Untapped opportunities: enhancing food and nutritional security through introducing high value fruit trees in the highlands of Ethiopia
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Key research activities and findings
- Introducing high value trees (HVT) 5 varieties of Avocado (Percia americana), Apple (Malus domestica Borkh), 5 varieties of Walnut (Fig 4)
- Testing and identifying their suitability through on farm, experimental, laboratory trial, socio economic survey, and capacity building
- Effect of management practices, (watering regime, mulching, fruit thinning, root stock compatibility) on survival, growth, yield and fruit quality
- Survival rate ranges (between 90 and 100%) for avocado and (between 75 and 96%) for apple across sites (Fig 3);
- Nursery site established (at Sinana) to enable local partners including farmers to propagate and grafted HVT in their localities (Fig 6)
- 300 farmers, 4 MSc and 1 PhD trained;
- 5 reports and 2 briefs prepared, and 3 journal articles under review – Key messages below:
  - Crop load of 2 fruits per spur resulted in best yield and marketable quality;
  - Dynamic model estimated wide range of chill accumulation across 9 locations; i.e. from the lowest chill site (15 Chill Portions) at Debremarkos to the higher chill site (58 Chill Portions) at Debrebirhan;
  - Almost all Africa RISING SI technologies had positive effects on yield, its value and sold quantity and its policy implications are dawn

Implications of the research outputs for generating development outcomes
- Promising high value species/varieties and management interventions identified
- Create job opportunity for women and youth
- Country stakeholders will have access to improved knowledge & ability to engage in promoting HVT and inform key policy and investment decisions for larger investment
- Contributes to USAID mission in Ethiopia, all three System Level Outcomes of the CGIAR Strategy, SDG No.2, Growth and Transformation Plan (GTP-II) (1) reduced poverty, (2) End hunger achieve food and nutrition security, and (3) substantially to improved natural resource systems and ecosystem services

How would this continue in Phase II:
- Address the huge knowledge gap on HVT both at lower and national level through training
- Continue the on-going research to have a complete understanding (from establishment, flowering, fruiting quality and marketing), to provide evidence for scaling
- Quantify trade-offs between the socio-economic and environmental benefits
- Diversify on multipurpose trees that can be useful for fodder, fuel, fertilizer and timber
- Develop Rural Resource Centres with partners as source of income (focusing on women and youth).

Current partnerships and future engagements for scaling
- Strengthen existing partnership with: MoA, MEF, EIAR- integrate improved technologies into the extension systems and implementation;
- Enhance partnership with relevant Universities in all regions and private farms (e.g. FIJI) for joint research and capacity building;
- Establish new partnership with ATA, GIZ, SLM, AGP to enhance synergy and impact; and
- Leverage on other ongoing projects to enhance synergy and impact at scale

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