Ethiopia Investment Cases
for Investment Forum

Hand-in-Hand Initiative

Investment Forum | Rome, Italy | 17-19 October 2022
Ethiopia: Context

Country Profile

- Total population: 115 mn
- Agricultural sector: income, employment for 65% of population (2021)
- 32.5% of GDP and 68.1% of export value (NBE_2020/21 Annual Report)
- 23.5% below poverty line;
- Malnutrition rates: 37% of children under age 5 are stunted, and of 21% children are underweight (2019/2020 mini DHS)
- 37% experience food insecurity (Baseline study, FAO 2022)

Policy Framework

- Government of Ethiopia adoption of SDGs (2015);
- The Pathway to Prosperity Ten Years Perspective Development Plan (2021 – 2030)
- Draft Revised Agriculture and Rural Development Policy (2020)
- Agriculture sector 10 Years Perspective Plan, and “10 in 10” National Programs focuses on raising production and productivity levels of priority commodities
- Ethiopian Food Systems Vision 2021
Ethiopia remains the largest FDI recipient in East Africa, amassing 28.5% of total investment in 2019...

- FDI inflow grew by 27% CAGR between 2010 to 2019 (nine fold growth). However, growth slowed in 2019, declining 32% compared to 2018.

- Political instability, lack of infrastructure and limited investment remittance option are the major challenges to attracting FDI.

- Total FDI flow in East Africa totalled USD 8.8 million in 2019, and Ethiopia recorded the largest share (29%) of USD 2.5 million FDI inflow.

- The target of the government for the period was to register 65% of projects in FDI in the manufacturing sector, indicating massive interest of investors to engage in industries.

...and with an average 27% annual growth in the past ten years

Source: World Bank; National Bank of Ethiopia
High opportunity for impact

- Unexploited potential in agriculture: for investors and farmers may yield high returns through inclusive investments
  - Promote social inclusion, entrepreneurship, farmer engagement and ownership at each step of aggregation chain
  - Avail access to capital and inputs: seeds, technology, ideas
  - Support farmer’s access to natural resources: water and land
  - Ensure spill-overs on gender equality, nutrition and local economy
  - Build on existing structures: Labor sharing groups, pooling of land, business groups, SMEs, Cooperatives, Unions in place but lack market power

Source: OCHA, FAO, Stochastic frontier analysis FAO-HH task force (2022), ESRI
The Hand in Hand Initiative in Ethiopia:

Prioritizing areas identified having high agricultural potential and low efficiency to:

- Attract investments with business models that foster inclusive agricultural and rural transformation
- Increase net incomes of local population while leaving no one behind
- Foster efficiency in design and delivery of investments
- Strengthen the institutional environment, alignment with existing MoA policies, regional planning and coordination
- Assess trade-offs on different outcomes: poverty reduction, diets/nutrition, trade, climate and environment – through rigorous research and stakeholder consultation

Integrated Agro-Industrial Parks and ACPZ

- Growth corridor approach with Agro-Commodity Procurement Zones (ACPZ Territories)
- 8-9 Investors established in Yirgalem; sourcing from ACPZ (avocado, coffee, honey and dairy processing)
- Bulbula park pipeline investments (11): oil (2) coffee (2) meat (2) honey (1) avocado (2) tomato (2)
Bulbula Agro-Industrial Park priorities – wheat and milk

**Wheat (soft)**
- Yield gaps still prevalent: inputs, land sizes, post-harvest challenges
- Bulbula: Annual projected demand gap of 893k t
- In the same time, the national wheat production is increasing

**Cow’s Milk**
- Per capita milk consumption (20 kg/year) is low but is projected to increase, particularly in urban areas (Addis Ababa: 40 kg/year)
- National milk production steadily increasing: 4.96 billion liters cow milk by 2020/21 (CSA)
- Poor cold chain developed; low commercialization due to low household production levels
- Bulbula: 30 existing dairy processors working 25% below capacity + new IAIP processors; projected demand gap of 103k t/year

Wheat and milk demand in the Bulbula ACPZ (tonnes/year)

<table>
<thead>
<tr>
<th></th>
<th>Total demand (2025)</th>
<th>Current production</th>
<th>Supply gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>1,912,769</td>
<td>1,019,372</td>
<td>893,397</td>
</tr>
<tr>
<td>Milk</td>
<td>161,409</td>
<td>58,437</td>
<td>102,972</td>
</tr>
</tbody>
</table>
Yirgalem Agro-Industrial Park priorities – avocado and coffee

**Avocado**
- Productivity gap while a significant productivity increases observed since 2018; rainfed production in Sidama: Good agricultural practices, post-harvest handling challenging
- 65% of avocado harvest sold to local markets – so far, unmet demand
- Growing demand of lower-grade avocado for oil processing (3 processors established in Yirgalem and Hawassa; demand 240 t/day)
- Significant export target up to 60% of the local production for avocado fruit and avocado oil export demand (up to USD 325m): Djibouti, Somalia, Sudan (ungraded) or UAE, UK, Netherlands (high grade)

**Coffee**
- Significant productivity gap but increasing production and export
- Coffee leading export: significant premium on wet processed over sundried
- The majority of coffee exports are wet processed (70 percent) and there is an opportunity to expand through direct trade
- Yirgalem ACPZ: home to some of the most valued specialty coffee origins that are in high demand. Investors have settled
- Diversify export destination and product (more value addition)
Investment Plans (2019) visualize steps to achieve:

Coordination, alignment and aggregation mechanisms in place: commitment of Government and partners is there!

**Increase wheat production:**
- From 1.9 million tons in 2019 to 2.7 million tons in 2025
- 72% marketed through formal channels (up from 60%)
- Carbon mitigation potential impact of -13,270,886 t CO2-e, over 20 years

**Increase milk production:**
- 330 K tons in 2019 to 478 K tons in 2025
- 55% marketed through formal channels (up from 34%)
- Carbon mitigation potential of -59 million t CO2-e, over 20 years

**Increase rainfed avocado production:**
- From 13 K tons in 2019 to 221K tons in 2025;
- 77% marketed through formal channels (up from 68%)

**Increase coffee production:**
- From 75 K tons in 2019 to 308 K tons in 2025;
- 73% marketed through formal channels (up from 61%)
Inclusive models

Wheat
- organic fertilizer
- walking tractors

Avocado
- beehives

Coffee
- stumping fund
- wet mills

Milk
- animal feed
- milk collection centers

Investment cases
(Public goods)
USD 155 million
(public, multilateral)
(development)
Organic Fertilizer Production

- Existing wheat value chain actors form companies invest and/or receive loan-financing.
- 2 composting plants, 65t t/y
- Urban waste separated/collection manually; agro-industrial waste can supplement further
- Gradual implementation and adoption rates
- Fertilizer sold to farmers at factory gate cost (markup + VAT): USD 957/t

**Profitability indicators:**
- NPV (17% disc rate): USD 5.1m (2.6m per plant)
- IRR: 30%
- ROI: 3.8

**Cost:** USD 8.4m (4.2m per factory)

**Impacts:**
- 880 new jobs
- 300,000 farmers benefit from cheaper, better inputs
- Farmer income increase through yield increase: 40%
- Local economic development and spillover effects

**Environment:**
- Carbon mitigation potential of $-170,164 \text{tCO}_2\text{e}$, over 10 years
- Shift from chemical to organic assumption to offset increased emissions from fertilizer use

**Rationale**
- 40% depleted soils, yield gap
- Organic fertilizer to integrate into chemical fertilizer regiment implemented by small farmers
- In Shashemene, Adama: Suitable, solid urban waste available: 149,912 t/annum

**Benefits**
- Business development skills of producer associations lacking – training to be provided
- Affordability/availability expected to increase uptake, shift from chemicals – awareness raising campaigns
- Association to own factories require business development support, technical assistance
- Patient capital requirements

**Risk & considerations**
- Business development skills of producer associations lacking – training to be provided
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Walking Tractor Rental

Upgrading, modernizing existing Government-enterprise currently operates local production;

Establish 115 micro-businesses to rent out tractor services: (new or from Coops) as business entities for ploughing service
- Business model to be developed
- Linked with Hello Tractor

<table>
<thead>
<tr>
<th>Rationale</th>
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<tbody>
<tr>
<td>• Wheat productivity gaps; low labor productivity (4 days/ha with oxen)</td>
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<td>• Land under wheat often clustered making mechanization suitable</td>
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<table>
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<tr>
<th>Profitability indicators:</th>
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<tr>
<td>(Factory):</td>
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<tr>
<td>• NPV (17% discount rate): USD 690t</td>
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<tr>
<td>• IRR 22% ; ROI: 2.7</td>
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<tr>
<td>(per business)</td>
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<tr>
<td>• NPV (17% interest rate): USD 39.9t</td>
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<td>• IRR: 35% ; ROI 4.1</td>
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<tr>
<td>• USD 3.5 m facility upgrade</td>
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<td>• USD 50t per business (=6.7M for 135)</td>
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<td>• 2,700 non-ag jobs created</td>
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<td>• 100,000 farmers reached with labour saving technology at lower cost through rental</td>
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<td>• Frees up women’s time from ploughing</td>
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<tr>
<td>• Carbon mitigation potential of -71,838 tCO2-e, over 10 years</td>
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<td>• Under assumption of WTs using reduced tillage implements</td>
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<td>• Business development skills of producer associations — training to be provided</td>
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Disclaimer: Blocks indicated on this map are estimated and artificial.
Compound Animal Feed Production

Company to produce & collect silage and produces feed compound in different locations (potentially agro-industry)

- 374,000 t of corn silage produced by milk-cooperatives; contract farming with off-taker;
- Company to lease idle /dry season land for silage production (9000 ha)
- Quintal of corn silage at <$3 to farmer

**Profitability indicators:**
- NPV (17% discount rate): USD 3m
- IRR: 28%
- ROI: 3.5

**Cost:** USD 6.2 million

**Impacts:**
- 1165 new jobs
- Involvement of about 18,000 farmers in feed production; and 265,878 cow owners
- Rental income of up to USD 8 million/season for farmers, including most port
- Productivity increase from 1.5 to 5 l/c/d
- Improved cattle productivity will strengthen whole sector, economy

**Environment:**
- -24,915 tCO2-e, over 10 years
- Improved feed intake and health of animal off-sets increase in maize production, but highly sensitive to feed formula

**Rationale**
- Low milk yields (1.482 l/c/d)
- <20% milk producers access to feeds (local and nationally)
- Idle land in dry season underutilized
- Centralized feed production due to land limitations

**Benefits**
- Irrigation of land during dry season – ensure water availability
- Large area for collection of materials – coordinate aggregation
- Affordability and willingness to adopt – awareness raising campaigns on productivity benefits; consider credit availability for poorest
- Contract farming model, buying from milk cooperatives
- Opportunity for in
- Organizing supply chains, support business development

**Risks & Considerations**
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Milk Collection Centers

- Establish 50 centers with adequate cold storage, transportation, collection services
- Milk collection centers will be managed by Coops who will also train milk producers supplying to centers
- Collection equipment to be owned and maintained by dairy processors.

Rationale

- High post harvest loss and poor milk quality
- Limited commercialization at household level (38% / non poor; 47% / poor households)
- Synergies expected from feed project, increased productivity for processing

Cost: USD 64.5 m

Impacts:

- 9571 new jobs
- 265,378 cow owners reached (largely poor households, with opportunity of directly supporting the poor and women)
- Higher productivity enables hhs to sell while still ensuring home consumption

Environment:

- +58,000 tCO2-e, over 10 years
- additional processing requires offset; modern technology
- Buildings, fuel, electricity cause carbon emissions

Benefits

- Maintenance of facilities – link to TVET training programmes
- Financial viability sensitive to raw milk price – value addition through processing
- Insufficient milk supply not profitable to enter value chain – link to feed project to increase productivity
- Opportunities to buy directly from poor famers
- Investments required to organize supply chains

Profitability indicators:

- NPV (17% disc rate): USD 9.7 m
- IRR: 21 %
- ROI: 2.6
Beekeeping for Avocado Fertilization and Income

- Establish SME’s to install and maintain beehives — about 18 K beehives; 20 % for the business model
- Rainfed avocado production does not require irrigation but yield gap due to limited fruit set; potential productivity increase up to 30%
- Honey production and sales for poor beekeepers – with financial support and capacity building

Rationale

- Promising commercialization with significant sales (up to with 75%)
- Productivity/tree limited due to poor cross-pollination/low fruit set
- Adequate rainfall for production in smallholder plantations with intercropping

Benefits

- NPV (17% discount rate): USD 3.5 m
- IRR: 73%
- ROI: 8.6

Cost: USD 1.2M

Impacts:

- 198,677 farmers reached
- 50% yield increase
- USD 10.5 million increase in farmers income and USD 3564 per ha
- Direct opportunity to support the poor (e.g. PSNP) as beehive fabricators, maintainers
- Gender impacts – avocado produced equally by men and women
- Nutrition benefits from household consumption - avocado and honey and diversification of income

Environment:

- Negligible carbon balance
- Yields offset beehive production emission
- Biodiversity strengthened

Risks & Considerations

- Limited skills amongst farmers in beekeeping – training required; potentially serviced by SMEs
- Potential diseases affecting bees – introduce biocontrol measures
- Elite capture by non-poor households of this opportunity - create links to PSNP
- Climate change & water consumption - training in climate smart agriculture and water harvesting
- Beehive construction targeted at poorest, landless individuals
- Price of beehives must be affordable
Coffee Stumping Fund

- Highly profitable for farmers to undertake stumping even with fluctuating prices;
- Incentive structure is needed, as well as shielding impacts of income loss for 2-4 years on up to 10% of a farmers field at a time
- Public-type fund can provide incentives and subsidies;
- Private cooperatives can be strengthened to support

**Rationale**

- 494 million old coffee tree need rejuvenation (1,026,052 growers)
- Current low adoption of stumping practices (expected at 25% of those trained) — Need for supplementary income and incentives

**Proficiency indicators:**
- NPV (17% discount rate): USD 11.4 m
- IRR: 35%
- ROI: 5.2

**Cost:** USD 10.6 million

**Impacts:**
- Yield increase 3-5/fold
- Farmer income increase x3
- 41,297 farmers trained; 10,324 incentivized to stump 25% of trees

**Environment:**
- -59,000 tCO2-e, over 10 years
- Carbon sequestration through increased biomass
- Improved practices for negative carbon balance

**Benefits**

- Climate change threats to productivity — training in climate smart practices
- Farmer income loss during regrowth — diversification/inter-cropping promoted
- Direct linkages to smallholders
- Requires patient/public investment and/or direct involvement elsewhere in value chain
- Investment model tried and tested on ground

**Risks & Considerations**

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Coffee Wet Mills

- Establishment of up to 245 mills required
- Union ownership of several washing branches at service charge
- Provision of extension services for producers
- Unions/companies can export direct

**Profitability indicators:**
- NPV (17% discount rate): USD 30.3 mn
- IRR: 33 %
- ROI: 3.2

**Cost:** USD 53.5M / or 218,273 per facility

**Impacts:**
- 31,000 seasonal jobs created per month
- 500,000 to benefit from local value addition and increased price (USD 0.86/kg)
- Gross income to Union owners (farmers): USD 173 million in 10 years

**Environment:**
- +39,000 tCO2-e, over 10 years

**Rationale**
- 1 mn coffee farmers
- Enhance the direct export opportunities of washed coffee (only 19%)
- 50% coffee produced is washed coffee

**Risks & Mitigation**
- Coffee price evolution - focus on value addition
- Exchange rate regulations – work with GoE to maintain enabling environment for exports
- Climate change threats to productivity – training in climate smart agriculture

**Benefits**
- Work with smallholder farmers

**Investor considerations**
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- Work with smallholder farmers
## Ethiopia: Opportunity landscape

### Summary

<table>
<thead>
<tr>
<th>KEY INVESTMENTS</th>
<th>US$155 M Investment Cost</th>
<th>27% Overall IRR</th>
<th>45,556 Jobs Created</th>
<th>US$1.09 Billions Income to farmers</th>
<th>1,430,000 Farmer outreach</th>
<th>228,917 Tonnes carbon equivalents sequestered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic fertilizer production</td>
<td>USD8.3M</td>
<td>30%</td>
<td>n/a</td>
<td>USD11.4M</td>
<td>35%</td>
<td>USD5.1M</td>
</tr>
<tr>
<td>Animal feed production</td>
<td>USD6.2M</td>
<td>28%</td>
<td>n/a</td>
<td>USD3M</td>
<td>73%</td>
<td>n/a</td>
</tr>
<tr>
<td>Milk collection centers</td>
<td>USD64.5M</td>
<td>21%</td>
<td>n/a</td>
<td>USD3.5M</td>
<td>73%</td>
<td>n/a</td>
</tr>
<tr>
<td>Walking tractor prod &amp; renting</td>
<td>USD3.5M</td>
<td>22%</td>
<td>320</td>
<td>n/a</td>
<td>73%</td>
<td>320</td>
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<td>Beehives for fertilization and income</td>
<td>USD1.2M</td>
<td>23%</td>
<td>320</td>
<td>n/a</td>
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<td>Coffee wet mills</td>
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<td>320</td>
<td>n/a</td>
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</tr>
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### Sustainability Benefits

#### Organic fertilizer production
- Jobs Created: 880
- Benefits to farmers: 131 m
- Farmer outreach: 300
- Agricultural improvements: 40% yield increase
- Carbon Emissions: -170,164

#### Animal feed production
- Jobs Created: 1165
- Benefits to farmers: 829M
- Farmer outreach: 56
- Agricultural Improvements: +3.5 l/cow/day
- Carbon Emissions: -24,115

#### Milk collection centers
- Jobs Created: 9571
- Benefits to farmers: 18m
- Farmer outreach: 256
- Agricultural improvements: milk marketing increased
- Carbon Emissions: 0

#### Walking tractor prod & renting
- Jobs Created: 2700
- Benefits to farmers: 16m
- Farmer outreach: 100
- Agricultural improvements: x3
- Carbon Emissions: -71,838

#### Beehives for fertilization and income
- Jobs Created: 320
- Benefits to Farmers: $10.5M/Y
- Farmer outreach: 199
- Agricultural improvements: avocado productivity increase
- Carbon Emissions: 0

#### Coffee stumping fund
- Jobs Created: 31,000
- Benefits to Farmers: 17.3m
- Farmer outreach: 500
- Agricultural Improvements: coffee farm gate price increase 0.86/kg
- Carbon Emissions: +39,000

#### Coffee wet mills
- Jobs Created: 31,000
- Benefits to Farmers: 17.3m
- Farmer outreach: 500
- Agricultural Improvements: coffee farm gate price increase 0.86/kg
- Carbon Emissions: +39,000
Thank You