

Trees, Forests and Profits in Ethiopia: An Assessment of Tree-Based Landscape Restoration Investment Opportunities in Ethiopia

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Authors: Tsega Mengesha (EFCCC), Meseret Edosa (EFCCC), Gebre Firdu (EFCCC), and Meseret Shiferaw (WRI).

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Acronyms

AGPAMD	Agricultural Growth Program Agribusiness Market Development
CRGE	Climate Resilient Green Economy Strategy
CSA	Central Statistical Agency
EFCCC	Environment, Forest and Climate Change Commission
FSTU	Forest Sector Transformation Unit
GDP	Gross Domestic Product
GTP II	Growth and Transformation Plan II
IFC	International Finance Corporation
MoA	Ministry of Agriculture
MoFECC	Ministry of Forest, Environment and Climate Change
NDC	Nationally Determined Contribution
NFSDP	National Forest Sector Development Program
NGO	Non-Governmental Organizations
NTFP	Non-Timber Forest Products
PFM	Participatory Forest Management
PPD	Public-Private Dialogue
PPP	Public-Private Partnership
SNNPR	Southern Nation and Nationalities People Region
USAID	United States Aid for International Development
ETHBPEA	Ethiopian Honey and Beeswax Producers and Exporters Association
EBA	Ethiopian Beekeeper's Association
INBAR	International Network of Bamboo and Rattan

Executive Summary

Objectives of this report

This report aims to support decision makers at the Federal and Regional levels of the Ethiopian government to use tree-based businesses to create employment opportunities and contribute to sustainable forest management. Tree-based businesses have enormous potential to create jobs and boost household income in rural and urban communities, including for women and youth. However, systemic bottlenecks to attract private investment must first be addressed before tree-based businesses can deliver any of benefits mentioned-above. Enabling conditions for land availability and financing must be strengthened. The government has an active role to play role in promoting partnerships with national and international investors and in creating an environment, which improves ease of doing business. Implementing the Forest Proclamation, no 1065/2018 could facilitate investment in the forestry sector.

Several actions can be taken to increase national and international investment in the forest sector, which is currently very low. Investment opportunities in tree-based businesses can be promoted and successful companies can be showcased. Awareness can be raised about supportive policies and incentives for investment. And data on available land for investment can be synthesized, packaged, and shared with investors. This report is a contribution to these efforts; it presents the existing potential and offers in the forest sector, profiles successful companies, and highlights key success factors to learn from and scale up.

Context in Ethiopia and business case examples

Ethiopia's total wood product demand is projected to increase by about 27% over the next 20 years, reaching an annual consumption of 158 million cubic meters by 2033. To meet the needs of Ethiopia's growing economy, a supply gap of 4.4 million cubic meters industrial roundwood will need to be closed over the next 20 years. This challenge also presents a considerable investment opportunity, as Ethiopia can fill the gap through commercial plantation establishment, sustainable management of natural forests and expansion of the forestry sector's industry. This investment opportunity is typified by two commercial forestry enterprises established by the Ethiopian government in Oromia and Amhara. These forest enterprises engage smallholder farmers through an out-grower scheme, by creating jobs, and generating an annual revenue of \$10.5 and \$4.5 million respectively. There is enormous potential to scale up similar enterprises. The country has approximately 26.80 million ha of suitable land for new commercial forests and 190,000 ha of state-owned plantations in different regions available for development or improved management.

The government of Ethiopia has committed to support investment in the forest sector, through introduction of the new 2018 Forest Law, the National Regional Forest Development Program, the REDD+ Strategy, Bamboo Development Strategy and Action Plan, the Investment Policy, home Grown Economic Reform Program, the 10-year perspective plan, regional laws/legislations and guidelines. However, though Ethiopia's diverse ecology enables to establish commercial planation of various end-use tree species, existing plantation forest are about 90 percent dominated by eucalyptus while Ethiopia is importing different wood products that would be potential substituted by own production. Hence, attention needs to diversify species composition of Ethiopia's commercial planation forest based on end-uses.

Apart from timber, Ethiopia has diverse non-timber forest products (NTFPs) from both natural forests and woodlands across the country. The most commercially developed NTFPs are gum arabica, incense, honey, shade grown coffee, beeswax, forest-based spices and bamboo. Though there are efforts by the government and private sector in improving the productivity of these products to increase the volume of supply and income, more actions should be taken to improve NTFP production, quality assurance, value addition, marketing, and efficiency in sourcing from smallholder farmers in the forested areas.

Coffee contributes 5 percent of GDP and 30 percent of export earnings. Forest coffee in Ethiopia is produced by smallholder farmers and can be marketed as a unique organic coffee. Forest coffee has the potential to become an important source of income for disadvantaged communities and create attractive incentives to protect forests. Besides coffee, Ethiopia is also one of the top 10 producers of honey in the world, and it is the largest African honey producer. The total volume of honey production in 2017 was estimated to be 66.22 million kilograms (kg) from traditional, intermediate and modern beehives. Companies are investing in honey production and processing in collaboration with farmers cooperatives and local communities. One such company, ApinecAgro-Industry produces and processes honey and exports to the US and Europe. It is a supplier to Ethiopian Airlines and local supermarkets and earns an annual income of above \$60,000.

Bamboo is one of the most important NTFPs in Ethiopia. Beside its contribution to the country's GDP (\$ 2 million), even under poorly managed and less value addition of its current condition, according to the secondary data in 2014 close to 750,000 people are dependent on bamboo for their livelihoods. According to the 2018 mapping report, Ethiopia has about 1.47 million hectares of existing bamboo resources with two main indigenous species: *Yeshania alpina* (highland bamboo) and *Oxytenanthera abyssinica* (lowland bamboo). Further, the FLR potential mapping report of the same year (2018) identified the possibility of increasing the existing bamboo resource base to well above 3.5 million hectares. Ethiopia's bamboo sub-sector alone can absorb huge employment opportunity if a well-integrated effort from relevant sectors exerted, providing much more revenue and environmental benefits than what Ethiopia's coffee contributes. Bamboo sub-sector is a more attractive business for private sector engagement if government works on the enabling environment. SA Bamboo Works PLC is one of the very few Ethiopian bamboo manufacturing company for both local and international markets. The company has an average annual revenue of \$2.6 million and sources raw materials from individual farmers and cooperatives in bamboo producing regions.

Agroforestry systems across Ethiopia also have significant potential to increase rural productivity and climate adaptation and generate alternative sources of income, jobs in rural areas, and raw materials for agro-industries. Companies like SUNVADO (a Dutch company) are collaborating with smallholder farmers and local and international NGOs (e.g. GiZ) to produce organic avocado oil in the SNNP Region. The government also supports these efforts by providing shades for SUNVADO to use in processing plants in integrated-agroindustry zones.

Finally, gums and resins are very important commodities from the non-timber sub-sector. They contribute to local livelihoods through both cash income, gained by selling products to buyers, and subsistence value. The number of countries importing gum and gum resin products from Ethiopia has increased, now reaching nearly 60. Among the big exporters from Ethiopia, Guna Trading has been exporting gum and resins to China, Greece, Germany, the US, the EU and the Middle East for

decades. Guna Trading earns an average annual forex of \$1.2 million and has created strong supply chains from organized farmers into cooperatives by the government.

Recommendations

To fully seize this potential across Ethiopia's forestry sector, the government can take several actions with partners in the private sector, NGOs, and local communities. Key recommendations include:

- Introduce and promote implementation of clear rules, regulations and attractive incentives to promote tree-based businesses in Ethiopia.
- Introducing a policy and regulation for accessing finance for investments in the forest sector. A new department can be created in the Development Bank of Ethiopia or a new bank can be established to deal with Forest and Agriculture sector and provide loans and other financial services for interested investors.
- Promote the new Proclamation No.1065/2018: Forest Development, Conservation and Utilization to the private sector through detailing the proclamation and awareness creation events.
- Strengthening the Forest Utilization General Directorate to facilitate tree and forest-based product investments in all regions, compile data and detailed information on available land for investors in the forest sector and promote the Public-Private Partnership model with domestic and international companies to co-invest in new commercial forest development. The department can capitalize on experiences from the Amhara Forest Enterprise's engagement with Chinese companies in establishing business partnerships. Lastly the department can facilitate creation of private sector associations to advocate for the forest sector in general.



1 Introduction

Ethiopia recognizes the key role forestry plays in setting the country on a sustainable and green development path. The current 15.5 per cent forest cover is inadequate to provide an economic and ecological support system in this mountainous and climatically precarious country. While protecting the existing 17.35 million hectares of forest, Ethiopia also intends to undertake large-scale afforestation and reforestation to increase total forest cover to 30 per cent by 2030. Afforestation and reforestation are also key to alleviating the pressure on natural forests (MoFECC, 2017).

To achieve this long-term target, Ethiopia committed to restore degraded lands across different parts of the country and pledged to the Bonn Challenge and AFR100 to restore 15million ha of degraded land by 2030. The progress is encouraging with involvement of high-ranking government officials including the Prime Minister and other ministers. This commitment is included in the country's Growth and Transformation Plan II (GTP II), Climate Resilient Green Economy Strategy (CRGE), Nationally Determined Contribution (NDC), National Forest Sector Development Program (NFSDP), and others. Some of these commitments from CRGE strategy document include:

- Increase forest cover to 20% by 2020 focusing on the improvement of existing natural forests and large-scale afforestation and reforestations activities;
- Increase forestry's contribution to GDP to 8% by 2020; and
- Achieve 130 Mt CO₂e reduction by 2030 to achieve 50% carbon sequestration and emissions reductions goals by reducing deforestation and forest degradation.

To catalyze the effort, the Forest Sector Transformation Unit (FSTU) has been established as a unit under EFCCC (Environment, Forest and Climate Change Commission) to support the sector transformation that would be required in order to achieve the ambitious targets set out in the CRGE, NFSDP (National Forest Sector Development Program) and GTP II goals. Greater scale is required to achieve forestry sector goals, developing rigorous project execution capabilities (early large-scale successes will be critical to both gain momentum and to generate buy-in from government and other stakeholders), creating improved coordination to facilitate cross-sectorial collaboration.

The FSTU mandated to support these shifts through three objectives:

- **Build a pipeline of transformative, high-value forestry models.** This entails incubating and piloting innovative projects, evaluating pilots, and scaling up successful innovations.
- **Support the CRGE facility in proactively “crowding in” funding.**
- **Support implementation of selected investment initiatives.** Support would focus in several areas including managing and running the pilots, as well as capacitating the forestry sector by providing targeted, hands-on support to national, regional and woreda teams in implementing investment initiatives. Woreda (also called district) is the third-level administrative divisions of Ethiopia. They are further subdivided into several kebeles or neighborhood associations, which are the smallest unit of local government in Ethiopia.

In 2018, Ethiopian Ministry of Environment, Forest and Climate Change, now Commission, produced the National Tree-Based Landscape Restoration Potential and Priority Maps in collaboration with the World Resources Institute (WRI), which are available on [EFCCC's website](#). The maps aim to guide decision-makers about where more trees could benefit Ethiopian landscapes, which tree-based landscape restoration options could be implemented in these landscapes, and where to prioritize cross-sectoral implementation (MEFCC 2018a).

Based on national and regional experts' input, 73% of Ethiopia's land area was identified as having potential for at least one of the eight tree-based landscape restoration options identified as crucial for Ethiopia's economic, social and environmental goals:

- Restoration of secondary forests
- Restocking of degraded natural forests
- Agri-silviculture and agro-silvo-pastoralism
- Silvo-pastoralism
- Woodlots and home gardens
- Commercial plantations for products other than industrial roundwood (mapping specific to industrial plantation forest is covered in "Ethiopia Commercial Plantation Forest Industry Investment Plan" report)
- Buffer plantations around protected areas and national forest priority areas
- Tree-based buffer zones along rivers, lakes, and reservoirs

Potential for restoration can be found across the country (Table 1) and across land uses (Map 1).

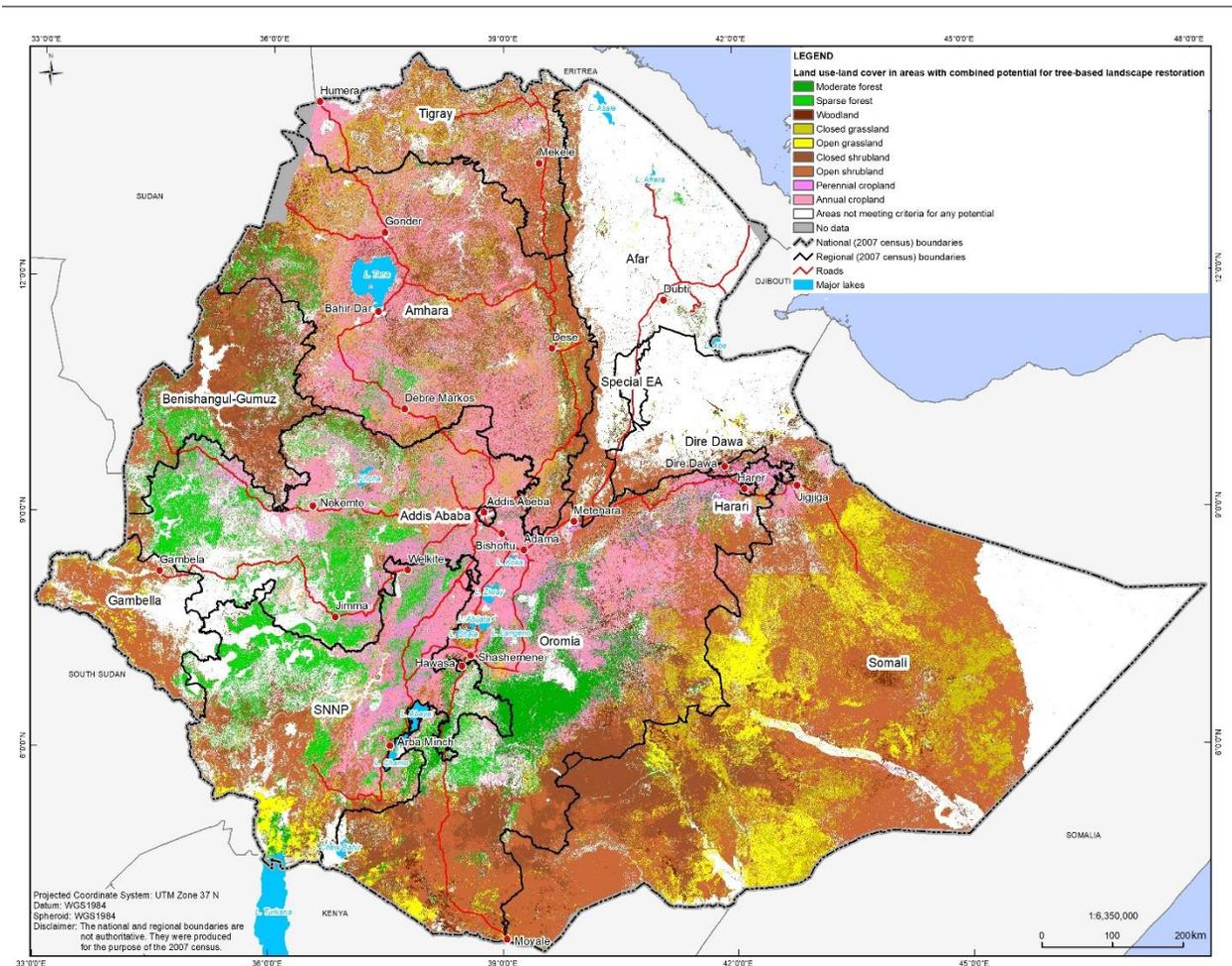
Table 1 | Combined Tree-Based Landscape Restoration Potential

Regional Area Statistics	Land Area (ha) of Nation/Region	Combined Tree-Based Landscape Restoration Potential (ha)	Percentage of Nation/Region with Potential for Tree-Based Landscape Restoration
National	112,979,300	82,335,000	73%
Tigray	5,142,000	3,830,000	74%
Special Enumeration Areas	350,000	48,000	14%
Somali	34,840,000	25,077,000	72%
SNNP	10,542,000	7,705,000	73%
Oromia	29,785,000	24,560,000	82%
Harari	33,000	30,000	91%
Gambella	2,975,000	1,762,000	59%

Regional Area Statistics	Land Area (ha) of Nation/Region	Combined Tree-Based Landscape Restoration Potential (ha)	Percentage of Nation/Region with Potential for Tree-Based Landscape Restoration
Dire Dawa	155,000	122,000	79%
Benishangul-Gumuz	5,070,000	4,193,000	83%
Amhara	15,478,000	13,594,000	88%
Afar	8,551,000	1,387,000	16%
Addis Ababa	52,700	22,000	43%

Source: ME FCC 2018a

Map 1 | Land Use-Land Cover in Areas with Combined Potential for Tree-Based Landscape Restoration



Sources: International boundaries: UC Berkeley et al. 2015. Census boundaries, cities, and towns: CSA 2007a and b. Roads: ERA 2007. Major lakes: MoWIE 2015. Combined tree-based landscape restoration potential: ME FCC 2018f. Land use-land cover: EMA 2015.

To support the implementation of national restoration and economic targets and initiatives, Ethiopia has introduced a new forest law in 2018 “Forest Development, Conservation and Utilization” in which different options and incentives are listed to attract private sector engagement in the forestry sector to contribute to the effort of restoring degraded lands by the public and the government. This law has also categorized forests based on the type of forest and ownership status into:

State forest: means any exclusively, conserved, and productive forest, which is under the ownership of the Federal Government or a Regional State;

Private forest: means a forest other than State, association and community, and developed on private or institutions’ holdings;

Community forest: means a forest developed, conserved, utilized and administered by the community on its private or communal possession based on by laws and plans developed by the community;

Association forest: means a forest developed, conserved, utilized and administered by associations established to develop forest;

Participatory forest management means a forest management approach executed through the agreement between the state and the local community that inhabit inside or around the forest area over the management, protection and utilization of forests owned by the state on the basis of predefined responsibilities and benefit sharing mechanisms.

Concession: means a contract given to a person with legal standing to develop, conserve or to utilize a given State forest for a defined period;

Protected forest: means a forest that provides various ecosystem services and is utilized in accordance with a forest management plan developed by the responsible body without affecting the sustainability of the forest eco-system value.

Preserved forest: means a forest that is free from human and domestic animal intervention preserved for the purpose of conservation of biological diversity, historical and research purpose;

Production forest: means a forest that is mainly developed for economic purpose;

Plantation forest: means a forest developed by humans;

Natural forest: means a forest which is composed of naturally grown trees, shrubs and other woody and non-woody plants.

2 Objectives and Methodology

2.1 Objectives

The EFCCC in collaboration with WRI, shall build its capacity to identify and support the private sector engaged in economically viable forestry businesses. The Objectives of the study are to:

- Identify primary producers of tree and forest products, processors in the value chains and any other company that makes money from tree products in Amhara, Oromia, Tigray and SNNP Regional States.
- Identify and implement methodology to identify the most promising companies in terms of profitability, scalability, replicability, environmental and social benefits and assess the challenges and opportunities
- Identify capacity gaps in terms of business development and investment readiness
- Create a database of primary producers of tree and forest products, processors in the value chains and any other company that makes money from tree products to improve data management and prioritize support to companies.
- Based on the promising domestic businesses, compile a concise catalogue of promising business models (including their challenges and opportunities) that drive the protection, sustainable use, and/or growing of trees and forests

2.2 Methodology

The team involved in conducting this assessment of businesses making money from tree and tree-based products comprised of experts of EFCCC and WRI. The team has collected information and data through expert consultation from EFCCC, researchers from Ethiopian Forest Research Institute, regional experts, similar publications from different sources, field visit to the regions(Amhara, Oromia, SNNPR and Tigray) to conduct face to face discussions and interviews, phone interviews, and email exchanges with companies that were not easy to meet.

The team developed a data collection template to compile basic information and capture their business operation. Beyond the template, detailed discussions have been held one on one with these companies in relation to challenges that hinder their performance focusing on policies, regulations, financing models and marketing problems and to capture their views and recommendations on how to improve bottlenecks in the sector.

To qualify companies business performance and sustainability, the criteria developed by WRI for companies' assessment were used to evaluate the commercial viability, scalability, replicability, environmental and social impacts as shown in the template below used during the assessment period in the fields:

Commercial viability. Can this project make money and be profitable? If the answer is Yes to 4 or more of the below, then the venture passes the test.

	Yes	Maybe	No
Is there a marketable product or service?			
Has an organization been set up to develop the project?			
Are there ongoing commercial operations?			
Are there full-time employees?			
Is there a business plan?			
Are there revenues? I.e., have there been any sales?			
Are there profits, or are there expected to be in the next year?			

Scalability. Does this project have the potential to become much bigger than it is today? If at least 3 of the responses below fall in the “Good” category, then this criterion is met.

	Poor	Average	Good
Roughly how much could this project grow revenues from its existing level?	2x	10x	20x or more
Are most business costs fixed or variable?	Mainly variable	Combo of both	Mainly fixed
What is the marginal cost (cost of selling one more unit)?	High	Medium	Low
How does the cost of gaining new customers change as the project grows?	Increases	Constant	Falls
What is the targeted size in terms of hectares (ha) 3 years from now?	2,000 or less	2,000-10,000	10,000 or more

Replicable. Can this concept be copied in other geographies by other people? This is important to ensure that resources are focused on ideas that can be replicated rather than one-time projects. If at least 3 of the responses below fall in the “Good” category, then this criterion is met.

	Poor	Average	Good
Does the project require significant amounts of start-up capital?	Yes	Maybe	No
Are the staff requirements very specialized and/ or difficult to find?	Yes	Maybe	No
Can the same concept be done in another part of the country?	No	Maybe	Yes
What about the broader region or continent?	No	Maybe	Yes
Can this concept be replicated in other countries outside the continent?	No	Maybe	Yes
What is the payback period?	10+ years	6-9 years	1-5 years
How difficult is it to start a similar project in another location?	Difficult	Manageable	Easy

Environmental impact. Does this project help to restore the environment? If at least 3 of the responses below fall in the “Good” category, then this criterion is met.

	Poor	Average	Good
Does the enterprise play a role in sequestering carbon from atmosphere?	No	Maybe	Yes
Is there any impact on climate resilience and adaptation?	No	Maybe	Yes
Does the project depend on the extraction of non-renewable natural resources?	No	Somewhat	Yes
Does the project contribute to increasing natural resource productivity?	No	Somewhat	Yes
What is the diversity in species planted or managed by the project?	Monoculture	2-3 species	4+ species
Is long-term sustainability incorporated into management plans and strategy?	No	Somewhat	Yes
How much does soil health improve?	Minimal/ zero	Somewhat	A lot
How much does air and water quality improve?	Minimal/ zero	Somewhat	A lot
What is the impact on wildlife and biodiversity?	Minimal	Medium	Positive
What is the extent of other ecosystem improvements?	Low	Medium	High

Socio-economic impact. Does this project have a positive impact on the local community through employment and other means? If at least 2 of the responses below fall in the “Good” category, then this criterion is met.

	Poor	Average	Good
How many full-time people does this project hire?	Under 10	10-30	30+
What % are women and youth?	Under 25%	25-50%	Above 50%
What % are poor?	Under 25%	25-50%	Above 50%
What % of higher-value activities are completed using local talent?	Limited	Some	Most
In addition to employment, does the local community benefit from this project?	No	Maybe	Yes
Outside the local community, do people benefit from this?	No	Maybe	Yes

Summary of the Assessment Criteria

Based on the above questions, does the project meet the criteria?

	Yes	Maybe	No
Commercially viable (“Yes” to at least 4 questions)			
Scalable (“Good” for at least 3 questions)			
Replicable (“Good” for at least 3 questions)			
Environmental impact (“Good” for at least 3 questions)			
Socio-economic impact (“Good” for at least 2 questions)			

Following the identification of promising companies using the criteria developed by WRI, the business models of some of these companies were documented using the Business Canvas Model (BMC) (Alexander Osterwalder and Yves Pigneur 2010). The **BMC** is a graphic representation of variables that show the values of companies and provides a framework to outline how companies produce and market their products. Furthermore, it also analyses the situation of an existing business. The variables in the BMC template are:

<p style="text-align: center;">8</p> <p style="text-align: center;">Key Partners</p> <p>Who are your most important partners?</p> <p>Which key resources do you acquire from partners?</p> <p>Which key activities do your partners perform?</p>	<p style="text-align: center;">6</p> <p style="text-align: center;">Key Activities</p> <p>What are the activities you perform every day to create & deliver your value proposition?</p>	<p style="text-align: center;">2</p> <p style="text-align: center;">Value Propositions</p> <p>What is the value you deliver to your customers?</p> <p>Which of your customer's problems are you helping to solve?</p> <p>What is the customer need that your value proposition addresses?</p> <p>What is your promise to your customers?</p> <p>What are the products and services you create for your customers?</p>	<p style="text-align: center;">5</p> <p style="text-align: center;">Customer Relationships</p> <p>What relationship does each customer segment expect you to establish and maintain?</p>	<p style="text-align: center;">1</p> <p style="text-align: center;">Customer Segments</p> <p>For whom are you creating value?</p> <p>What are the customer segments that either pay, receive or decide on your value proposition?</p>
<p style="text-align: center;">9</p> <p style="text-align: center;">Cost Structure</p> <p>What are the resources you need to create & deliver your value proposition?</p>		<p style="text-align: center;">3</p> <p style="text-align: center;">Revenue Streams</p> <p>How do customers reward you for the value you provide to them?</p> <p>What are the different revenue models?</p>		
<p style="text-align: center;">7</p> <p style="text-align: center;">Key Resources</p> <p>What are the resources you need to create & deliver your value proposition?</p>	<p style="text-align: center;">4</p> <p style="text-align: center;">Channels</p> <p>How does your value proposition reach your customer?</p> <p>Where can your customer buy or use your products or services?</p>			

3 Tree and Tree based Investment Opportunities

3.1 Commercial Forest Establishment and Management

In Ethiopia, forest is defined as trees, plants and other bio-diversity accumulation at and in the surrounding of forest lands, roadsides, riverside, farm and grazing lands as well as residential areas or parks that grow naturally or developed in some other ways. Due to its large land size and diverse physiographic features, the country is comprised of various natural and man-made vegetation types that fulfill the definition of forest (MEFCC 2018).

Ethiopia's economic growth requires an increasing use of forest resources, including wood products for construction, furniture, electrification, and the pulp and paper industry. Further, non-timber forest products such as bamboo, honey, forest coffee, fodder, gum and resin, beeswax, traditional medicinal herbs are important sources of livelihood for local forest-dependent communities. Forest establishment and sustainable management not only contribute to economic goals, but also have significant potential to generate social and environmental benefits, reduce poverty in rural areas while addressing land degradation, soil erosion and improving water filtration and retention.

According to Ethiopian Forest Sector Review (2015) the country has consumed roughly 124 million cubic meters of wood in 2013 and will consume more each year. With population growth and economic development projections, total wood product demand will increase by about 27% over the next 20 years, reaching an annual consumption of 158 million cubic meters by 2033.

Wood fuel (fuelwood and charcoal) will continue to be the main forest product consumed. However, with rural electrification and urban development, the relative share of fuelwood demand is expected to decrease.

The increasing demand is mainly from growing needs for industrial roundwood, driven by the expanding construction industry and consumer demands of the growing middle class. Construction (housing and commercial building) is expected to experience steady growth over the coming years in line with urbanization, and the forestry sector must supply this increasing demand with higher quality wood products to meet the requirements of modern construction. Other important drivers of the increasing demand include wood products for furniture, especially for urban households and commercial consumption, as well as utility poles for electrification and pulp and paper.

To meet the needs of Ethiopia's growing economy, a supply gap of 4.4 million cubic meters industrial roundwood will need to be closed over the next 20 years. This challenge paves a way for a considerable investment opportunity, as Ethiopia can fill the gap through plantation establishment, sustainable management of forest resources and expansion of the forestry sector's industry base since smallholder woodlots are currently the main source of roundwood – mainly poles – and these are expected to continue to supply an important amount of roundwood (FSR 2015).

Through the gap between supply and demand is expanding it has been perceived for many years and led to government-initiated re-greening efforts through community/social forestry development mainly in mountain chains, fuel-wood plantation project, woodlot establishment, sustainable Land management efforts, restoration of degraded lands, participatory forest

management and community mobilization in water shed management and afforestation campaigns, including the recent Greening Ethiopia initiative launched by the Ethiopian Prime Minister Abiy Ahmed which has mobilized Ethiopians across the country to plant 40 seedlings per person and managed to plant more than 4 billion trees in a season. In addition to different initiatives, the MEFCC with its partners has mapped eight tree-based landscape restoration options across the country that will play significant role in increasing tree coverage in the country.

Above all, to close these gaps and support the sector, investments in reviving and establishing new commercial forest plantations are urgently required. In Ethiopian case, a commercial forest (also called production forest) is a forest mainly developed for economic purpose. Recent studies, including the Forest Sector Review (FSR, 2015), showed that Ethiopia should develop about 310,000 ha of well-managed new commercial forest plantation to satisfy its growing industrial wood demands and substitute imports in the decades to come.

As indicated in the National Forest Sector Development Program at EFCCC's (formerly MEFCC) Forestry Sector Situation Analysis report of 2018, the sector is receiving strategic attention in 10 year perspective plan as a key sector that can contribute to Ethiopia's industrialization goals, especially through expansion and the sustainable management of the forest resource base to feed the growing wood-based industries. However, existing enabling conditions are not enough and attractive for own production of wood products through supporting private sector engagement as it created favorable environment for wood products import which is very simple as it relies only on buying-selling process. Hence, if to satisfy national demand with own products by benefiting the environment and citizens, enabling condition needs to be improved for more private sector engagement in the industry and enterprise level.

In the study commissioned by IFC, Indufur (2016) has identified forest plantation area by region and ownership type that shows the potential for partnership with the government in developing state-owned plantations applying improved practices in managing the plantations. Moreover, the table shows that the growing private/community plantations created opportunities to work with farmers and local communities in developing commercial plantation of different sizes.

Table 2 | Forest Plantation Area by Region and Ownership

Region	State Owned(ha)	Private/Community(ha)	Total(ha)
Oromia	57,739	27,800	85,539
Amhara	32,093	639,400	671,493
Tigray	15,000	23,700	38,700
Addis Ababa	27,000		27,000
SNNPR	57,201	124,157	181,358
Total	189,033	815,057	1,004,090

Source: Indufur for IFC/World Bank Group 2016

To engage in commercial forest development, there are alternative investment models in the commercial plantations. The alternatives are:

3.1.1 Acquire Land through leasing from the government

The federal and regional governments have already identified the land required for large scale investment opportunities in the forest sector and have developed specific investment licenses either at Federal Investment Commission or regions based on the scale and type of investments. Investors will enter leasing agreements with the responsible government institution to develop the land as per the business proposal. Such investments are meant to establish new commercial plantations and develop forests for business of any type (**see Table 3**).

The current data from Ethiopia Forest Sector Review(2015) indicates that Ethiopia should develop about 310,000 ha of well-managed new commercial plantation in addition to existing 190,000ha (Indufor/IFC 2016to satisfy its growing industrial wood demands, substitute imports, and engage in wood product exports in the decades to come. Development of the new commercial plantations calls for the involvement of various actors and diverse investment options, including the private sector, domestic and foreign institutional investors, state forest enterprises and smallholder woodlots (MEFCC, 2018).

Table 3 | Suitable Areas for Commercial Plantation by Region

Region	Total land area(ha)	Suitable land for commercial plantation (ha)	Most Potential Areas	
			Lowlands with enough rainfall (ha)	Degraded natural forests (ha)
Addis Ababa	55,069	-	-	-
Afar	9,720,470	-	-	-
Amhara	15,564,812	8,007,764	2,145,700	21,837
Benishangul Gumuz	4,980,554	1,175,799	1,035,725	-
Diredawa	105,556	-	-	-
Gambella	2,568,628	-	-	-
Harari	37,165	-	-	-
Oromia	32,442,869	11,703,496	1,498,795	328,325
Somali	31,673,967	-	-	-
SNNPR	11,251,487	5,321,996	1,692,090	103,483
Tigray	4,940,596	554,541	219,019	-
Total	113,341,173	26,763,596	6,591,329	453,645

Source: Indufor for IFC/World Bank Group 2016

The government of Ethiopia has introduced a new Forest law in 2018 with Proclamation No. 1065/2018 to attract private investors to invest in forest development, conservation and utilization. As part of the proclamation, EFCCC has drafted details of rules and regulations currently under review for approval by the council of ministers. The approval will have huge impact on the

forest sector transformation and restoration efforts in general. The new law will introduce favorable policy and attractive incentives for both domestic and international investors to participate in the sector.

A) Public-Private Partnership through Concession

The 2018 forest law has clearly indicated that private investors can receive production state forests as concession and develop according to the rules and mandate to manage and improve productivity of these forests. Amhara and Oromia regional states have established separate enterprises to manage State Forests to develop and convert to commercial plantations. These enterprises are delegated to develop the wood industry and create employment opportunities for the community around these forests. They play a significant role in providing inputs to local wood industries and wood products import substitution. In addition to managing the public forests, the enterprises are expanding and developing new plantations on own plantations or in collaboration with smallholder farmers using out growers models to solve the challenge of shortage of land for such investments. These partnerships are prevalent in the highlands of Amhara and Oromia regions.

According to Indufor/IFC (2016), Ethiopia's estimated 190,000 ha of industrial forest plantations require significant investment to improve productivity and timber quality. Improved management of existing forest plantations can be achieved by applying different management approaches, including private sector engagement, either in the form of a joint venture with government forest enterprises and/or by upgrading the capacity of the existing public enterprises. In parallel, public enterprises and government forest agencies need to be developed through investing in new technologies to better manage forests, building staff capacity and strengthening operational efficiency.

Similar enterprises can be established in other regions like SNNPR. The potential and availability of resources and production state forests in these regions will create opportunities to invest and develop similar enterprises in Amhara and Oromia and contribute significantly to local job creation and reduce foreign currency spent on imports of wood products through import substitution.

Therefore, domestic and international investors can seize the opportunity to engage in forest businesses and acquire state forests as concession from the government or partner with enterprises like Amhara and Oromia Forest Enterprises. The state enterprise in Amhara has invested in a joint venture with Chinese companies resulting in benefits to both parties. Amhara gained skill and technology transfer, access to foreign currency, access to a reliable market to purchase their plantation products, and employment opportunities for the local community residents; while the Chinese companies achieved access to raw materials that their country needs.

B) Public-Private Partnerships through new Investment

Recently, the government of Ethiopia has introduced the Public-Private Partnership (PPP) model, inviting domestic and international investors to partner with the government to invest in selected sectors including energy, other infrastructure development, manufacturing, and now even agriculture-industries. Moreover, regional governments are promoting PPP with the intent of creating local economic development and job opportunities for unemployed youths. Building on these efforts, the forest sector is one currently untapped area to engage the private sector and

promote sustainable management of state forests and establish new commercial plantations with smallholder inclusion.

The PPP model has been identified as a way forward for sustainable management of the country by EFCCC in National Forest Sector Development Program situation analysis conducted in 2018. It was stated that partnership between the government and private sector companies improves forest management in Ethiopia by using capital, technologies and skills from the private sector.

Therefore, it is important for Ethiopia to learn from existing global experiences of forest-based PPP, both at the resource development level and for forest industrialization to speedup its forest sector development. To improve and transform Ethiopia's forest sector requires huge investment and PPP is one viable option to explore and promote. Legislative support for PPP should be put in place, promoted and secure political buy-in from the federal and regional governments and development and commercial banks (EFCCC 2018).

To be effective and lay the groundwork for active community participation, the PPP model needs to devise an innovative way to include local communities in the forest areas as shareholders in the business either through individual application or through their cooperatives. If the local community has a stake in such large and long-term investment, the protection and management of the commercialized forests can be ensured through shared benefits that align incentives for community participation in commercial plantations. The best possible model for community inclusion needs to be studied in order to ensure benefits for all stakeholders.

3.2 Non-Timber Forest Products (NTFP)

Forestry and Agriculture are two key sectors and drivers for poverty reduction, improved nutritional outcomes and inclusive growth in rural areas. They are also important for meeting food and energy demand in urban areas and critical for reversing natural resource degradation and rehabilitating degraded landscapes. In addition to agriculture-based employment and income, non-timber forest products (NTFPs) play an important role in rural livelihoods and household income (MoFECC 2017).

Ethiopia has diverse NTFPs and the development and commercialization of these products are from natural forest and woodlands across different regions. The most commercially developed NTFPs are gum arabica, incense, honey, shade grown coffee, beeswax, and bamboo. Though there are efforts by the government and private sector in improving the productivity of these products to increase the volume of supply and income, more actions should be taken to improve NTFP production, quality assurance, value addition, marketing strategies, and efficiency in sourcing from smallholder farmers in the forest areas.

The production and utilization of NTFPs can be boosted by properly surveying, mapping and understanding the resource base and their potentials for commercial utilization. Plans can then be created to improve extension services and access to input financing, introduce quality standards and to develop value chains through establishing farmers' cooperatives to create inclusive and sustainable supply chain for effective and structured market channels.

In the four remaining sections in this chapter, we explore likely possibilities of maximizing the impact and scale of five promising sectors of NTFPs in Ethiopia.

3.2.1 Forest and Semi-Forest Coffee Production

Ethiopia is the birthplace, and Africa's leading exporter, of Arabica coffee. Coffee is essential to the country's cultural values and highly contributes to the economic wellbeing of the over 15 million (Petit 2007) people who are directly and indirectly involved in the coffee value chain. Coffee contributes 5 percent of GDP and 30 percent of export earnings.

Forests host a substantial portion of the coffee that Ethiopia produces, and forests can be expanded to produce more shade-grown coffee. According to Partnership for Forests (2018), an estimated 45 percent of the country's total production comes from forest and semi-forest coffee – as opposed to sun-grown coffee. Though shade-grown coffee generally receives a higher price than sun-grown coffee, most Ethiopian shade-grown coffee is currently sold as commercial-grade coffee, due to variable quality and lack of traceability. If quality and traceability of the shade-grown coffee can be established, the forest coffee would fetch a higher price, and thus incentivize more production.

Forest coffee in Ethiopia is produced mainly by smallholder farmers and it can be marketed as a unique product with the potential to become an important source of income for disadvantaged communities and create attractive incentives to protect forests. Many forests face pressure to be cut down to create farmland to harvest timber and to allow room for the expansion of towns and cities. on top of large-scale agriculture investment across the coffee growing regions. However, if the forests can be used to produce coffee, there are more incentives to keep trees standing.

Government and other development partners have been organizing farmers for decades into forest use groups through PFM (Participatory Forest Management) system and establishment of cooperatives across forest areas of the country. Government agencies and other stakeholders often provide trainings on sustainable coffee production using the natural forest. The south and south-western parts of the country, SNNPR and Oromia Regional states, have already established such cooperatives to engage in businesses dealing with forest and forest products. Some of these cooperatives are organized to Farmers Union (association of number of cooperatives) lead by hired experts with experience in leadership, management, finance, and others with strong support from NGOs and the local government and started exporting organic Arabica Coffee to EU, US, Japan and other parts of the world. The center to this business is forest management through community participation. Increased sustainable forest management has increased yields, whereas deforestation and degradation in other poorly managed forests have faced reduced coffee yields.

There is an opportunity to collaborate with smallholder farmers, PFM groups, cooperatives, government and other stakeholders to create functional partnerships in sourcing traceable coffee from Ethiopia. Moreover, the investment in PFM with inclusion of smallholders will highly benefit from eco-tourism while contributing for sustainable forest conservation and job creation for local community including alternative sources of income and above all create sustainable and attractive market for the farmers engaged in forest and semi-forest coffee production.

Creating a sourcing model through localized commissioned systems staffed by youth agents will create community participation while also ensuring efficiency in collecting coffee and increasing quality for better prices. Agents who are selected to organize participation in the cooperative plan will have a related college degree, and have studied and practiced techniques of farmer engagement, teaching farmers early on how to incorporate quality control measures in the field while harvesting the coffee.

3.2.2 Honey and Beeswax Production

Honey production and beekeeping are environmentally friendly practices and relatively easy to do. These non-farming business activities have the potential to provide a wide range of economic contributions including, income generation from selling honey and its by-products (beeswax, bee colonies, and others) and the creation of jobs for women.

Ethiopia is one of the top 10 producers of honey in the world, and it is the largest African honey producer (USAID, AGPAMD, 2012). The total volume of honey production in 2017 was estimated to be 66.22 million kilograms (kg) with total of 6,523,969 beehives with 98.98 %, 1.06% and 1.95% of traditional, intermediate and modern beehives respectively (CSA 2017). The overall reliance on traditional beehives in honey production indicates a huge potential to increase honey production through investment supporting smallholder producers through improving beehives, technical skill and market facilitation.

The rise in number of private investors has motivated more and more smallholder farmers to engage in honey production and get better income for their families. These private companies have created associations like the Ethiopian Honey and Beeswax Producers and Exporters Association (EHBPEA) and the Ethiopian Beekeeper's Association (EBA). These institutional actors work together to help establish the successful development of the honey value chain in Ethiopia. The EHBPEA and the EBA cooperate with the government to organize commodity-specific workshops, find solutions to industry problems, facilitate honey policy developments, and organize conferences and international honey expositions (e.g., ApiExpo). The main purpose of these activities is to promote Ethiopian honey and to establish promising market linkages between different actors in the honey value chain.

Above all, the honey sector can make a significant contribution in reducing deforestation and creating alternative sources of livelihoods for the community living in and around forest areas in different regions. Most of these communities depend on agriculture by expanding farmland through deforestation and selling firewood to people living in the nearby villages and towns. However, if these farmers obtained proper awareness on the value of honey and its contribution for their livelihoods, these very same farmers who are currently surviving by cutting trees could become active supporters in preserving forests, adding beekeeping to their activities, and maintaining forest cover. Therefore, an investment in honey production education will contribute significantly in conserving forest and reduce deforestation.

There are attractive opportunities in Ethiopia for private investors to invest in honey like: political commitment from the government side to closely support and provide one stop business license and fast economic growth, investment tax exemptions, access to use government-created integrated Agricultural-Industry parks for processing. Honey production may also be more attractive to investors due to market forces such as the untouched potential for other bees' products (propolis, royal jelly, pollen, venom), and a growing national and global demand for bee products. The expansion of beekeeping has many environmental benefits that will be shared by all, including watershed management activities that integrate with apiculture, the expansion of area closure and buffer zones (free from animal and humans).

3.2.3 Bamboo Business

Bamboo is one of the most important NTFPs in Ethiopia. Beside its contribution to the country's GDP (\$ 2 million), even under poorly managed and less value addition of its current condition, according to the secondary data in 2014 close to 750,000 people are dependent on Bamboo for their livelihoods (MoFECC, 2017). It's both an agriculture and forestry crop and found in natural forests owned both by state and communal and planted clumps by private individuals. Bamboo is widely grown by smallholder farmers around their homesteads and as farm boundary planting. According to Tsinghua University and INBAR (2018), Ethiopia has over 1.47 million hectares of bamboo resources with two main indigenous species: *Yeshania alpina* (highland bamboo) and *Oxytenanthera abyssinica* (lowland bamboo). Most of the bamboo resources are concentrated in regions of Amhara, Benishangul-Gumuz, Gambella, Oromia, SNNPR and Tigray.

Further, the FLR potential mapping report of the same year (2018) identified the possibility of increasing the existing bamboo resource base to well above 3.5 million hectares. Ethiopia's bamboo sub-sector alone can absorb huge employment opportunity if a well-integrated effort from relevant sectors exerted, providing much more revenue and environmental benefits than what Ethiopia's coffee contributes. Bamboo sub-sector is a more attractive business for private sector engagement if government works on the enabling environment. It is a fast-growing woody-grass species that allows annual harvest of culms once clumps are well established reasonably between 3-7 years based on method of planting. This highly attracts the engagement of private sectors while it creates more employment opportunity across its long value-chain, benefit the environment both thorough landscape restoration and faster carbon sequestration potential. It can also greatly contribute to import substitution for wood-based products and enable the country to earn foreign currency through value added bamboo product export.

While the country is the largest producer of bamboo in Africa, containing two-thirds of all bamboo found in Africa, the existing utilization of the bamboo sub-sector in Ethiopia remains under-developed, with little value addition (Lin et.al, 2019). Though bamboo products are one of the most globally traded commodities, with over 10,000 products using available technologies, most of the bamboo products in Ethiopia are traded locally in the domestic market. Bamboo culms/ poles are used by farmers for house construction, fencing and the production of bamboo mats in addition to sell to other buyers, Small and Medium Enterprises and a few private industries (INBAR, 2018). Bamboo basketry products are commonly used in Ethiopia for grain storage and crop collection, including coffee. Bamboo is a unique and strategic resource for Ethiopia which has huge potential to establish several end-use based enterprises and industries that are highly viable business. INBAR's (2018) Value Chain Analysis and Market Assessment for bamboo products in Ethiopia identified existing and validated potential bamboo product lines in Ethiopia. This assessment indicated the possibility of establishing several bamboo-based enterprises and industries both for local and global market.

According to INBAR (2018), the potential revenue and employment from bamboo for Ethiopia is enormous. Three million hectares of plantations could generate \$5 billion in revenue and 1.3 million jobs; bamboo production currently generates \$2 Million in revenue. Although it has already proven significant economic and environmental benefits for Ethiopia, bamboo's full potential has yet to be tapped in bringing additional income to poor farmers and contributing for degraded land restoration which will have multiple effects on the livelihoods of the smallholder growers on top of

its environmental protection value. This will also enable Ethiopia to meet her landscape restoration pledge of the 15 million hectares by contributing to other plantation and restoration mechanisms.

Table 5 | Area of Bamboo Resources by regions

Region	Area (ha)
Benishangul-Gumuz	944,759
Amhara	312,229
Oromia	211,724
SNNPR	4,856
Gambella	894
Total	1,474,462

Source: INBAR (2018)

The sector is ready to be developed by private sector investors through establishing processing plants and supporting smallholder growers through the creation of sustainable markets for their bamboo and technical support like training and skill improvement in the production and management of bamboo plants across the potential regions. The government of Ethiopia, through the Ethiopian Environment, Forest and Climate Change Commission has developed a bamboo strategy along with detailed action plan to support the development of the sector to make use of its economic and environmental benefit. This strategy is to be implemented over the next 10 years, until 2030 and calls for the full engagement of private sectors. This strategy also considers facilitation of concession to properly manage, harvest and process bamboo forests under state ownership by private sectors.

The global bamboos market size was valued at USD 68.8 billion in 2018 and is expected to grow at a CAGR of 5.0% from 2019 to 2025. Growing investments focused on infrastructure development, increasing use of sustainable building/ construction resources, and rising consumer awareness regarding uses and benefits of bamboos are expected to drive the market growth over the forecast period (Grand View Research Inc. 2019).

Therefore, both national and international companies interested can make use of the advantage in making large profit from the Ethiopian “New Green Gold”, because it is becoming increasingly more valuable in the global economy with the variety of uses it can be put to, highly renewable, sustainable, and easy to grow, through building long-term relationships with local communities and local governments, benefiting local communities to trade their bamboo resources with inclusion of embedded services like loan provision, training for sustainable bamboo management and harvest and other supports. Hence, proper implementation of the developed bamboo strategy will highly enable to benefit from this strategic resource. As stipulated in the strategy, it is highly relevant to establish a dedicated unit with staff both at national and potential regions in order to coordinate all efforts for the effective implementation of the strategy.

3.2.4 Agroforestry

Agroforestry is a collective name for land-use systems and technologies where trees are incorporated on agricultural land. In agroforestry systems, there are both ecological and economical interactions between the different components. Agroforestry can also be defined as a dynamic, ecologically based, natural resource management system that, through the integration of trees on farms and in the agricultural landscape, diversifies and sustains production for increased social, economic and environmental benefits for land users at all levels. In particular, agroforestry is crucial to smallholder farmers and other rural people because it can enhance their food supply, income and health. Agroforestry systems are multifunctional systems that can provide a wide range of economic, sociocultural, and environmental benefits (FAO 2015).

Economically, an agroforestry system diversifies income of investments and growers, and minimizes risk against price fluctuations of a commodity or loss by a disease. Mixing crop production or livestock activities with a forestry investment can help ensure short and mid-term profitability of the farm. Given the long delay in revenues of most forestry investments, having income from an understory agricultural crop creates intermediate revenues that can help to service a potential loan that would be required to invest in tree plantings (GiZ/UNIQUE 2017).

There is a rising interest in agroforestry systems in Ethiopia for increasing rural productivity, alternative sources of income, job creation, source of raw materials for agro-industries and as adaptation to climate change. This is reflected by the government of Ethiopia in its Climate Resilient Green Economy (CRGE) strategy which was launched in 2011, sets that by 2025 Ethiopia will be a middle-income country, resilient to climate change impacts and with no net increase in greenhouse gas emissions from 2010 levels through its four pillars: adoption of agriculture and land use efficiency measures, protection and rehabilitation of forests for their economic and ecosystem services including as carbon stocks, deployment of renewable and clean power generation, use of appropriate advanced technologies in industry, transport, and buildings (FDRE 2011).

As Ethiopian agriculture is a mixed farming system, the agroforestry system has been practiced for centuries in Ethiopia. Ethiopia is traditionally known for growing fruits, coffee and spices, creating practical examples of agroforestry, albeit with limited skill in proper combination of different crop and tree mixes to maximize the economic benefit from the system.

The agroforestry system's focus on coffee, spices, fruits, and other products can create attractive profits and increase the income of the local communities while playing a significant role in restoring land and reducing degradation. There are recent examples of private companies establishing agroforestry systems on land received from the government. They then created a supply chain model in collaboration with smallholder farmers in and around the investment areas. The support from the government has been effective at encouraging investment in agroforestry.

3.2.5 Gum and Incense

Dry forests comprise the largest forest resources in Ethiopia and an important feature of Ethiopia's dry forests is their richness in *Acacia*, *Boswellia* and *Commiphora* species. These trees are the source of gums and gum resins, which are the most important export commodities of the Ethiopian forestry sector. Their contribution to rural livelihoods, the national economy and ecosystem stability is

significant, though not yet properly accounted for. During the past decade, the total export volume and foreign currency earnings from gums and gum resins have increased.

Current estimates of the area of well-stocked dry forest and woodlands to produce gums and resins in Ethiopia vary from 28 550 km² to 43 350 km². Although about 35 species of *Acacia*, *Boswellia* and *Commiphora* have been identified as potential producers of commercial gums and gum resins, currently gums and gum resins are collected from only a few species. Products collected include gum arabic (from *Acacia senegal* var. *senegal*, *A. senegal* var. *kerensis*, *A. seyal* var. *seyaland* *A. seyal* var. *fistula*); frankincense (from *Boswellia papyrifera*, *B. neglecta*, *B. riva*, *B. microphylla* and *B. ogadensis*); and Commiphora gum resins (opoponax, myrrh and other myrrh-like gums, mainly from *Commiphoramyrrrha*, *C. guidottiana* and *C. erythraea*) (Mulugeta Lemenih and Habtemariam Kassa, 2011).

Gums and resins contribute to local livelihoods, in terms of both cash income, gained by selling products to buyers, and subsistence value. Several gums and gum resins are used as herbal medicines, insecticides and hygienic and sanitation detergents. The involvement of private companies in the gum and resins business is growing and there are local companies already engaged in the export market. The number of countries importing gum and gum resin products from Ethiopia has increased, now reaching nearly 60 (Mulugeta L. and Habtemariam K. 2011).

These companies are already creating employment opportunities for the rural and urban poor. It is mainly women who clean, sort and grade the gum. They are involved in the industry through their participation in cooperatives organized around collecting gum and resins, processing and then selling the products. This creates local market opportunities that contribute to natural forest protection for the purpose of harvesting gum and resins by the local community.

Though some companies are engaged in collecting, cleaning, sorting and grading of gum and resins and export, these companies have yet to fully engage the available resources. Most smallholders and individual traders engaged in the gum and resin business suffer from lack of reliable and consistent local market and would benefit from teaming up with a company or cooperative for market access and quality assurance training.

International companies interested to invest in establishing gum and resin sourcing will benefit from the high demand for Ethiopian gum and resins through establishment of sustainable supply system with the community through their cooperatives. The major producing regions like Amhara and Tigray are promoting investment opportunities for companies to invest to promote alternative sources of income for the local community and save forests from deforestation for use like fuel wood and charcoal.

Table 6 | Estimated potential annual production of gum Arabic in Ethiopia

Regional state	Estimated production potential (tons)
Afar	6,000.00
Amhara	18,000.00
Benishangul	7,000.00
Ethiopia Somali	No data

Regional state	Estimated production potential (tons)
Gambelia	11,000.00
Oromia	10,000.00
Tigray	21,000.00
Total	73,000.00

Source: Lemenih, M. and H. Kassa, 2011



4 Reflections and Recommendations

The government of Ethiopia has adopted ambitious environment and development policies and has delivered some of the world's biggest restoration successes in service of these goals. Ethiopia has implemented the ambitious CRGE strategy to achieve economic growth and development and has committed to restore 15 million ha of degraded land by 2030 through the Bonn Challenge and AFR100. Rural communities have been mobilized to implement massive restoration initiatives, including across 1 million hectares in Tigray. These efforts have attracted domestic and international support.

To build on these successful efforts and ensure sustainability of Ethiopia's restoration initiatives, it is very important to integrate local ownership and private sector engagement. Land restoration must be linked with income-generating activities that benefit farmers, community members, and investors. Restoration efforts must be paired with incentives for people to create and maintain forests and plantations. This requires collaboration between different government ministries and agencies, local and international development partners, the private sector, and local communities. The government of Ethiopia and EFCCC are well-positioned to develop a strategy to guide this cooperation.

Companies, experts, and researchers engaged in writing this report recommended the following actions:

- **Devise new financing models** for investments in the forest sector. Create a new department in the Development Bank of Ethiopia or establish a new Bank dedicated to providing loans and financial services in the Forest and Agriculture sector.
- **Introduce policies and incentives** to encourage private commercial banks to become sources of finance for private sector forest investments.
- **Enforce the new Proclamation No.1065/2018: Forest Development, Conservation and Utilization** to the private sector through workshops, publications, communications and emails to create awareness and expose the benefits and incentives of investing in restoration under the law.
- Strengthening the Forest Utilization General Directorate to facilitate tree and tree-based product investments in all regions. This department will be a focal point for engagement with investors, the Ministry of Agriculture, Investment Commissions and Regional Governments to facilitate investment processes.
- **Develop and introduce policies, rules, regulation and strategies** that can promote and regulate out grower schemes between farmers and companies.
- **Coordinate information on available land for investors.** Though there is strong push to attract investors in the forest sector, data and detailed information on available land for investors doesn't exist. The government should coordinate identification of suitable areas available for investment and make the data openly available on Federal and Regional Government offices, websites, etc.

- **Promote the Public-Private Partnership model.** Engage domestic and international companies to co-invest in commercial forest development across Ethiopia where there is potential as suggested by Public-Private Dialogues (PPD).
- **Clarify opportunities for investment in production state forests.** Provide clear direction from federal and regional governments on production state forests available for investment. Draw on lessons from the Amhara Forest Enterprise's engagement with Chinese companies to establish business partnerships.
- **Strengthen and/or create private sector associations** that can advocate for the forest sector as recommended during PPD.
- **Support and incentivize private sectors and enterprises.**
- **Consider organizing smallholders producing woodlot into cooperatives and unions** to better access market, technology, knowledge, finance and grow in to forest industry. In this way it is also possible to diversify species planted as woodlot than only relying on eucalyptus and establish a vibrant business model for the country.

5 Business Model of Selected Companies

In earlier sections, the assessment team has identified the potential for tree-based investment across Ethiopia as well as policies and strategies that will support improving the enabling conditions. To support these findings from the assessment, the profile and business models of some of the companies operating in different regions in Ethiopia are presented as an example selected from different sub-categories, timber and non-timber forest products. These companies are active in making profit from their products that directly or indirectly depend on trees and contributing for land restoration through tree planting and conservation in collaboration with the government and local communities. The profile of the companies included to show them as examples for other who have similar interest to invest in Ethiopia in the sector.

These companies have invested in diverse tree based businesses ranging from commercial forestry to non-timber forest products (honey, coffee, bamboo, gum) shows that there is huge opportunity for similar investment in the country as compared to the overall potential and similar investment projects can be established and experiences and lessons from the existing businesses scaled up for large scale investment through either domestic and international investors. Moreover, the structure of supply chain for the products and the alternatives on how to overcome the land availability issues are big lesson for others. The government of Ethiopia through sector ministries and agencies will also learn from how the companies are operating and the associated challenges to frame their support as an offer to attract new investment and enhancing enabling condition in the sector.

In general, the companies invested and making profit from tree-based businesses were identified from different sources. These sources are Ethiopian Investment Commission, EFCCC, Regional Investment Commissions (Amhara, Oromia, SNNP, Tigray), Research Centers, NGOs, Experts and others who have experience and working relationship with similar investments.

The data collection template developed to compile basic information to capture the business operation of some these investments/companies who are willing to provide information located in

the four regions (Amhara, Oromia, SNNP, Tigray). These regions are selected due to their potential for the forest sector and availability of large number of investments as compared to other regions. To supplement the data collection template, detailed discussions have been held one on one with these companies in relation to challenges that hinder their performance focusing on policies, regulations, financing models and marketing problems and to capture their views and recommendations on how to improve bottlenecks in the sector. Moreover, to qualify companies business performance and sustainability, the criteria developed by WRI for companies' assessment were used to evaluate the commercial viability, scalability, replicability, environmental and social impacts.

Following these, companies with acceptable score to the WRI business performance and sustainability are identified from different categories under timber and non-timber forest products. Among these, the team purposely selected companies presented below to show the existing potential from all categories for interested investors and inform the government to identify areas of support accordingly. Then the BMC is compiled for each of the selected companies to present cases and business models for others to learn from and the government to frame it's offer in organizing support based on the performance and challenges in each category.

The policy makers from the federal and regional governments needs to pay attention to the existing potential across the country and specific regions and compare it with the actual performance in each category that hint the gaps in utilizing the available resources. The profile of the companies presented are indicative for the business operations and challenges each of them are facing that significantly affected the profitability and growth of companies. Understanding this helps policy makers to package the enabling conditions and systemically address the bottlenecks and bureaucratic challenges. Though the challenges differ from one to the other, bottlenecks related to financing and land availability are huge gap hindering the companies from operating to their capacity and policy makers needs to pay attention and formulate alternatives in addressing them for better impact and performance to attract more investment and contribute for having more trees and more lands covered with trees.



a. Apinec Agroindustry Plc

Apinec Agroindustry Plc
<p>Founded: 2006</p> <p>Location: Kaffa(Bonga) and Addis Ababa</p> <p>Marketed Products: Honey, Bees Wax, Beehives, Training and Advisory Services.</p> <p>Number of Employees: 27 fulltime</p> <p>Sourcing: Own farm at Kaffa, Out-growers, Cooperatives organized around Participatory Forest management (PFM)</p> <p>Current Market/Major Buyers: Local Market (Hotels, Supermarkets, etc), Ethiopian Airlines, Export to US and Europe,</p> <p>Annual Turn-Over: \$60,000 average</p> <p>Source of Finance: Self-financed, Grants, Commercial Banks</p> <p>Commercially Viable: The public awareness on importance of nutrition is creating very high demand for products like honey and local demand is becoming very attractive. The need for honey in making local drink “Tej” has significant contribution in the price increase and demand. International companies are coming to Ethiopia for organic and traceable honey.</p> <p>Scalable: Ethiopia’s agroclimatic condition is very conducive for honey and the honey business can easily be scaled. Ethiopian farmers produce honey as a traditional practice, and it is possible to produce at smallholders level and aggregate supply for processing. The annual production and sales volumes are growing every year.</p> <p>Replicable: beekeeping is a business which can easily be replicable at different locations using local skill. The practice is common across smallholder farmers that makes replicability manageable.</p> <p>Benefit for the Environment: honey production is dependent on the availability of trees of different species that determines the quality and quantity of honey produced. The beekeeping helps in reducing deforestation by creating alternating and sustainable sources of livelihoods for smallholder farmers and communities living in and around forests whose livelihood is based on producing cops [WHAT ARE COPS], sell of firewood and charcoal. Moreover, the company is supplying improved beehives to change the cultural practice of cutting trees and using tree trunks to make traditional beehives, which leads to deforestation. Apinec is distributing tree, coffee and fruit seedlings for farmers to increase the forest cover in the business operating woredas and kebele.</p> <p>Social Benefit: creating employment opportunity and sources of additional income for the local community. It helps in improving the beekeeping practices through skill training and demonstrating the bee farm management at own farm.</p> <p>Opportunities: high honey production potential, farmers willingness to work with the company, high demand in domestic and international markets</p>

<p>Key Partners</p> <p>Farmers, SNNPR Offices, Ethiopian Agricultural Transformation Agency, International Centre of Insect Physiology and Ecology, Oxfam GB, World Resources Institute,</p> <p>Ministry of Trade and industry, Apiary Association of Ethiopia, Federal TVET, Ethiopian Chamber of Commerce</p>	<p>Key Activities</p> <p>Bee Farming/Beekeeping, Establish out grower schemes</p> <p>Training farmers, experts and development agents,Market linkage and facilitation, Financial service provision/loan for farmers, Advising Farmers, Aggregating honey, Consultancy service</p>	<p>Value Propositions</p> <p>Pure, Nutritious, Organic and Quality Honey sourced from own farm and smallholder farmers, Deforestation free Honey, Affordable Beeswax and Foundation Sheet with lower cost, saves time and money for smallholder beekeepers, Specialised training service on modern beekeeping from hands-on experience at own training centre and demonstration sites</p>	<p>Customer Relationships</p> <p>Formal contract, Regular meeting, Feedback collection through email, phone or physical interview, Post-training feedback</p>	<p>Customer Segments</p> <p>Local consumers</p> <p>Supermarkets</p> <p>Hotels</p> <p>Ethiopian Airlines</p> <p>Export to Europe and MiddleEast</p> <p>Farmers and beekeepers</p> <p>NGOs and Government institutions for training service</p>
<p>Key Resources</p> <p>Working Capital, Land Raw material, Equipment's for apiary sites,</p> <p>Machineries,</p> <p>Specialised experts</p>	<p>Channels</p> <p>Promotion to different buyers</p> <p>Marketing Agents</p> <p>Exhibitions and Bazars</p> <p>Supermarkets</p> <p>Participating in open and competitive bidding</p>			
<p>Cost Structure</p> <p>Purchasing raw honey, value addition costs, Packaging costs, Salary, Promotion</p>		<p>Revenue Streams</p> <p>Sell of Honey, Beeswax and Foundation Sheet</p> <p>Fee from Consultancy and Training Service on modern beekeeping</p>		

b. SA Bamboo Plc

SA Bamboo Plc

Founded: 2012

Location: Addis Ababa

Marketed Products: Furniture from bamboo: chairs, tables, curtains, cabinets, ceilings, etc

Number of Employees: 300 full-time

Sourcing: Highland Bamboo growing cooperatives, individual growing farmers, traders

Current Market/Major Buyers: Local Market (house furniture, offices, private companies, NGOs etc), Export to US and Europe

Annual Turn-Over: \$2.8 million average

Sources of Finance: Self-financed, Commercial Banks

Commercially Viable: Bamboo is called “Green Gold” and Ethiopia is the number one producer in Africa. Engaging in the value addition of bamboo to produce different types of furniture will generate a high return as the demand for wood products increases in Ethiopia. The plant can be produced in different parts of the country with minimum management by smallholder farmers.

Scalable: Bamboo furniture is made by individual craftsman, small and medium enterprises and large industries. This shows that it's possible to scale use of bamboo for making different furniture and other products and expand the business.

Replicable: here are few industries engaged in bamboo business and a lot of small enterprises and more and more bamboo-based industries can be established across different bamboo-growing parts of Ethiopia close to the raw material supply areas.

Benefit for the Environment: Non-invasive bamboo is very helpful in restoring degraded land as its growth is very fast and require little management as compared to other trees. Bamboo can help in reducing desertification and soil erosion in addition to its capacity in carbon sequestration.

Social Benefit: The bamboo industry creates jobs at local level through engagement in the supply chain. The value addition and production of furniture from bamboo creates jobs for hundreds of unemployed youths and women. Moreover, the training on growing bamboo and market linkage created by the company has played significant role in increasing farmers productivity and income from bamboo.

Opportunities: available bamboo resources, demand for bamboo products increasing, government focus improving for the sector

<p>Key Partners</p> <p>Ethiopian Environment, Forest and Climate Change Commission (EFCCC)</p> <p>INBAR</p> <p>UNDP</p> <p>WRI</p>	<p>Key Activities</p> <p>Establishing sustainable supply chain by forming out growers' scheme through cooperatives</p> <p>Training smallholder farmers on sustainable bamboo production</p> <p>Furniture manufacturing</p> <p>Installation</p> <p>Maintenance service</p> <p>Market promotion and running show rooms</p>	<p>Value Propositions</p> <p>Quality Furniture from bamboo: chairs, tables, curtains, cabinets, ceilings, etc</p>	<p>Customer Relationships</p> <p>Phone or email communication</p> <p>Feedback collection</p> <p>One to one discussion</p>	<p>Customer Segments</p> <p>Ethiopian households</p> <p>Government Institutions</p> <p>Tourists</p> <p>NGOs</p> <p>Hotels and Restaurants</p> <p>Recreational centres</p> <p>Business Centres</p> <p>Real Estates</p> <p>Export to EU, USA</p>
<p>Cost Structure</p> <p>Cost for establishing and strengthening sustainable supply chain, Raw materials, Staff salary, Machineries</p>	<p>Revenue Streams</p> <p>Sale of furniture, Revenue from installation service, Income from maintenance</p>	<p>Key Resources</p> <p>Capital to modernise the factory with machinery</p> <p>Working Capital to support the out-grower scheme for sustainable bamboo supply</p> <p>Technical skill to train farmers</p>	<p>Channels</p> <p>Display at show rooms, Advertising through media, Exhibitions, Agents,</p>	

c. Oromia Forest and Wildlife Enterprise

Oromia Forest and Wildlife Enterprise

Founded: 2009

Location: Addis Ababa

Marketed Products: Sawn timber, chipboards, furniture, veneer, and poles,

Number of Employees: above 4000 fulltime staff and more than 10,000 casual employees

Sourcing: from state forest received as concession from Oromia regional government, out growers

Current Market/Major Buyers: Local furniture enterprises, Ethiopian Electric Power Corporation, Private Traders, MDF producers, local individual buyers, construction companies

Annual Turn-Over: \$10.5 Million on average

Source of Finance: Seed Money from Regional Government, Self-Finance, Commercial Banks,

Commercially Viable: Ethiopia is importing large quantity of different types of tree products and the demand is increasing every year as the country's economy is improving. The construction and real estate sectors are booming.

Scalable: given the demand for tree products and growth trend of the company, it's possible to scale the business in terms of capacity, technology, inclusiveness of more farmers and more areas, and to all parts of the region.

Replicable: this type of business is replicable as similar resources are available in different parts of Ethiopia where the potential is underutilized. Only two regions have similar enterprises and still vast state forest available in other regions which can be utilized in replicating similar enterprises in improved versions learning from the existing two.

Benefit for the Environment: the business is based on planting trees and using tree products in responsible harvesting schedule and re-planting and including smallholder tree growers as out growers and helps in having more trees.

Social Benefit: creating local employment opportunity, sustainable market for smallholder tree growers, supplying tree seedlings, supporting the community by constructing schools, roads, health centers and drinking water.

Opportunities: huge tree plantations available, smallholder farmers engaged in massive tree plantation, strong support from the government, supportive forest policy, high domestic demand for tree and tree products

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
Federal and Regional governments GiZ World Bank	Forest development, administration, management, Environmental impact assessment, Community participation, training and orientation, research	Supply different types of logs and lumbers Creates sustainable supply channel for local furniture companies Supplying properly grown seedlings	Feedback collection through formal letter or phone call Customer's Annual meetings One on one discussion at any branch	Local individual customers Domestic furniture industries Utility companies Log traders Tiles and lumber manufacturers Construction enterprises/Real Estates Government Schools NGOs
	Key Resources Finance: investment and working capital Land concession from government Wood Processing Machineries Labour Nurseries	Supply of sawn logs and lumbers	Channels Through open bidding Contract based supply (eg. Poles) Supply based on government demand and priority Individual agreement Market promotion Exhibition and Bazars	
Cost Structure		Revenue Streams		
Labour, Seedling production, plantation and management, forest protection and management, machinery cost, transport cost		Sale of logs, lumbers, seedlings		

d. Amhara Forest Enterprise

Amhara Forest Enterprise
<p>Founded: 2009</p> <p>Location: Bahirdar</p> <p>Marketed Products: Different sizes of lumber, poles, firewood</p> <p>Number of Employees: 1275 Permanent and above 2000 casual workers and more during peak season</p> <p>Sourcing: from state forest received as concession from Amhara regional government, out growers through Joint-Forest Management with farmers</p> <p>Current Market/Major Buyers: Local furniture enterprises, Ethiopian Electric Power Corporation, Private Traders, MDF producers, local individual buyers, construction companies</p> <p>Annual Turn-Over: \$ 4.5 Million average (Last two years)</p> <p>Source of Finance: Seed Money from Regional Government, Self-Finance, Commercial Banks,</p> <p>Commercially Viable: Ethiopia is importing large quantity of different types of tree products and the demand is increasing every year as the country's economy is improving. The construction sector is booming and real estates and other residence building companies growing fast which makes the demand very high</p> <p>Scalable: given the demand for tree products and growth trend of the company, it's possible to scale the business in-terms of capacity, technology, farmers inclusiveness and to more areas, and to all parts of the region.</p> <p>Replicable: this type of business is replicable as similar resource is available in different parts of Ethiopia where the potential is underutilized. Only two regions have similar enterprises and still vast state forest available in other regions which can be utilized in replicating similar enterprises in improved versions learning from the existing two.</p> <p>Benefit for the Environment: the business is based on planting trees and using tree products in responsible harvesting schedule and re-planting and including smallholder tree growers as out growers and helps in having more trees.</p> <p>Social Benefit: creating local employment opportunity, sustainable market for smallholder tree growers, supplying tree seedlings, supporting the community by constructing schools, health centers and drinking water.</p> <p>Opportunities: strong government support, extensive tree plantation campaigns, farmers interest to plant trees and engage in commercial forestry</p>

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
<p>Amhara Regional Government</p> <p>Federal government</p> <p>GiZ</p> <p>Norway Embassy</p>	<p>Forest development;</p> <p>Forest administration;</p> <p>Forest management;</p> <p>Environmental impact assessment</p> <p>Community participation, training and orientation</p> <p>Research</p>	<p>Supply different types of logs and lumbers</p> <p>Creates sustainable and reliable supply channel of sawn logs and lumbers for local furniture companies</p> <p>Supplying properly grown seedlings of economically important tree species</p> <p>Supply of sawn logs and lumbers from responsibly managed state forests and out grower farmers</p>	<p>Feedback collection through formal letter or phone call</p> <p>Customer’s Annual meetings</p> <p>One on one discussion at any branch</p> <p>Channels</p> <p>Through open bidding on newspapers, national and /or local medias</p> <p>Contract based supply (eg. Poles)</p> <p>Supply based on government demand and priority</p> <p>Individual agreement</p> <p>Market promotion</p> <p>Exhibition and Bazars</p>	<p>Local individual customers</p> <p>Domestic furniture industries</p> <p>Log traders</p> <p>Utility companies</p> <p>Tiles and lumber manufacturers</p> <p>Construction enterprises/Real Estates</p> <p>Government</p> <p>Schools</p>
<p>Cost Structure</p> <p>Labour, Seedling production, plantation and Management, Forest protection and management, Machinery cost, Transport cost</p>			<p>Revenue Streams</p> <p>Sale of logs, Sale of lumbers, Sale of seedlings</p>	

e. Kaffa Forest Coffee Union Forest Enterprise

Kaffa Forest Coffee Union Forest Enterprise

Founded: 2004

Location: Bonga, Kaffa Zone, SNNPR

Marketed Products: Forest Coffee (dry or wet processed), Charcoal from Coffee husk

Number of Employees: 43 fulltime and more than 200 casual workers during pick season

Sourcing: from smallholders living in and around natural forest in Kaffa zone organized into PFM (participatory Forest Management) Cooperatives

Current Market/Major Buyers: Original Food (from Germany), Japan, Netherlands, US, Local Market through ECX (Ethiopian Commodity Exchange) (for low quality).

Annual Turn-Over: \$2.4 Million on average

Source of Finance: Self Finance, share sale to members, Commercial Banks, Grants(establishment)

Commercially Viable: Ethiopia is the largest arabica coffee producers and coffee is the top export commodity for earning foreign exchange. Most of Ethiopia's arabica coffee is produced by smallholders and harvested from forest. Coffee business is profitable and it's Ethiopia's competitive. Kaffa Union annual total turn-over is increasing at least by 20% annually and growing sustainably.

Scalable: West and South-West parts of Ethiopia's agroclimatic condition is very conducive for coffee production. Ethiopian farmers produce coffee as a traditional practice at small scale and in bigger commercial farms and processing facilities available engaged in domestic and international coffee trade.

Replicable: coffee production and processing business can be replicable at different coffee growing locations and at different scale and establish similar farmers organizations.

Benefit for the Environment: coffee production is highly dependent on trees for shelter. Smallholder producers and commercial farms needs to plant trees and conserve the available trees to harvest better quality and quantity coffee. The importance of tree for coffee production helps in reducing deforestation as farmers and other producers need the tree to be managed and protected.

Social Benefit: sustainable access to market for members of the cooperatives and the community, creates employment opportunity and sources of additional income for local community, provision of loan for members, training members and cooperative leaders.

Opportunities: very conducive environment for natural/forest coffee, very high demand for Kaffa coffee from international buyers, strong government support

<p>Key Partners</p> <p>GiZ</p> <p>Nature and Biodiversity Conservation Union (NABU)</p> <p>Government</p> <p>JICA</p> <p>Research Centres</p> <p>Jimma University</p>	<p>Key Activities</p> <p>Organising and training farmers</p> <p>Seedling production and supply</p> <p>Training cooperative leaders</p> <p>Collecting coffee from farmers</p> <p>Quality control</p> <p>Warehouse management</p> <p>Market facilitation</p>	<p>Value Propositions</p> <p>Organic Arabica Coffee from sustainably managed and protected natural forest</p> <p>Traceable Arabica Coffee from smallholder farmers organised in Participatory Forest Management cooperatives</p>	<p>Customer Relationships</p> <p>emails and phone calls</p> <p>Onsite visit to production sites</p> <p>Yearly meetings</p> <p>One to one meeting with individual customers</p> <p>Feedback to individual requests and questions</p>	<p>Customer Segments</p> <p>Export to high value and organic market: Original Food (from Germany), Japan, Netherlands, US,</p> <p>Local market (for low quality)</p>
<p>Cost Structure</p> <p>Purchase of coffee, Quality control costs (Cleaning, sorting and grading and packing), Transport Costs, Labour cost</p>	<p>Revenue Streams</p> <p>Arabica Coffee Export to Germany, Japan, Netherlands, US,</p> <p>Coffee supply to local market (low grade coffee)</p>			
	<p>Key Resources</p> <p>Warehouse at cooperatives level</p> <p>Trucks for safe and timely product transport</p> <p>Working capital for the purchase of coffee</p>		<p>Channels</p> <p>Market linkage through established customers in different countries</p> <p>Promotion through websites and social medias</p> <p>Market promotion through Embassies, NGOs</p> <p>Export through Agents</p> <p>Participating in coffee exhibitions/bazars, workshops,</p>	

f. Kaffa Forest Bee Products Marketing Union

Kaffa Forest Bee Products Marketing Union

Founded: 2008

Location: Bonga, Kaffa Zone, SNNPR

Marketed Products: Forest Honey, Wax

Number of Employees: 11 fulltime staff

Sourcing: from smallholders organized into PFM (participatory Forest Management) Cooperatives living in and around natural forest in Kaffa zone

Current Market/Major Buyers: Exporters, Processors (value addition), Local Market (Hotels, Supermarkets, Distributors, and others), used to export to EU and US (now local price is higher)

Annual Turn-Over: \$160,000 on average

Source of Finance: Members contribution, Own, Commercial Banks, Grants (during establishment)

Commercially Viable: Honey is one of the untapped resources in Ethiopia with huge potential in creating source of income and employment opportunity for the Ethiopians and earn foreign exchange for the country. The public awareness on nutrition is creating very high demand for products like honey and local demand is becoming very attractive including export potential.

Scalable: Ethiopia's agroclimatic condition is very conducive for honey and the honey business can easily be scalable at different level. Ethiopian farmers produce honey as a traditional practice and possible to produce at smallholders level and scale.

Replicable: beekeeping is a business which can easily be replicable at different locations and scale. The practice is common across smallholder farmers which can assist replication manageable.

Benefit for the Environment: honey production is dependent on the availability of trees and forest that determines the quality and quantity of honey produced. The beekeeping helps in reducing deforestation by creating alternating and sustainable sources of livelihoods for smallholder farmers and communities living around forests who depend on sell of firewood and charcoal.

Social Benefit: being sustainable access to market for honey produced by the member farmers organized into PFM, creating employment opportunity and additional income for local community, provides training and access to credit.

Opportunities: huge demand for honey, the production potential is high, large forest coverage area to produce quality honey

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
GiZ Nature and Biodiversity Conservation Union (NABU) Government JICA Research Centres Jimma University	Organising and training farmers Beehives supply, Training cooperative leaders Aggregating honey Quality control, value addition Warehouse management	Quality and Organic Forest Honey Organic Honey from smallholder farmers organized through Participatory Management Cooperatives Traceable Organic Honey Organic Honey harvested from sustainably managed natural Forest	Onsite visit to production sites emails and phone calls Yearly meetings One to one meeting with individual customers Feedback to individual requests and questions Channels Selling at own shop Market linkage through established customers in different cities and towns Market promotion through NGOs Through Agents Participating in exhibitions/bazars, workshops,	Local customers Honey Traders Honey Processors Supermarkets Hotels Export: EU Tourists (local and international)
Cost Structure Purchase of Honey, Transport, labour and packaging costs		Revenue Streams Honey supply to local market		

g. SUNVADO Organic Avocado Oil Plc

SUNVADO Organic Avocado Oil Plc

Founded: 2016

Location: Addis Ababa and Hawassa

Marketed Products: Organic Avocado Oil

Number of Employees: 260 fulltime staff and above 500 casual workers during harvesting season

Sourcing: established an out-grower scheme through farmers cooperatives on contractual production agreement basis and technical support and other embedded services

Current Market/Major Buyers: the target is to export to EU and US markets and gradually expand to other countries

Annual Turn-Over: the first batch is exported, and figure will be provided

Source of Finance: Own

Commercially Viable: Avocado is grown in the home stead by smallholder farmers and almost every farmer has certain amount of avocado tree in the area. These farmers are selling in the market which is not sustainable and low price. By engaging these farmers as contracted out growers will help the company to secure sustainable supply for the factory and trace back the production. It also creates reliable market with additional support from the company which significantly contributed for planting more avocado trees and increasing supply.

Scalable: as the business is already completed most of the establishment activities and gained experience in dealing with farmers and their cooperatives to secure reliable supply chain. Therefore, it is expanding to other areas to cover large number of farmers and areas in the region to scale the production of avocado and expand processing plant.

Replicable: south, south-west and western parts of Ethiopia are conducive to grow avocado and possible to replicate similar business set up in those potential areas.

Benefit for the Environment: as more avocado trees planted by large number of farmers, the amount of carbon sequestered increase that helps in restoring land and tackling climate change.

Social Benefit: creates reliable access to market for avocado producers, creating employment opportunity and contribute for other social services like school and clean water provision.

Opportunities: training farmers by the government, introducing quality standards

<p>Key Partners</p> <p>GiZ</p>	<p>Key Activities</p> <p>Organising and Training farmers, High quality seedling supply Training cooperative leaders Supporting fruit picking through trained youths Aggregation of avocado fruit Quality control and value addition Warehouse management</p>	<p>Value Propositions</p> <p>Quality and Organic Avocado oil from avocado fruit produced by smallholder farmers through their cooperatives</p> <p>Traceable Organic product</p> <p>Organic avocado oil harvested from sustainably managed avocado trees with technical and other embedded support from the company</p>	<p>Customer Relationships</p> <p>emails and phone calls</p> <p>One to one meeting with individual customers</p> <p>Feedback to individual requests and questions</p>	<p>Customer Segments</p> <p>Export: EU, US</p>
<p>Key Resources</p> <p>Experienced experts and staff</p> <p>Working capital for organising and training farmers, purchase of avocado fruit</p> <p>High-tech Processing plant</p>		<p>Channels</p> <p>Export through established customers and sister companies</p>		
<p>Cost Structure</p> <p>Staff, Training and organising farmers, avocado fruit purchase, transport and processing costs</p>			<p>Revenue Streams</p> <p>Revenue from export of Organic Avocado Oil</p>	

h. Guna Trading House Plc

Guna Trading House Plc
<p>Founded: 1992</p> <p>Location: Addis Ababa and Mekelle</p> <p>Marketed Products: Gum, resins,</p> <p>Number of Employees: 500 full time staff</p> <p>Sourcing: from cooperatives organized around collecting gum and resins</p> <p>Current Market/Major Buyers: China, Greece, Germany, US, EU, Middle east</p> <p>Annual Turn-Over: \$1.2 Million per annum</p> <p>Commercially Viable: gum and resin are among export commodities foreign exchange earning in Ethiopia. The demand for gum and resin is very high in the global market. Companies engaged in the business are making profit and their sale volume increasing annually.</p> <p>Scalable: the country has huge gum and resin resource to expand similar business.</p> <p>Replicable: the current production volume is by far below the country's potential and can be expanded to wider production potential districts.</p> <p>Benefit for the Environment: production of gum and resin are dependent on trees. As the demand for these products become high, more and more gum and resin tree species will be planted in larger areas and leads to protection and conservation.</p> <p>Social Benefit: employment opportunity, reliable market for community and provides alternative source of livelihoods.</p> <p>Opportunities: high demand for Ethiopian resin, huge potential base to produce both gum and resin, good and alternative source of foreign exchange, creates large number of jobs for unemployed rural youths and women</p>

Key Partners Gum and resin cooperatives Tigray Regional Government Ministry of Revenues	Key Activities Gum and resin collection Cleaning, sorting and grading Market research Facilitating transport or shipment	Value Propositions High quality gum and resin to be used as raw material is the different industries Satisfying the customers reliable supply chain	Customer Relationships Regular communication through email or phone Quick response to requests and clarifications Sometimes visit the processing and production sites	Customer Segments Export to China, Greece, Germany, US, EU, Middle East
	Key Resources Working capital to buy and grade gum and resin Warehouse for product storage		Channels The company has customers for other products and use that contact to reach to customers Through agents Marker Research and contact potential buyers	
Cost Structure Product purchase Grading cost Staff cost Transport/shipment		Revenue Streams Sale of gum and resin		

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7 References

- Alemayehu Asfaw Amamo (2014). Coffee Production and Marketing in Ethiopia, Jimma University College of Agriculture and Veterinary Medicine
- Alexander Osterwalder & Yves Pigneur(2010) Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers
- BadegeBishaw (2001). Paper presented at International Conference on Contemporary Development Issues in Ethiopia, Kalamazoo, Michigan, U.S.A. August 16-18, 2001 Deforestation and Land Degradation on the Ethiopian Highlands: A Strategy for Physical Recovery
- Birhane, E. (2014). Agroforestry Governance in Ethiopia Report WP 5
- FAO (2015). Agroforestry Definition, viewed 15 March 2020, <<http://www.fao.org/forestry/agroforestry/80338/en/>>
- Federal Democratic Republic of Ethiopia. (2011). Climate Resilient Green Economy(CRGE) strategy document.
- Federal Negarit gazette of the Federal Democratic Republic of Ethiopia, proclamation no. 1076/2018, a proclamation to provide for the public private partnership.
- Federal democratic republic of Ethiopia central statistical agency Agricultural sample survey 2017/18 (2018) Volume II, report on livestock and livestock characteristics (private peasant holdings).
- Federal Negarit gazette of the Federal Democratic Republic of Ethiopia, proclamation no. 1065/2018 Forest Development, Conservation and Utilization Proclamation.
- Federal Democratic Republic of Ethiopia, 2011, Climate Resilient Green Economy Strategy, Federal Democratic Republic of Ethiopia

FeyeraSenbeta and Manfred Denich (2006). Effects of wild coffee management on species diversity in the Afromontane rainforests of Ethiopia, Center for Development Research, University of Bonn, ZEFc, Walter-Flex Str. 3, 53113 Bonn, Germany

GemechisLegesseYadeta. Honey Production and Marketing in Ethiopian. American Journal of Life Sciences.Vol. 3, No. 1, 2015, pp. 42-46. doi: 10.11648/j.ajls.20150301.18

GiZ/UNIQUE (2017). Agroforestry business models Investment opportunities in Costa Rica

Grand View Research Inc. (2019). Bamboos Market Size & Share, Global Industry Report, 2019-2025. Available at: <https://www.grandviewresearch.com/industry-analysis/bamboos-market>

Indufor/International Finance Corporation/World Bank Group. 2016. Ethiopia Commercial Plantation Forest industry Investment Plan.

Jayaraman Durai, Fiker Assefa, SeyoumAseffa, Fu Jinhe, Tesfaye Hunde, Wondimagegne Bekele, ZerihunTsigaye, Selim Reza and Biruk Kebede. 2018. Value Chain Analysis and Market Assessment of Bamboo Products in Ethiopia. INBAR Working Paper.

Kassahun Ambaye (200). The Indigenous Bamboo Forests of Ethiopia: An Overview.

Kathleen Guillozet and John C Bliss (2013). Household livelihoods and increasing foreign investment pressure in Ethiopia's natural forests

KenesaTeferi. (2018). Status of Beekeeping in Ethiopia- A Review. College of Veterinary Medicine, Mekelle University, Ethiopia

Lemenih, M. and Kassa, H. (eds) 2011 Opportunities and challenges for sustainable production and marketing of gums and resins in Ethiopia. CIFOR, Bogor, Indonesia

Mehari Alebachew (2013). Traditional Agroforestry practices, opportunities, threats and research needs in the highlands of Oromia, Central Ethiopia

Ministry of Environment, Forest and Climate Change (MEFCCC). 2017. Technical Report Ethiopia Forest sector review, focus on commercial forestry and industrialization

Ministry of Environment, Forest and Climate Change (MEFCC). 2018a. National Potential and Priority Maps for Tree- Based Landscape Restoration in Ethiopia (version 0.0): Technical Report. Addis Ababa: Ministry of Environment, Forest and Climate Change.

Ministry of Environment, Forest and Climate Change (MEFCC). 2018. National Forest Sector Development Program, Ethiopia. Volume I: Situation Analysis.

Ministry of Environment, Forest and Climate Change (MEFCC). 2018. National Forest Sector Development Program, Ethiopia. Volume II: Program Pillars, Action Areas and Targets.

Ministry of Environment, Forest and Climate Change (MEFCC). 2018. National Forest Sector Development Program, Ethiopia. Volume III: Synthesis Report

Ministry of Environment, Forest and Climate Change. 2018. Ethiopia Bamboo Stock Assessment Report.

Omar sherif Jemal, Daniel Callo-Concha and Meine van Noordwijk (2018). Local Agroforestry Practices for Food and Nutrition Security of Smallholder Farm Households in Southwestern Ethiopia

PETIT, NICOLAS. (2007). Ethiopia's Coffee Sector: A Bitter or Better Future? *Journal of Agrarian Change*. 7. 225 - 263. 10.1111/j.1471-0366.2007.00145.x

SemegnewTadese, Teshome Soromessa, Tesefaye Bekele, Abreham Berta and Getachew Abebe (2018). Production and Challenges of gum arabic in Ethiopia: Review

Tekeba Nega and Yeshitela Eshete. (2018). Review of Ethiopia's Global Position in Honey and Other Bee Products Production and Marketing: Analysis of Sectoral Opportunities and Limitations.

Tola GemechuAngo (2018). "Medium-Scale" Forestland Grabbing in the Southwestern Highlands of Ethiopia: Impacts on Local Livelihoods and Forest Conservation, Department of Human Geography, Stockholm University, SE-106 91 Stockholm, Sweden.

United States Agency for International Development (USAID) (2012). Agricultural Growth Program-Agribusiness and Market Development (AGP-AMDe) Project. Submitted by ACIDI/VOCA to Contracting Officer's Representative Tewodros Yeshiwork, USAID Ethiopia.

ZenebeMekonnen, AdefiresWorku, TemesgenYohannes, Mehari Alebachew, DemelTeketay, and Habtemariam Kassa (2014). Bamboo Resources in Ethiopia: Their value chain and contribution to Livelihoods



8 Annex 1: Companies Data Collection Format

Basic Information	Notes
Name of Company	
Contact person	
Contact person position	
Phone number	
e-mail	
HQ location	
Partners	
Detailed Information	
Legal entity	
Year Established	
Products	
Current markets/major buyers	
Target/future markets/major buyers	
# of employees	
Size of sales in the last 5 years	
Annual turnover (ETB)	
Sourcing arrangement	
# of jobs created	
Challenges	
Opportunities	
Recommendations	