Technical Steps

I. Identifying Sectors / Products with Potential for Commercial-Scale Investment

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Objectives of this primer

- How to navigate an investment filtering process from generating a long list of subsectors with high commercial and social impact potential to identifying specific, useful, and viable investment opportunities.

Related documentation / tools

- USAID – Private Sector Partnerships in Agriculture Value Chains Building Effective Relationships to Sustain Results
- USAID – Private Sector Engagement Policy

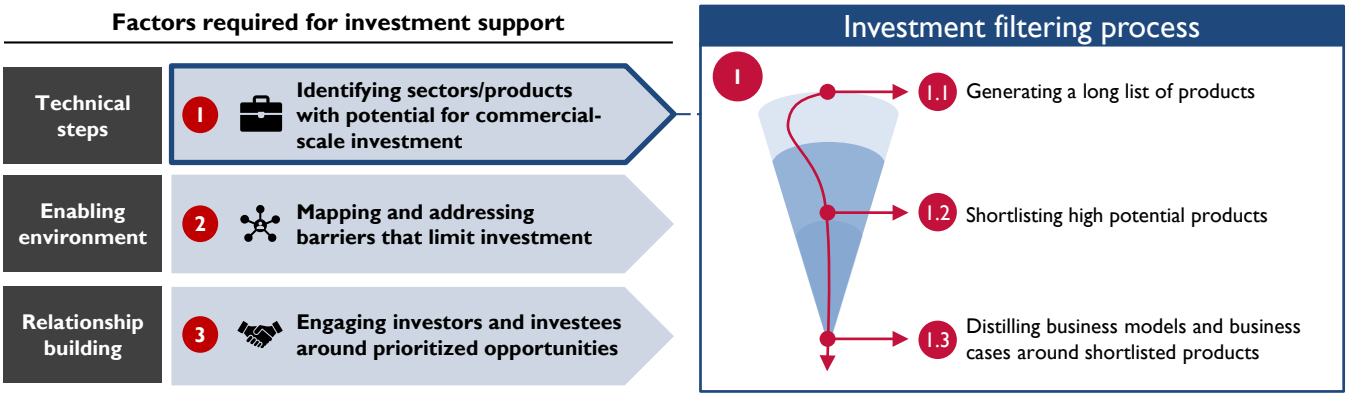
Introduction

As USAID increasingly focuses on private sector engagement (PSE) to further its development objectives, it is important to share lessons and experiences from USAID Missions. The Investment Support Program (ISP) is a Bureau for Food Security (BFS)-led program that identifies investment opportunities, mobilizes private capital, and deepens private and financial sector engagement. Under ISP, Missions have undertaken investment support activities ranging from value chain assessments and sales market analyses to sector mapping and other activities.

This is the first in a series of three primers. Each primer uses different ISP projects to illustrate particular steps in the investment support process. Primer 1 discusses how to generate a long list of products with potential for commercial-scale investment and how to refine the list to land on high potential investment opportunities. **Primer 2** discusses how to understand and solve for barriers in the enabling ecosystem that hold back investment. **Primer 3** details how to bring investors and investees together to facilitate transactions that drive development impact.

Approach to finding viable investment opportunities

There are three broad components to investment support. Primer I details the technical steps required to identify sectors / products with potential for commercial-scale investment. Sub-steps of the primer are detailed below and on subsequent pages.



Commercial investment by the private sector is a core driver of economic growth and development. When USAID's facilitation efforts are analytically and systematically completed, they can lead to more efficient efforts and funding, fewer distractions from interventions that may not work, more support to viable businesses, and, ultimately, more effective markets and growth. Finding viable investment opportunities requires:

- Understanding the scale required for commercial-level investment to attract investors and tangibly impact a sector
- Taking a cold, hard look at competitiveness from different angles (e.g., competition between producing countries, competing sectors, and competition from needed resources)

However, investment cases cannot be based on:

- Hypothetical value chain studies that show what could be possible with behavior change by producers (e.g., smallholder farmers)
- The idea that something is viable, provided a long list of constraints are simultaneously resolved (often complicated by the fact that some constraints require behavioral change to gain resolution)
- Targeting "niche" markets (e.g., organic) when they are not competitive in a commodity's "basic" market

1.1 Generating a long list of products

i Define the end objective

Agricultural products in Rwanda

The USAID/Rwanda Mission wanted to support the definition of priorities for the Global Food Security Strategy, specifically looking at commercially interesting value chains or crops in Rwanda for private sector investment.

Their approach was to analyze Rwandan crops to identify those with the best business case for development. In conjunction with the Rwandan Government and other local stakeholders, the Mission analyzed which objectives were potentially the most impactful for Rwanda given the country and industry characteristics.

Promoting intercontinental exports was found to offer the highest impact opportunity due to Rwanda's comparatively good infrastructure, ease of doing business, and increasing air connections to Europe and the Middle East. Domestic consumption and import substitution were deemed less attractive due to the country's small and impoverished population.

Summary of technical steps

The end objectives are usually linked to one of the following categories or sources of demand:

- **Increasing domestic consumption** either through absolute domestic consumption or import substitution
- **Promoting regional exports.** Targeting underserved local markets, likely with smaller markets that easily can be served
- **Promoting intercontinental exports.** These have the highest potential for large gross margins but tend to be the hardest to serve given added technical/logistical complexities

Enablers of success

✓ *Openness of public sector authorities (PSAs) to share or co-create national development plans, along with early, strong and proactive engagement with these key actors throughout*

✓ *Coordination with other locally active development actors to align efforts where possible*

ii Generate a long list of value chains or products

Investment in livestock in Tanzania

The USAID/Tanzania Mission aimed to generate a long list of high potential subsectors that would be ideal investment targets within Tanzania's livestock and fisheries industries.

Stakeholder interviews were conducted with public and private players, and key data from the Ministry of Livestock and Fisheries was reviewed to understand potential markets.

A long list of subsectors was generated by drawing on key statistics about their status and composition.

		Subsector	Number of heads	Main produce types		
Conventional livestock		Cattle	25,812,203	Meat	Dairy	Hides & skins
		Chickens	40,820,358	Indigenous meat	Eggs	--
				Exotic meat	Eggs	--
		Pigs	1,745,675	Meat	--	--
		Goats & Sheep	24,594,688	Meat	Milk	Wool
Non-Conventional livestock		Crocodiles	2,717	Meat	Hides & skins	--
		Ducks	1,562,911	Meat	--	--
		Turkeys	183,109	Meat	--	--
		Rabbits	281,163	Meat	--	--

Summary of technical steps

Three considerations can help generate an interesting and exhaustive long list of products or value chains:

- **Selecting both "usual suspects" and "wild cards."** Products assumed to be viable by local actors as well as products that may not have clear evidence but seem intuitive
- **Selecting products that are "archetypes" for other products,** e.g., horticulture crops that have in common a range of value chain characteristics
- **Accounting for viability of production,** e.g., agronomic suitability and land availability within agriculture

Enablers of success

✓ *Analysis of data on sectors/subsectors across sources and complementing desk research with stakeholder engagement can solve for unreliability*

✓ *Pragmatism—or not making "perfect" the enemy of "good"—can make the process more generative. There will be opportunities to filter out other products later*

1.2 Shortlisting high potential products

iii Identifying potential deal-breakers in the product

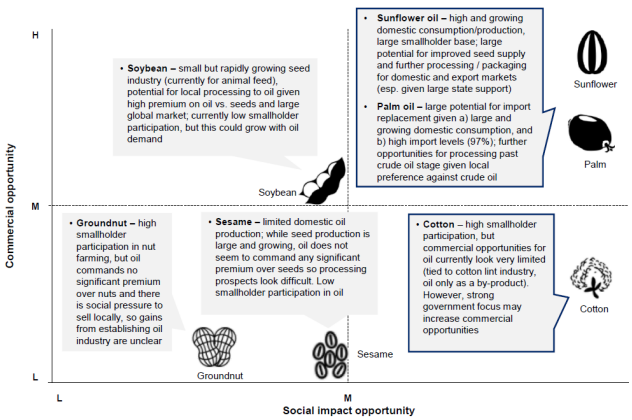
Viability of investment opportunities in Liberia

The USAID/Liberia Mission sought to identify investments with high commercial and developmental impact potential in various sectors—from agriculture and processing to manufacturing.

An assessment was conducted on the technical viability of different subsectors to verify social and commercial competitiveness and to ensure that no major deal-breakers were preventing uptake. Deal-breakers related to environmental risk emerged for products like rubberwood, so analysis for such products progressed no further. Deal-breakers usually relate to financial and social impact (e.g., a potential investment has lower return potential than investors need).

Investment in edible oils in Tanzania

The USAID/Tanzania Mission acted upon the Government of Tanzania's commitment to industrialize the economy through agriculture by supporting investment in edible oils. The Mission isolated six value chains by analyzing their commercial and social impact potential (see matrix below). Sunflower, palm and cotton were selected from an initial long list as the most promising for further research on potential investment opportunities.



Summary of technical steps

Deal-breaker analyses are high-level, fact-based analyses that yield insight into the theoretical viability of products and sectors. They identify the elements that prevent a product from progressing from a long list to a short list.

Viable products need to have commercial impact potential (compete for customers and investment capital) and social impact potential (compete for other productive resources and have thematic impact):

Customers. Products need to be, at minimum, at price parity with competing alternatives while maintaining comparable quality. This is particularly true for commoditized products.

Investment capital. Products need to meet certain criteria to be attractive to investors: i) deal size: investors require a minimum deal size due to transaction costs, ii) instrument type: whether debt, equity or mezzanine finance is required, iii) hurdle rate and risk: investors have target risk-adjusted rates of return for a given investment, and iv) exit timeline: investors have different investment horizons (i.e., length of time they expect to hold a certain investment)

Other productive resources and thematic impact. Beyond financial capital, other productive resources are needed for production (e.g., land, labor). Investments also need to have other types of impact (e.g., on nutrition, health)

Enablers of success

- ✓ *Avoid selecting a product solely based on social impact if it does not have sufficient commercial viability. Realized impact will depend on passing commercial fundamentals*
- ✓ *Be prompt to rule out products if commercial potential is lacking in the general market, even if there is potential in niche markets like organic or fair trade; these are often insufficient to lead to scale*
- ✓ *Invest in shaping opportunities—not just identifying them, but deprioritize hypothetical value chain studies that show what could be possible with behavior change*
- ✓ *Be locally targeted, as investment barriers will differ from country to country for the same product*

1.3 Distilling business models and business cases around shortlisted products

iv Identifying business models for investment

Investment in aquaculture in Tanzania

The USAID/Tanzania Mission landed on aquaculture as the subsector within livestock and fisheries with the highest potential for commercial and social impact. The Mission appraised several business models within aquaculture, and looked at various parameters within cage and pond fishing operations of differing sizes. (The chart below maps growth, profitability and start-up considerations).

Summary of technical steps

To help prioritize business models, either cover multiple aspects or focus on the following parameters:

- **Identify metrics around growth and profitability potential.** Consider returns, timelines and expected exit of the investor
- **Identify start-up considerations.** Identify ideal operators, how much and what type of investment is needed, up-front costs, CAPEX/OPEX split and other factors
- **Identify specific binding constraints** across all aspects of setup and operations (e.g., production, processing and marketing), as well as ways to mitigate
- **Social and environmental indicators.** Consider greenhouse gas emissions, water use and pollution, and others

Enablers of success

✓ *Investor exit is a significant challenge in developing markets. Identifying models that allow for growth while presenting opportunities for investors to exit is key*

v Developing business cases around viable business models

Agricultural products in Rwanda

After isolating commercially interesting crops in Rwanda and identifying viable business models (e.g., moving from snow peas as a crop to a vertically integrated snow pea farm), the ISP team developed business cases around each model, including an investor-agnostic financial model to project costs and revenues (see chart below).

SETTING UP A COMMERCIAL SNOW PEA AND CHILI FARM IN RWANDA				
Working capital	**Unit**	**Year 0**	**Year 1**	**Year 2**
Working capital	USD	-	16,730,702	16,775,906
Costs	**Unit**	**Year 0**	**Year 1**	**Year 2**
Initial capital requirements	USD	8,072,000	-	-
Operating costs	USD	5,860,473	25,096,053	25,163,859
Total Costs	USD	**(13,932,473)**	**(25,096,053)**	**(25,163,859)**
Revenue	**Unit**	**Year 0**	**Year 1**	**Year 2**
Volume of snow peas sold	KG	-	2,524,500	2,524,500
Market price (snow peas)	USD/KG	-	3.50	3.50
Volume of chilies sold	KG	-	8,910,000	8,910,000
Market price (chilies)	USD/KG	-	3.00	3.00
Total revenue	USD	**-**	**35,565,750**	**35,565,750**
MARGINS AND IRR	**Unit**	**1**	**2**	**3**
EBITDA	USD	**(13,932,473)**	**10,469,697**	**10,401,891**
Depreciation	USD		**807,200**	**807,200**
Tax	USD	**-**	**2,898,749**	**2,878,407**

*Note – model assumes no change in agronomic

Summary of technical steps

There are a number of ways to develop a business case around specific business models within a value chain or product. The following criteria can help ensure there is commercial potential:

- **Viability.** Are the main factors required to produce this product available?
- **Profitability.** Do expected revenues exceed costs?
- **Competitiveness.** Can local production have a competitive advantage over other producers?
- **Incrementality.** Can development of the product disproportionately impact the local sector ecosystem?

Enablers of success

✓ *Keeping in mind the needs of potential investors is critical when developing business cases. Investors can vary significantly in their approach, including stage of investment (e.g., early or mature companies), preferred financial instrument (debt, equity), or hurdle rate*

CASE STUDY: ISP Rwanda

Commercial Investment Opportunities in Agriculture Products

Opportunity

Horticulture export to Europe is a particular opportunity for Rwanda due to i) growing demand in Europe for high-quality fresh produce, ii) difficulties in the Kenyan horticulture market in meeting minimum residue levels due to over-application of chemicals, and iii) expansion of the national airline, bringing new direct routes from Kigali to Europe at affordable/subsidized prices

These factors have led to an already growing focus by the Ministry of Agriculture on the horticulture market and the entrance of a number of small businesses that are rapidly growing in the space. Options to best identify the most viable value chains for investment will need to be refined.

Solution

i. **Define the end objective.** Given the small domestic market and growing demand in Europe, "exports to intercontinental markets" was selected.

ii. **Generate a long list of value chains.** Eight value chains within horticulture were analyzed.

iii. **Identify potential deal-breakers in the product.** Three value chains were deprioritized due to issues around profitability/competitiveness (e.g., farmed fish relies on maize-based feed but other regional players can more cost effectively produce feed). Macadamia was deprioritized due to its long payback periods. As a result, analysis landed on vertically integrated commercial passion fruit, snow pea, chili and mushroom farms with end-to-end production-to-export solution. In addition, Rwanda's favorable climate, airfreight capabilities, and supportive, stable government needed to be considered against the fact that it is land-locked and has mountainous terrain divided into parcels.

iv. **Identify business models for investment.** A commercial farm must have agronomic support, certifications and a "cold chain"[1] to ensure quality exports to the EU.

v. **Develop business cases around viable business models.** Within snow peas and chilies, for example: being a vertically integrated supplier, producing for export on 100 hectares of land in addition to sourcing from out-growers, and using economies of scale to ensure consistent supply and reliable volumes to the EU.

Following this process, the USAID/Rwanda Mission provided support to the National Agricultural Export Development Board and the Rwanda Development Board to package and market identified opportunities and to develop the technical capabilities required to shape investment.

Lessons learned

- **The importance of regional context.** Pineapple was identified as a high-value export crop that grows well in Rwanda. But pineapple was deprioritized because it needed to be cheaper than what was feasible for Rwanda to compete with market competitors Ghana and Guinea, both coastal producers. Exporters in Rwanda would need to absorb additional transport costs to land the product in Europe.
- **The difference between business case and investment opportunity.** The length of time required to see a return on macadamia in Rwanda indicated that the value chain may represent a more interesting option for a family business than for commercial investment, despite a high internal rate of return (27% over 50 years).
- **The importance of the end objective.** In Rwanda, a focus on intercontinental exports meant a different customer segment, different competition from the local market, and different price and quality expectations. These parameters shaped the nature and focus of investments required.

[1] A cold chain is a temperature-controlled supply chain, usually an uninterrupted series of refrigerated production, storage and distribution activities, along with associated equipment and logistics, which maintain a desired low-temperature range.

GUIDING PRINCIPLES

- **Take a business approach to honestly evaluating the competitiveness of products/value chains.** Look for opportunities that justify investment at scale but discount the idea that you can "start small and grow."
- **It is entirely possible to move into new products/value chains**. The rapid evolution of the fresh cut flower industry in Kenya is a case that shows it can be done. However, there is a higher burden of proof to ensure that all required conditions can be met. Consider feasibility, not what is currently happening.
- **Conversely, just because something exists is not a rationale for expansion.** An existing fish farm in Lake Malawi triggered the idea that there should be more such farms. However, locally farmed product was significantly more expensive than imported or wild-caught fish. Although the existing farm catered to the small, high-end urban market that was willing to pay a premium for the product, the market was saturated. Thus, the farm did not plan further expansion.
- **A source of demand must be identified for the selected product/value chain.** In the absence of increased demand, increased production only leads to a reduction in price, which is not financially sustainable for producers. In addition, driving for improved quality is not a reliable approach to finding a market.
- **Focus on explicitly identifying and addressing only the most pressing binding constraints.** A focused approach that identifies which key aspects make a product viable (or not) leads to quicker, more actionable results. There is limited value in conducting comprehensive value chain analyses in the early stages of identifying opportunities; such analyses tend to place undue attention on identifying many issues to address at the same time.
- **Do not make "perfect" the enemy of "good."** Depending on context, when creating a viable set of options it is preferable to focus on finding good opportunities instead of analytically confirming the very best. A rapid focus on binding constraints risks eliminating viable opportunities that have not made the first cut.
- **It is highly unlikely that organic, fair trade or "made in…" niche segments are sufficiently viable if the "basic" segment is not.** This is due to four reasons: i) price premiums tend not to be as high as assumed, ii) meeting these requirements also requires additional costs and conditions (such as traceability) that may be higher than the price premium, iii) it is not plausible that local industry can beat an incumbent grower in niche segments; if it is not competitive in the basic (i.e., non-organic) segment, then it will likely be beaten in niche segments as well, and iv) niche segments are unlikely to meet minimum deal size. The exception is when a niche segment has significant mutually exclusive conditions from the basic segment. For example, Liberia has the potential for organic forestry chocolate (from cocoa grown in forests), which would be difficult for dominant producers to replicate as they produce cocoa on large plantations.
- **Understand the context before designing the intervention.** USAID is well positioned to deploy a range of tools to identify business models and build business cases, but determining the appropriate tool(s) requires a deep understanding of context, which can vary significantly by country.
- **Be mindful of potential unintended negative externalities.** The goal of engaging with the private sector is to make systemic change in a given sector; this also means that there is potential for unintended negative consequences. For example, a donor may incentivize the production of a popular new food product that is high in iron but may also be unhealthily high in sugar and fats. Similarly, a donor may fund the growth of an SME that buys large quantities of a specialty crop from farmers, but if that SME fails then the farmers may be left without a market. It is important to assess the potential of externalities and to install guardrails when designing programs.
- **Engage stakeholders early to test and refine your understanding.** Direct feedback on early ideas can generate important insights. It is valuable to engage stakeholders across sectors, including government/development actors in addition to the private sector.
- **Consider—but do not exclusively anchor upon—working within existing activities.** To design best-fit solutions, it is necessary to understand the landscape of ongoing activities by existing private sector actors, governments, and other donors and development-focused organizations.
- **Plan further ahead.** Supporting investment is one step along the path to broader systemic change. Understanding the path and planning for potential obstacles is crucial. Is there sufficient post-investment support to ensure that a venture gets off the ground? Are there sufficient ecosystem actors (e.g., investment promotion agencies) that have the capacity and capability to support?
- **Legal and cultural considerations may limit the types of investment instruments that can be used**. Legal frameworks supporting more "exotic" instruments may not exist. In addition, the use of some instruments may be strongly resisted, for example, giving up equity may be difficult for family owned firms

Relevant USAID ISP work

This primer draws on various ISP experiences. For further detail, please see the following:

- Defining the end objective around finding investment opportunities in Rwanda (link)
- Generating a long list of sub-sectors within livestock and fisheries in Tanzania (link)
- Identifying potential deal-breakers within agriculture, processing and manufacturing in Liberia (link)
- Identifying business models for investment in Tanzania's aquaculture sector (link)
- Developing a financial model for horticulture crops in Rwanda (link)
- Identifying sectors / products within horticulture with potential for commercial-scale investment in Rwanda (link)