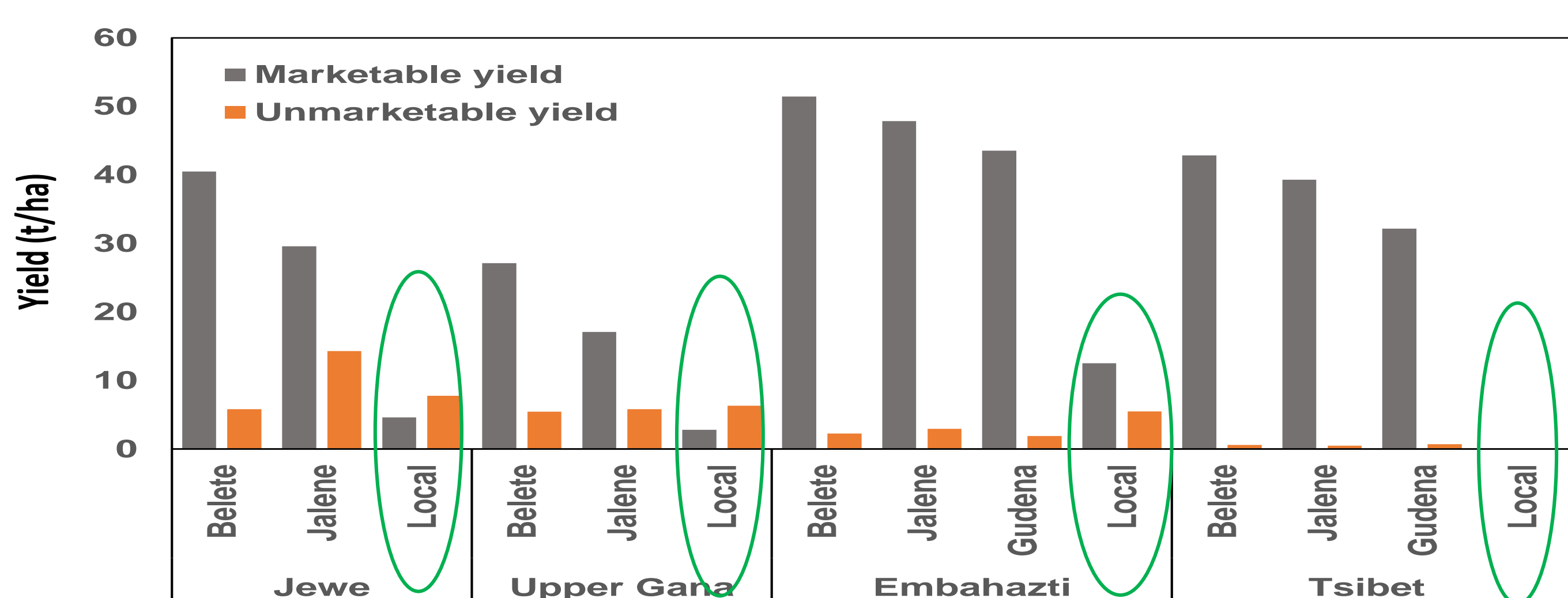


Figure 1. Participatory selection of improved potato varieties over the local variety across Africa RISING sites.

Achievements

- Potato variety 'Belete' ranked best because of high yield, earliness and late blight tolerance (Fig. 1).
- Seed potatoes stored in Diffused Light Storage (DLS) were good in quality, & gave much higher yields (Fig. 1 & 2).
- Diffused Light Storage capacity has increased to 240 t as a result of project intervention.
- Net profit from potato production/ha was 3x ≥fababean, 5x ≥teff, & 7x ≥barley & wheat (Fig. 3), suggesting that potato can contribute to food security, income and nutrition.
- Of all seed transactions (n=442), 14% was shared as a gift, 35% was exchanged and 51% was sold for cash among relatives, friends, neighbours and others (Table 1), indicating that social networks represent a major pathways to spread a potato technology into a community.
- 2,000 farmers benefited from quality seed potato.

Future plans: Wider scaling up/out of potato technology (quality seed, diffused light storage (DLS) and good agricultural practices) for improved food security, income and livelihoods (Fig. 4).

Core partners



We thank farmers and local partners in Africa RISING sites for their support

Table 1. Seed diffusion of improved potato varieties through various social relations of suppliers with receivers

Terms of seed transaction	Social relation							
	Relatives (N=102)		Friends (N=195)		Neighbours (N=118)		Acquaintances (N=27)	
	n	kg	n	kg	n	kg	n	kg
Cash	52	3015	98	5216	53	2435	23	2800
Exchange	32	1305	78	1981	42	1058	4	130
Gift	18	223	19	155	23	330	0	0



Figure 2. From left to right, potato harvesting, DLS and seed potato stored in DLS



Figure 3. Net profit/ha from Wheat, Teff, Potato, Fababean & Barley.

Potential partnerships for phase II

- Bureau of Agriculture and Natural Resources in the regions
- Zonal and Woreda Agriculture Offices
- Agriculture Growth Program in the regions
- Federal and Regional Research Institutions and Centers
- Agriculture Commercialization Clusters in the regions

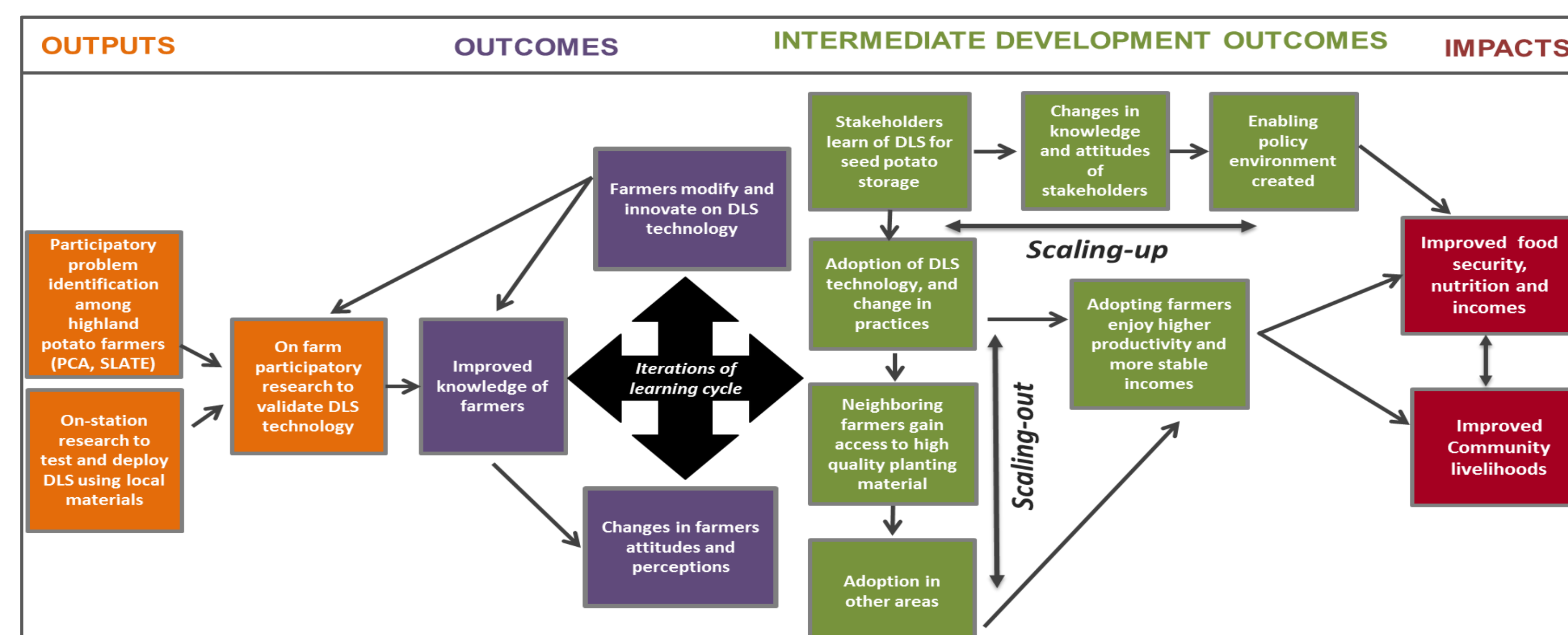


Figure 4. Impact pathways of potato technologies (quality seed, diffused light storage (DLS) and good agricultural practices (GAP))