RAISE-FS *Woreda* profile #007

Babile *Woreda* Food System Profile

Population

147,680

75,212 72,468

Altitude

1250–1750 m.a.s.l

Diets

Predominantly grains and pulses

Food insecurity

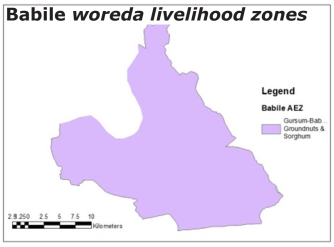
80% FHH

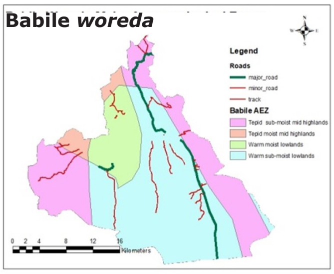
70% MHH

Food gap months

Jan .... Dec

April - October





Babile *woreda*

Top 5 crops produced

sorghum, maize, khat, ground-nuts, common beans

Climate and soils

- Drought
- Soil erosion
- floods and water lodging
- Deforestation
- Land degradation

Inclusion

Youth (18–35 yrs) | Women | Men

✗ No access
⋰ Limited access
✓ Access

	Youth (18–35 yrs)	Women	Men
High workload during the peak agricultural months	Access	Access	Limited access
Access to agri-inputs & extension services	Limited access	Limited access	Access
Access to credit	Limited access	No access	Limited access
Decision making	Limited access	Limited access	Access
Job opportunities	No access	Limited access	Limited access
Cooperative membership	No access	Limited access	Access

WAGENINGEN UNIVERSITY & RESEARCH

RAISE-FS Resilient Agriculture for Inclusive and Sustainable Ethiopian Food Systems

Introduction and methodology

This document gives an overview of the current status, dynamics, and behaviour of the local food system present in the Babile *woreda* and is called the *woreda* profile. The *woreda* profile was developed to support stakeholders' exercising evidence-based, bottom-up planning based on the existing reality of the *woreda*. The profile is meant to enable stakeholders to be on equal footing in understanding the complex challenges and realities of the *woreda*, and to use these insights as starting point for the *woreda* planning process. This document describes the current situation of the *woreda* in eight chapters. It endeavours to provide information and data on demography, agroecological conditions, production factors, markets and value addition, food and nutrition security, social inclusion as well as policies and government support.

This *woreda* profile is generated based on insights obtained from the baseline survey and rapid food system appraisal (RFSA) that took place in two *kebele*'s of Babile *woreda*, Bishan Babile and Erer Ibada. The two selected *kebeles* represent the different agro-ecologies that can be found in this geographical area.
Officials from the *woreda* administration acknowledge and certify that the RFSA engaged a diversity of stakeholders, and that the findings present a realistic overview representing the entire *woreda* (see Figure 2).

Activities conducted to construct the *woreda* profile were done in light of the RAISE-FS project. Babile is one of the selected implementation areas. A quantitative baseline survey and a qualitative RFSA were conducted in parallel and together with secondary data; these are the main inputs for this *woreda* profile. Data collection was conducted in two *kebeles* of the Babile *woreda*, Bishan Babile and Erer Ibada. These *kebeles* were purposefully chosen because of their protentional for the project commodities such as sorghum, maize, groundnut, and common bean (food security commodities). A structured standard questionnaire and RFSA tools were developed to collect field data.

Female-headed (FHH), male-headed (MHH), women in male-headed households (WMHH) and youth were proportionally selected randomly from a total of households living in the selected *kebeles*. Quantitative data were collected from 104 respondents of which 39% were men, 39% were women and 22% were youth (57% male, 43% female)

The RFSA comprised a sequence of steps and activities that consecutively build on one another to provide a diverse and integrated perspective on the current food system situation, key challenges and opportunities (see Figure 1). The applied RFSA tools were community mapping, activity calendar, in-depth dialogue and different plates activity[1]

[1] An extended description of the tools can be found here: https://doi.org/10.18174/590873.

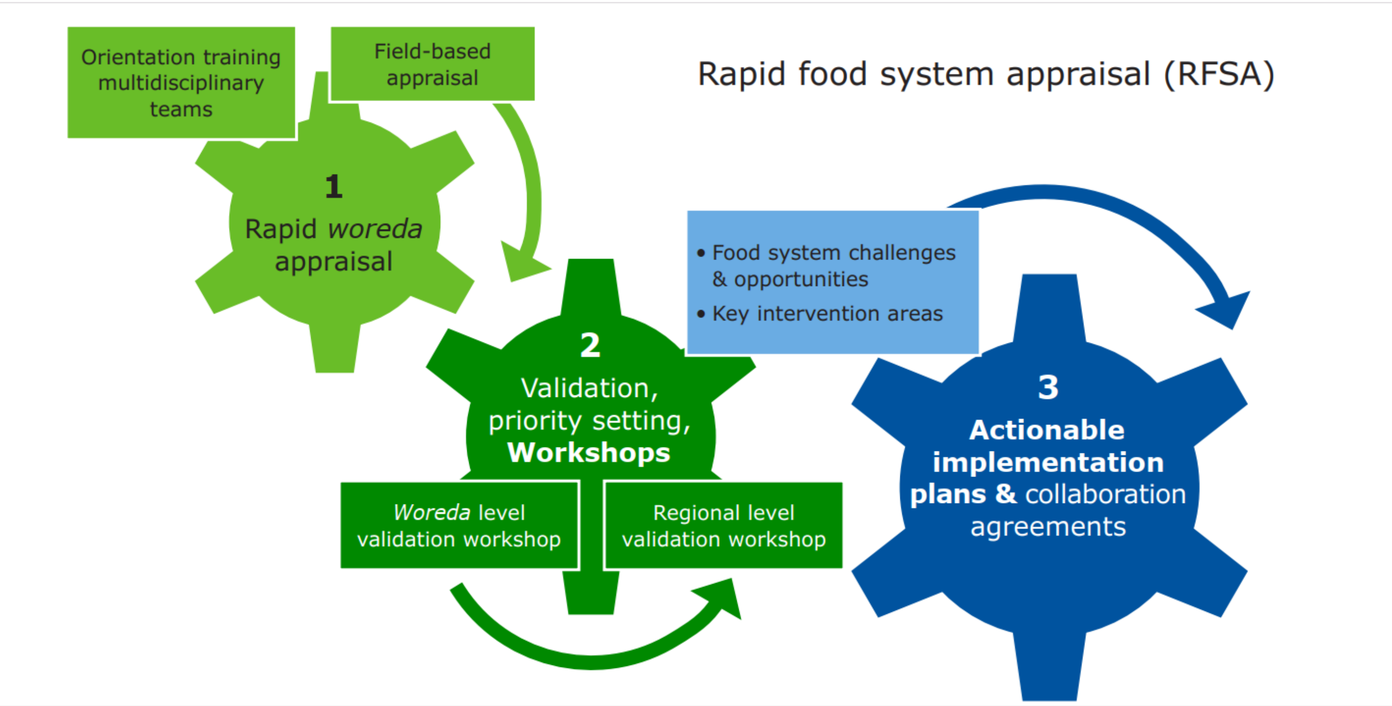
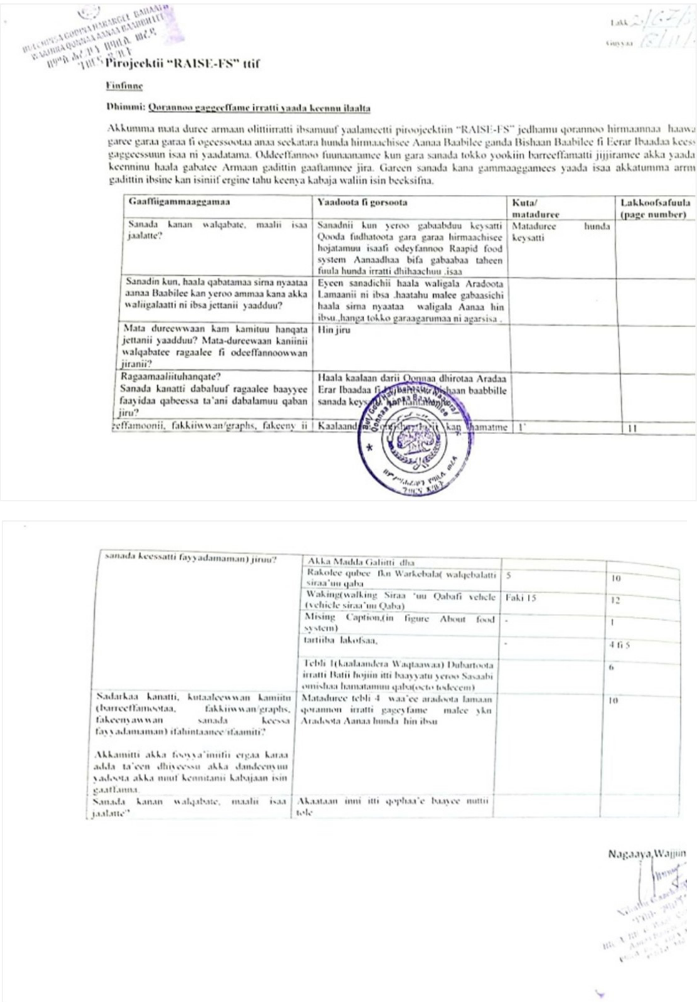


Figure 1: Steps of the rapid food system appraisal (RFSA) process

The activities were undertaken with female, male and institutional stakeholder groups separately. The female group consisted of 12 persons (5 youth <35yrs of age, 4 adults between 35 and 60yrs of age and 3 elderly people > 60yrs of age). Similarly, the male group was composed of 12 persons (5 youth, 4 adults and 3 elderly people). The institutional stakeholder group comprised development agents (DAs), head of agricultural offices, health extensions, cooperative managers, microfinance managers and land administration experts from *kebele* level and office of agriculture experts (Extension, nutrition, natural resources and agronomy), Cooperative promotion office, Women, Children and Social Affairs, Trade and development office, Microfinance and job creation.

The validation workshop was conducted with the *woreda* administrator, researchers of Haramaya University, and heads of different offices of the *woreda* (agriculture, cooperative, women, children and social affairs, job creation, trade, health). In addition, representatives of the men and women who participated in the RFSA were present. During the workshops, the key findings from the appraisal and baseline survey were discussed and validated. Suggestions received were taken into consideration and added to this document.



Pirojeektii "RAISE-FS" ttif

Finfinne

Dhimmi: Qorannoo gaggeeffame irratti yaada keennu ilaalta

Akkumma mata duree armaan olittiirratti ibsamuuf yaalameetti piroojeektiin "RAISE-FS" jedhamu qorannoo hirmaannaa haawa garee garaa garaa fi ogeessootaa anaa seekatara hunda hirmaachisee Aanaa Baabilee ganda Bishaan Baabilee fi Eerar Ibaadaa kees gaggeessuun isaa ni yaadatama. Oddeeffannoo fuunaanamee kun gara sanada tokko yookiin barreeffamatti jijjiramee akka yaada keenninu haala gabatee Armaan gadittin gaaftamnee jira. Gareen sanada kana gammaaggamees yaada isaa akkatumma arm gadittin ibsine kan isiniif ergine tahu keenya kabaja waliin isin beeksifna.

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Sanadin kun, haala qabatamaa sirna nyaataa aanaa Baabilee kan yeroo ammaa kana akka waliigalaatti ni ibsa jettanii yaadduu?	Eyeen sanadichii haala waligala Aradoota Lamaanii ni ibsa .haatahu malee gabaasichi haala sirna nyaataa waligala Aanaa hin ibsu.,hanga tokko garaagarumaa ni agarsisa .		
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Sanada kanan walqabate, maalii isaa jaalatte?	Akaataan inni itti qophaa'e baayee nutti tole		

Nagaaya,Wajjin

Figure 2: Official letter from Babile Woreda Agricultural Office

Summary of the content of the letter

From: Babile *woreda* Agricultural Office
To: RAISE-FS Project
Subject: Giving feedback on *woreda* Profile document

As it is known RAISE-FS project undertook RFSA in two *kebeles* of Babile *woreda* (Bishan Babile and Erer Ibada *kebeles*) in collaboration with experts of different sectors of the *woreda* and *kebele* level stakeholders.

We reviewed the document and found out that the document provides a summarized overview into the current food system dynamics of the two *kebeles*. But it does not fully represent the entire *woreda* food system as differences exists in the other *kebeles*. In general, we found that the document is well organized, short and clear.

With best regards,

Community maps

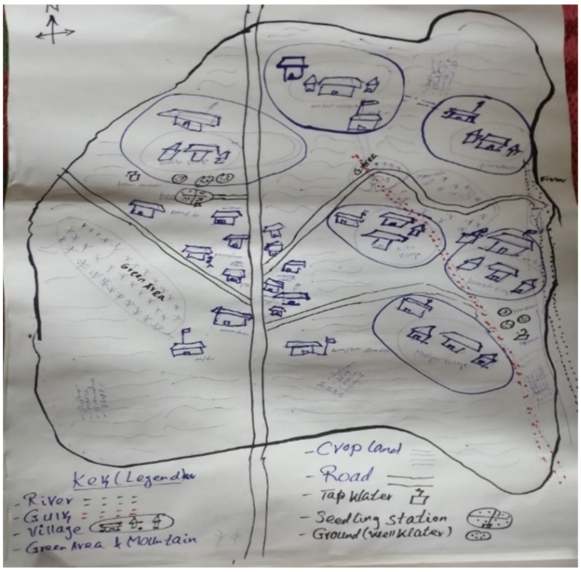


Figure 3: Community map from Bishan Babile kebele *from male focus group*

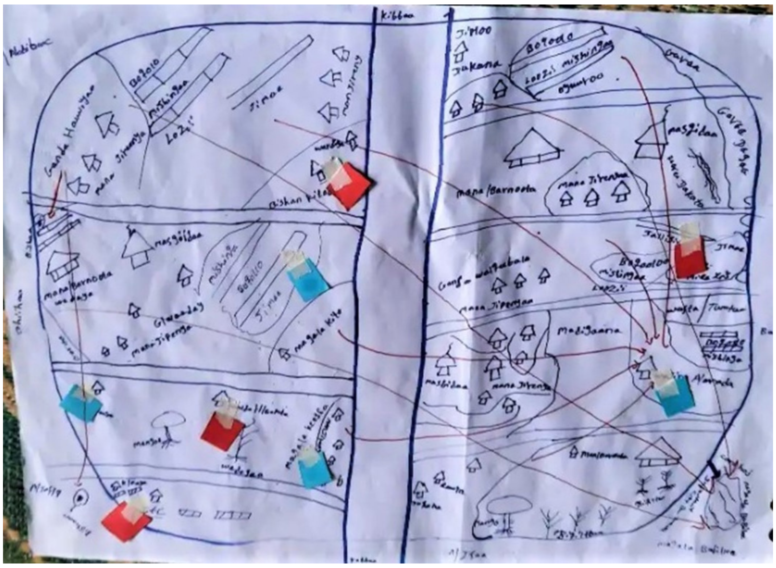


Figure 4: Community map from Erer Ibada kebele *from male focus group*

Figure 5: Community map from Bishan Babile kebele *from female focus group*

Figure 6: Community map from Erer Ibada kebele *from female focus group*

Seasonal calendar

Table 1: Seasonal calendar from Erer Ibada kebele *from female focus group*

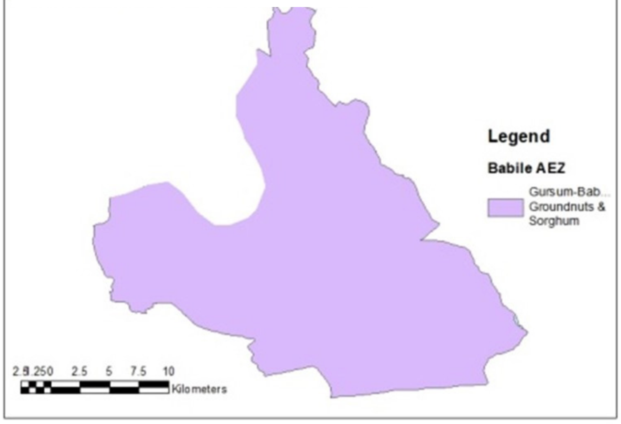
No	List of activities	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug
1	Expenditures	X				X	X	X	X	X	X	X	X
2	Income	X		X						X	X	X	X
3	Labour activities	X	X	X					X	X	X	X	X
4	High workload			X	X					X	X	X	X
5	The rainy seasons	X							X	X	X	X	X
6	Moments of critical drought									X	X		
7	Key cropping season for different crops	X	X	X					X	X	X	X	X
8	High market price months	X							X	X	X	X	X
9	Low market price			X	X								
10	Busiest months for women		X	X	X					X	X	X	X
11	Busiest months for men			X									X
12	Pest and disease prevalence	X	X							X	X	X	X
13	Prevailing livestock activities	X	X	X	X	X	X	X	X	X	X	X	X
14	Local market demands for local products	X								X	X	X	X
15	Periods of food scarcity	X									X	X	X

Table 2: Seasonal calendar from Bishan Babile kebele from male focus group

No	List of activities	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug
1	Expenditures	X				X	X	X	X		X	X	X
2	Income		X	X	X	X	X	X				X	X
3	Labour activities			X	X				X		X	X	X
4	Workload			X	X				X		X		
5	The rainy seasons							X	X		X	X	X
6	Moments of critical drought								X			X	X
7	Key cropping season for different crops	X	X	X	X			X	X	X	X	X	X
8	High market price months								X	X	X	X	X
9	Low market price months			X	X								
10	Busiest months for women			X					X				
11	Busiest months for men			X					X				
12	Pest and disease prevalence								X			X	X
13	Prevailing livestock activities	X	X	X	X	X	X	X	X	X	X	X	X
14	Local market demands for local products				X	X				X	X	X	X
15	Periods of food scarcity	X						X	X	X	X	X	X

1 Demography

Babile *woreda* livelihood zones



Babile *woreda* agro-ecological zones

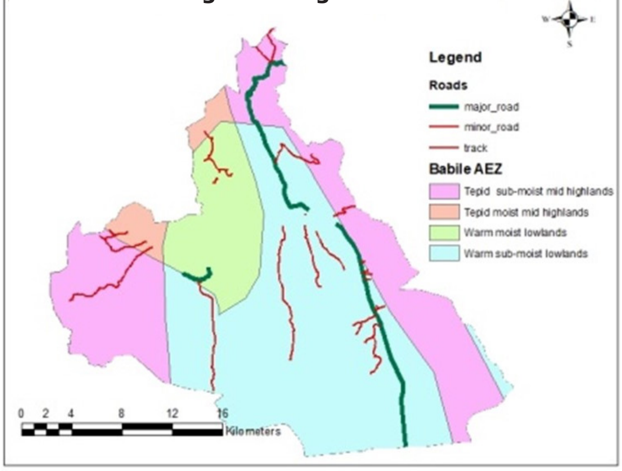


Figure 7: Map of Babile *woreda*

Babile is a *woreda* in East Hararghe Zone, Oromia Region. The main town of the *woreda* is Babile, which is 32km away from Harar and 565 km east of Addis Ababa. Data from the *woreda* agricultural office shows that the population size of Babile *woreda* is 147,680 (male: 72,468; female: 75,212).

Table 3 shows that most heads of households (43%) do not read and write followed by 38% completed primary school. A larger proportion of male heads of households is educated compared to female heads of households. About 69% and 35% of female and male heads of households, respectively, does not read and write. About 3% of male and 4% of female heads of households read and write through adult and religious education. On the other hand, about 42% of male and 27% of female heads of households attended primary schools (grades 1 to 8) while 14% and 6% of male heads completed secondary schools (grades 9 to 12) and diploma and above, respectively.

Table 3: Education level of surveyed household head

Educational level	Male head %	Female head %	Total
Does not read and write	35	69	43
Adult and religious education	3	4	3
Primary school	42	27	38
Secondary school	14	0	11
Diploma and above	6	0	5

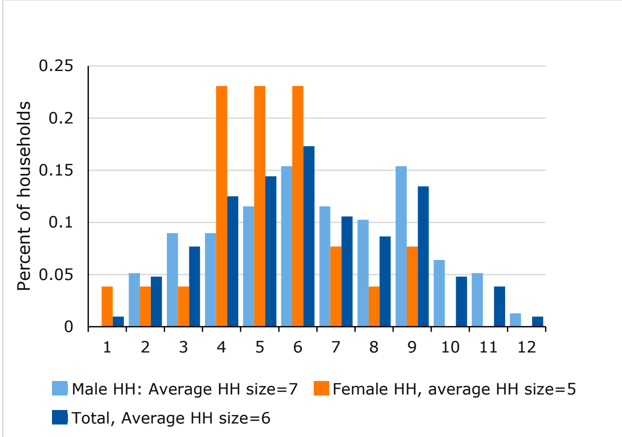


Figure 8: Family size of surveyed households

The baseline study indicated that the average family size of the surveyed households is six in both *kebeles* (Figure 8). Male-headed households have family size on average of seven persons while the female headed households have a smaller family size of five persons. Most female headed households (23%) have family member of four to six. Larger number of family members observed in male headed households. From about 63% and 61% of the population in male headed and female headed household, respectively are children (<18 years) (Figure 9). About 21% are youths (18 years to 35 years). Adults (36 years to 60 years) account for 14% of male headed household while 16% for female headed households. Elders (aged above 60 years) are less than one percent.

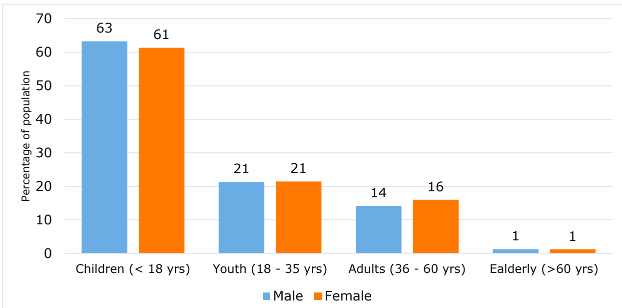


Figure 9: Age category of surveyed households

Priority topics identified and validated by stakeholders

- High population
- Early marriage
- Low participation of girls in education

2 Agro-ecological and environmental conditions

Secondary data obtained from Babile *woreda* Agricultural Office (2023) indicates Babile town is found 32 km far from Harar and 565 km from Addis Ababa to the east. The *woreda* is bordered by the Harari region in the North, Gursum *woreda* in the East, Somali region in the South and Fedis *woreda* to the West directions. The altitude ranges from 1250−1750 meters above sea level (m.a.s.l) with average of 1500 m.a.s.l.

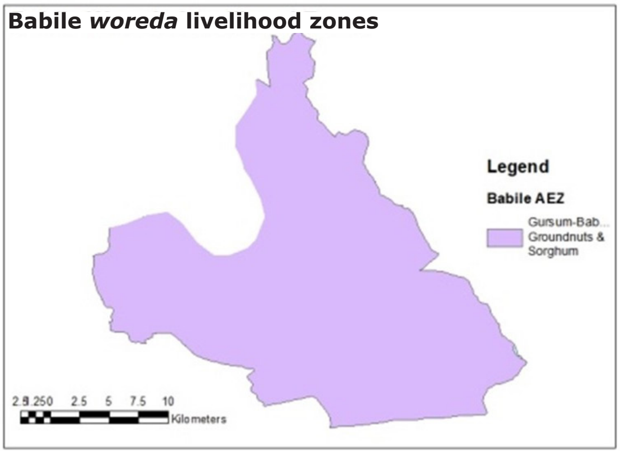
Babile *woreda* has 21 rural *kebeles* and one urban *kebele*. The *woreda* has two agro-ecologies, midland (5%) and lowland (95%). Temperature ranges 20−30 degree centigrade with average of 30 degree centigrade. The annual rainfall ranges from 300−700mm with average of 500mm. Rainfall is commonly started in April and ends in the first week of September.

The total land coverage of the *woreda* is 430.72 km2. Out of this, cultivated land was 212.54 km2, grazing land 120.64 km2, forest land 58.02 km2 and residential land 39.52 km2. The soil type is sandy soil (70%) and sandy clay soil (30%).

Babile *woreda* consists mainly out of a mixed farming system where both crop production and livestock rearing are practiced. Sorghum, groundnut, maize, khat, sesame and common bean are commonly produced crops in the *woreda*. Sweet potato, vegetables like carrot, onion, head cabbage, Ethiopian kale, hot pepper and beet root and fruits like banana, mango and papaya are less produced crops in the area. Cattle, goats, sheep, donkey, poultry and camel are livestock reared in Babile.
The *woreda* has marble rock and Babile water as natural resources. The rock is not put under use yet while the Babile bottled water factory was closed in recent years. The *woreda* is suitable for groundnut production, which can be linked to Hamaressa edible oil factory. These all can create job opportunity for youth, low-income peoples and landless communities.

Droughts, soil erosion, and forest degradation are common climate change and environmental degradation problems in the *woreda*. In addition, floods and water lodging in Bishan Babile specifically in Walke Bela and Jilo areas are environmental problems. Poor land management, deforestation and traditional agricultural practices without soil and water conservation practices are common environmental problem. This environmental degradation results in less production, exacerbate food insecurity, increase morbidity and mortality, reduce rainfall, reduce the water table and increase poverty and overall has a negative impact on livelihood of the communities.

In order to curb climate change and environmental degradation, soil and water conservation structures, climate smart technology utilization, awareness raising and tree plantation are largely implemented through community participation in campaign ways.



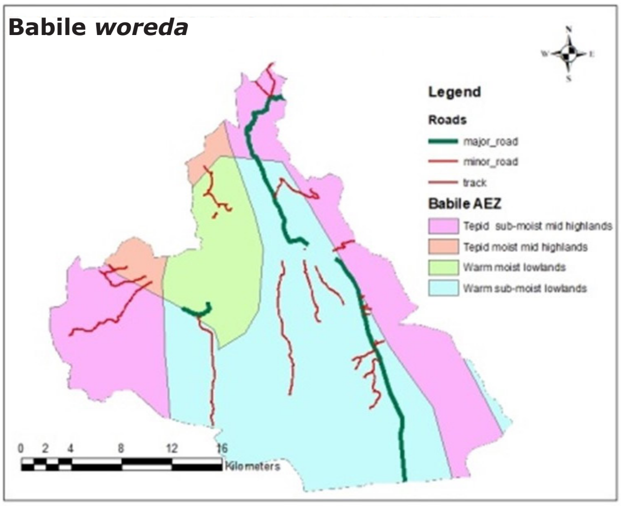


Figure 10: Map with ago ecological zones *woreda*

Stakeholders are validated the priority topics needs to rehabilitate degraded environments and to adapt to climate changes for sustainable food system.

Priority topics identified and validated by stakeholders

- Reducing effects of drought (early maturing crop varieties, water and crop management, irrigation accessibility and soil and water conservation practices)
- Enhance climate resilient livestock production (including fattening)
- Enhance and manage soil fertility

3 Agricultural production system

Mixed crop-livestock production systems dominate much of the agricultural production of both *kebeles*. Crops are produced both under rainfed and irrigation. Goat fattening are also common practice at both *kebeles*. Different land use types are practiced in both *kebeles*. The common land use types of Erer Ibada *kebele* are cultivated land, irrigation land (crops such as onion, chili and mango) is allocated for commercial purpose, and no grazing land. Farmers graze their livestock in neighbouring *kebeles*. There is no clear demarcation for land use among livestock herding, farmland and elephant sanctuary. Arable land, non-agricultural area like mountains, gorge and green areas are the common land use types of Bishan Babile *kebele*.

The result of RFSA from stakeholders group indicates arable land is mainly for production of maize, sorghum, pepper, onion, tomatoes, and groundnut crops. But there is no grazing, commercial, industrial, forestry, and non-agricultural land found in the *kebele*.

Some *kebeles* in the *woreda* has produced the crop two times a year using rainfed for main season and irrigation system. Most crops are produced using rainfed from April to November. Farmers produce mainly vegetables using irrigation from December to April when there is water limitation. Sorghum, maize, khat, groundnuts and common beans are commonly produced crops in both *kebeles* and home gardens (kale, cabbage, maize, carrot, tomato and beet root) are also common. There is also experience with producing vegetables using irrigation at both *kebeles* but largely at Erer Ibada *kebele* due to more irrigation accessible. The baseline also shows that most farmers, 95%, 63%, 35%, 16% and 5% produced sorghum, maize, khat, groundnut, and haricot bean respectively but with low productivity.

Households have reduced access to and use of improved varieties of haricot bean in comparison to the use of improved varieties for sorghum and maize production. Farmers couldn't use improved varieties for groundnuts as well as khat. Farmers have little experience in the use of pesticides, especially for crops like sorghum, groundnuts and maize. Relatively high percentages of farmers used pesticides on common bean and khat. Farmers are also used fertilizers, mainly on sorghum and maize and less so on khat. However, urea application on groundnuts and haricot bean is experienced in *woredas*. Crop rotation is a common practice in both *kebeles*. For example, the study observed rotation of groundnut/ common bean with sorghum or maize in both *kebeles*. The dialogues maintained with stakeholders during the RFSA, and the prevalence of intercropping of sorghum with groundnut or common bean or sesame have shown that generally, the intercropping system is part of the farming system of both *kebeles*. Some monocropping practices are also found in both *kebeles*. For instance, in Erer Ibada *kebele* mono cropping is common but there is a beginning for crop rotation while in Bishan Babile there is also monocropping in Warke Bela village due to the presence of fertile soils. Mixed cropping (maize and sorghum) is another practice in Babile *woreda*.

Both *kebeles* are considered high potential areas and therefore the demand for agricultural inputs, irrigation and technologies is very high. Nevertheless, the input and extension systems are constrained by a series of challenges. Stakeholders mentioned shortage and unavailability of agricultural inputs and technologies, high input price, low support in irrigation technology, lack of improved crop varieties, poor extension services and lack of post-harvest technologies. Due to occurrence of recurrent droughts, crop failures are major factors affecting agricultural production.

In general, the main crops that prevail in both *kebeles* are sorghum, maize, khat, groundnuts and common beans. Besides, fruits (mango, banana, and papaya), sweet potato, sesame, onion, chili pepper, tomato, head cabbage, beet root and carrot are less produced in *kebele*. Vegetables (head cabbage, onion, carrot, beetroot, and tomato), common bean, groundnut, and mango are the principal nutrition dense crops at both *kebeles*. The focus of *kebeles* on commercial (market oriented) commodities is different. Sesame, mango and groundnut are commercial crops in Erer Ibada *kebele* while *khat* and groundnut are in Bishan Babile *kebele*. Sorghum, maize and sweet potato are major food security crops in Erer Ibada *kebele* while sorghum and maize in Bishan Babile.

Respondents of the baseline were asked questions in relation to agronomic practices they apply (for example intercropping, relay cropping, crop rotation, agroforestry and green manuring). Most farming households have experience with crop rotation and intercropping with minimum proportion of agroforestry (Table 5). The baseline results also show that a low percentage of farmers has experience with green manuring and none of the farmers have experience with relay cropping practices. Intercropping is practiced in both *kebeles*. Farmers intercrop sorghum with groundnut or sesame or common bean, maize with common bean or groundnuts and *khat* with sorghum, maize, common bean, sweet potato and groundnuts. A small number of households

Table 4: *Inputs used for major crops*

Crop	% HHS Produce	%HHS used inputs				Productivity (t ha^{-1})	% Produce sold
		Improved Variety	Urea	NPS	Pesticide		
	%	%	%	%	%		
Sorghum	95.2	45.5	58.6	64.6	8.1	1.31	9
Maize	62.5	49.2	58.5	61.5	16.9	1.95	11
Khat	34.6		11.1	13.9	27.8	5.33	77
Groundnuts	16.3		29.4	23.5	5.9	1.26	54
Haricot beans	4.8	20	20	20	20	0.8	40

Table 5: Experience in agronomic practices

Household head	Inter-cropping	Relay cropping	Crop rotation	Agro-forestry	Green manuring
	%	%	%	%	%
Male	56		60	17	1
Female	42		62	12	
Total	53		61	15	1

practice agro-forestry such as planting fruits around their farm and homes.

The data indicate slight differences between male headed households and female headed households on agronomic practices. A relatively higher proportion of farmers for male headed households has experience with intercropping and agro-forestry compared to female headed households. However, female headed households were relatively good in applying crop rotation than male headed households. Those households, who have experience with crop rotation, mostly rotate cereals with cereals crops, which is not a recommended practice. The validated priority (see Box) topics for agricultural production strongly correspond with the insights generated from the baseline and focus group discussions.

The *woreda* has great potential to strengthen and diversify its agricultural production and enhance the food and nutrition security of its inhabitants. There is a need for integrated food system development strategies that aim to enhance the availability and improve access to agricultural technologies. Besides, the *woreda* has collaborated work with non-governmental organizations like CARE Ethiopia and USAID projects. The *woreda* has closely work with Fedis Agricultural Research Centre on early maturing sorghum and maize as well as Haramaya University on early maturing sorghum, groundnuts and socio-economic research under smallholder farmers. On the other hand, there is a potential to strengthen the extension and advisory services, and with close support of extension agents assigned at *kebele* level. Recently, there is government support for farming households to wheat initiatives, early maturing sorghum, and sustainable agricultural practices (i.e., soil fertility management practices like vermicompost demonstration).

Priority topics identified and validated by stakeholders

- Improve inputs supply chain and reduce cost of agri-in puts (including fertilizer)
- Enhance agricultural extension services
- Improving production (crop drought tolerant varieties and breeds) and postharvest technologies
- Promoting sustainable agricultural practices

4 Markets and value addition

The provision of basic market information is a service that aims to increase the efficiency of agricultural markets and contribute towards overcoming issues of market failure based on asymmetric access to basic market information. According to Shepherd (1997), public dissemination of prevailing market prices and conditions is one of the formats whereby farming households obtain market information. Public provision of market information aims to reduce asymmetry of information in the marketplace.

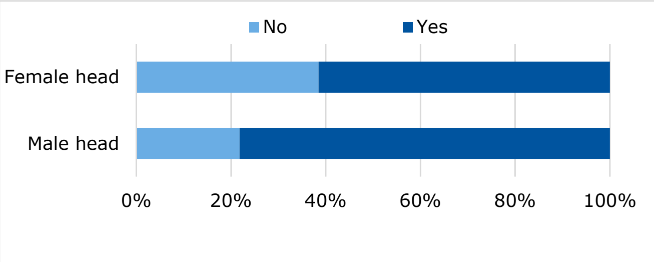


Figure 11: Access to market information

The data obtained from the baseline (Figure 11) shows that most farming household (74%) have access to market information, which they obtain through a variety of sources. The remaining 26% of farming households do not have access to market information. Female headed households (62%) have less access to market information compared to male headed households (78%). Farmers obtained market information through neighbours (57%) and market dealers/brokers (16%) respectively. small proportion of households (8%) obtained market information from friends or family. A very small proportion of farming households obtain market information from formal sources (like radio, television, cell phone, or development agents), peer farmer, traders.

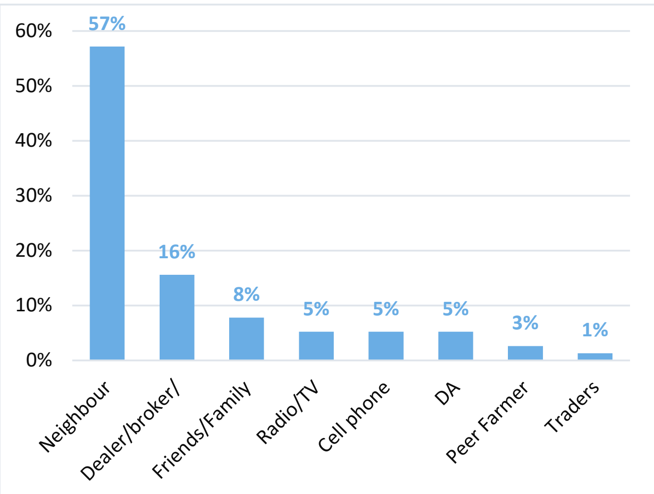


Figure 12: Source of market information

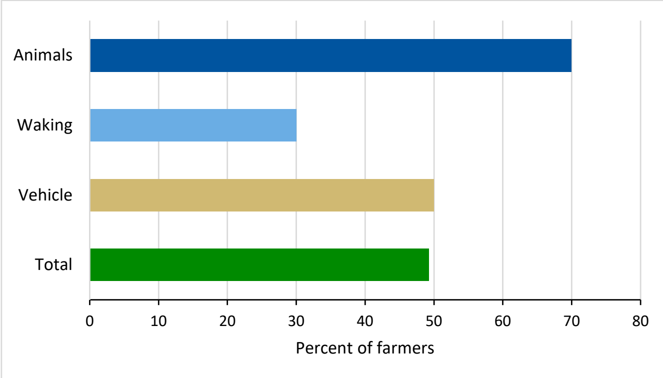


Figure 13: Means of transport to market

There are limited local market places in both Bishan Babile and Erer Ibada *kebeles*. Local markets are used for trading vegetables, *khat* and milk. Both *kebeles* used Harar and Babile (*woreda* market) market centres. Bishan Babile *kebele* is closer to Babile than Erer Ebada *kebele* and has road infrastructure and is closer to asphalt road to reach Harar. The Babile market in the *woreda* centre town is located 14 kilometres from Bishan Babile and 39 kilometres from Erer Ibada. This market serves as the primary centre of trading for farming households from both *kebeles*. Babile market centre has two market days per week (Monday and Thursday).

As a result, farming households incur high transportation costs, lack cold storage and other storage facilities, have a weak market linkage with Harar and Babile traders, and presence of brokers, if they want to sell a part of their agricultural produce on the market, or if they want to purchase food products locally. Both *kebeles* have all-weather roads to both Harar and Babile marketplaces. Even farming households that make use of the main irrigation systems for their agricultural production are not able to sell their products in their locality. Due to the absence of a local market and local "food environment", cereal and vegetable crops are sold directly to traders without value addition. There are no agro-processors in their local areas and the linkage of groundnut producers with the existing Hamaressa edible oil factory is weak. Moreover, the agricultural office, health office, land administration, cooperatives and veterinary clinic have tremendous shortcomings in providing services to the community.

Infrastructure related problems such as lack of electricity, insufficient water, absence of industries/factories and a lack of roads connecting different *kebeles* are among the major causes of joblessness in both *kebeles*. Sufficient labour accumulation is found in the *kebele* but there is low inspiration for works, habit of dependency and limited job opportunity. However, there is some opportunity for youth to be organized for cobble stone production as of high presence of marble rock in the area.

Market prices fluctuate for most crops throughout the year, but the difference depends on crops and livestock products. For instance, prices for cereal and pulse crops increase from April to September, when the supply is constrained, and fall from November and December when most of the crops are harvested and there is a supply glut. However, cattle products are very cheap from June to September due to availability of feeds while from December to April the price increases. Vegetables like kale, fruits and *khat* are cheap from May to August whereas high prices prefail from December to April.
The two *kebeles*' main challenges in relation to marketing include amongst others: high prices of inputs, low prices for production, lack of transportation, poor quality

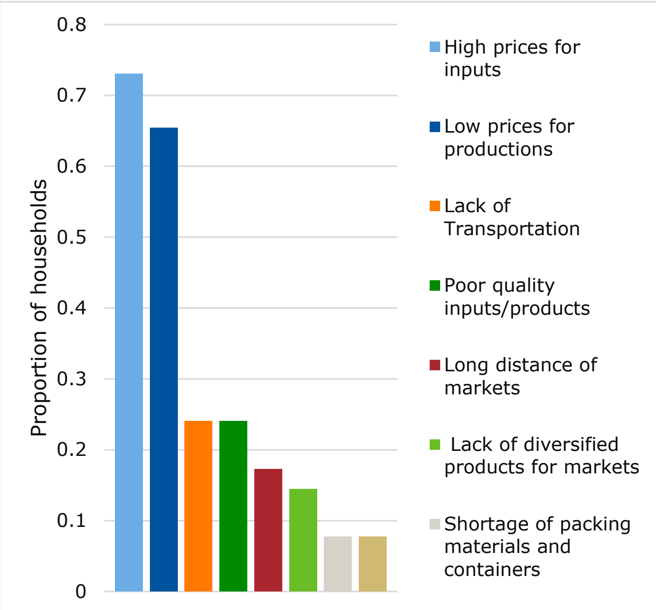


Figure 14: Challenges in marketing

inputs and products, long distance to markets, and lack of diversified products for markets. However, result from RFSA indicates influence of brokers , weak market linkage, market price fluctuation, weak facility like storage and lack of awareness on postharvest management are

major challenges mentioned by discussants. An investment to support the development of local markets, food availability, market infrastructures and other food environment has been prioritized by stakeholders. This local food environment would generate a physical location where *woreda* stakeholders can sell, buy and promote diverse, healthy and safe food products. Strengthening the local food environment has the potential to dynamize the local food system by supporting the exchange and distribution of diverse food items produced locally and traded regionally.

Priority topics identified and validated by stakeholders

- Improve market linkage between producers and processors as well as traders
- Improve access to quality market information
- Improve value chain performance (groundnuts, onion, pepper, and dairy)
- Enhance postharvest management and value addition


Baibile woreda camel market center

5 Credit and financial services

There are no micro-finance institutions (MFIs) and Rural Saving and Credit Cooperatives in the *kebeles*. Previously, there was WALQO, but the institutions are upgraded to Sinqee Bank and located in the *woreda* town and not accessible to the farmers in the *kebeles*. The formal financial accessibility is constraint such as credit with interest is not accepted due to religion, complexity and long chain of the loan process, low amount of credit allocation, collateral requirements and low saving culture. The available credit systems do not benefit the rural youth as they do not have access to land or other assets that they can use as collateral with financial institutions. In addition, there is no youth specific initiative, lack of interest free loans, lack of initial capital for business and irrigation, and inadequate awareness for business management and loan utilization.

A number of the pre-conditions to access credit imposed by MFIs such as having access to collateral have excluded resource poor households, women, landless households and the youth from accessing credit services. In addition, resource poor households are reluctant to take out loans as they are afraid of failing to repay their loans because they are vulnerable and do not have the resilience to cope with stress factors at times of adversity.

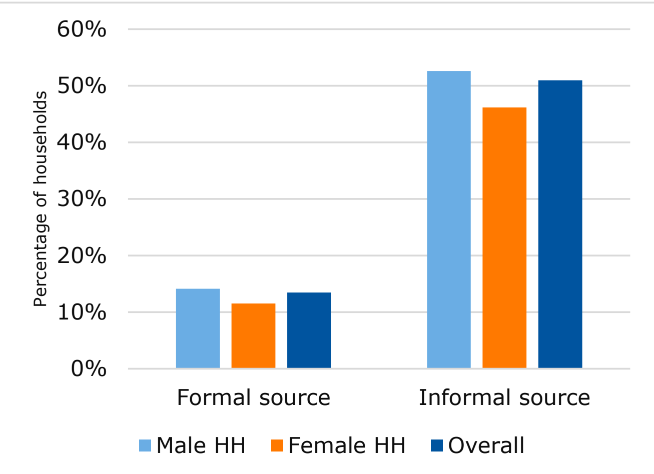


Figure 15: Access to credit

Around 25% and 32% of households can access loans from formal sources(NGO, bank/ financial institution, micro-finance including VSLAs/ SACCOs) and informal sources (informal lender, friends or relatives, and informal credit/ savings groups, e.g., merry-go-rounds, funeral societies), respectively with limited differences between male and female headed households (Figure 15). Most male headed households accessed loans from informal sources while most female headed households from formal sources. The small loan amounts provided by formal institutions are favourable for women works as mainly engaged in small business.

Alternative measures that some resource poor households' resort to to obtain cash, frequently deteriorate their livelihoods further. More households use informal loan services as compared to formal loan users because the village money lenders charge no or low interest rates, are less bureaucratic, and no need for collateral as compared to the interest rates of MFIs and banks. The baseline also highlighted that there are informal credit service providers with limited or no interest rates.

The topics that have been prioritized in this particular domain correspond to these specific challenges. There is a need to improve access to financial services and credit provision. This is a credit to purchase agricultural technologies, livestock and food but also credit facilities for SME's and entrepreneurial investments in the agri-food sector.

In addition, there is a strong need to develop and implement innovative and inclusive finance instruments which are customized and attractive for women and youth and help to strengthen the skills and competences of emerging entrepreneurs.

Priority topics identified and validated by stakeholders

- Improve customized access to financial services and credit provision (including interest free modalities)
- Develop innovative mechanisms for local credit provision that are inclusive for women and youth, have low interest rates and are administered and managed locally

6 Food and nutrition security

Almost 70% of households in Bishan Babile and Erer Ibada face food shortage in the most critical month of July. Female headed households face even more food shortage with 80% of households indicating that they do not have enough food in the month of July (Figure 17). Of the female headed households 27% were severely

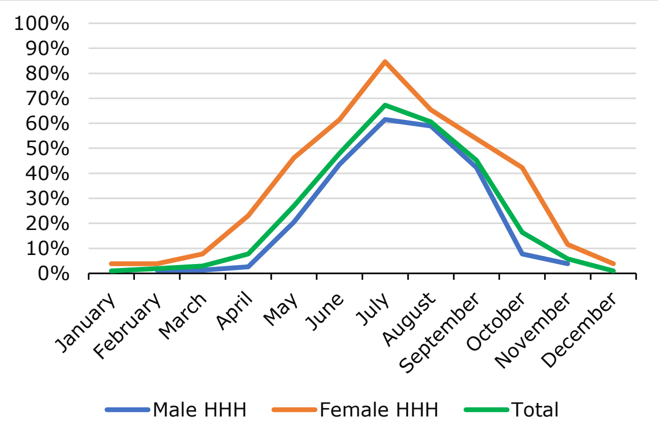


Figure 16: Proportion of households having insufficient food in different months of the study year (2022)

food insecure in the past month compared to 12% of the male headed households. Furthermore, only 32% of male headed households and 12% of the female headed households are food secure (Figure 18).

The different stages of food security (Figure 18) was based on the last 30 days consumption, which was during food shortage month (June) as the baseline survey was conducted in July 2022.

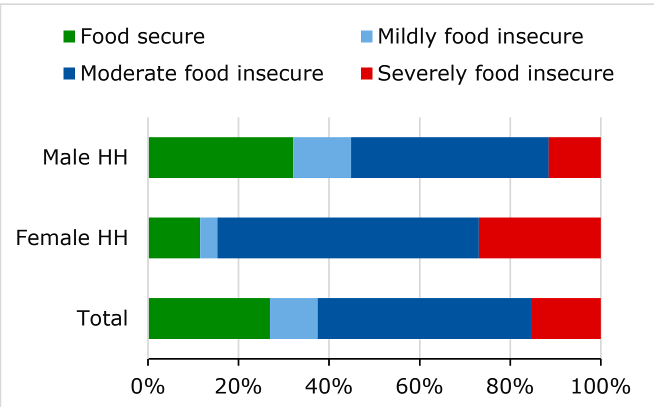


Figure 17: Proportion of households categorized in different stages of food security levels [2]

Carbohydrate sources like grains, white fleshed root and tubers were consumed in the past 24 hours by all respondents. Also, almost all respondents consumed pulses (81%) and other vegetables (70%). Meat, poultry and fish, eggs and vitamin A rich fruit and vegetables were consumed by very few people (Figure 19). Between 30 and 40% of the respondents (both male and female) consumed dairy products.

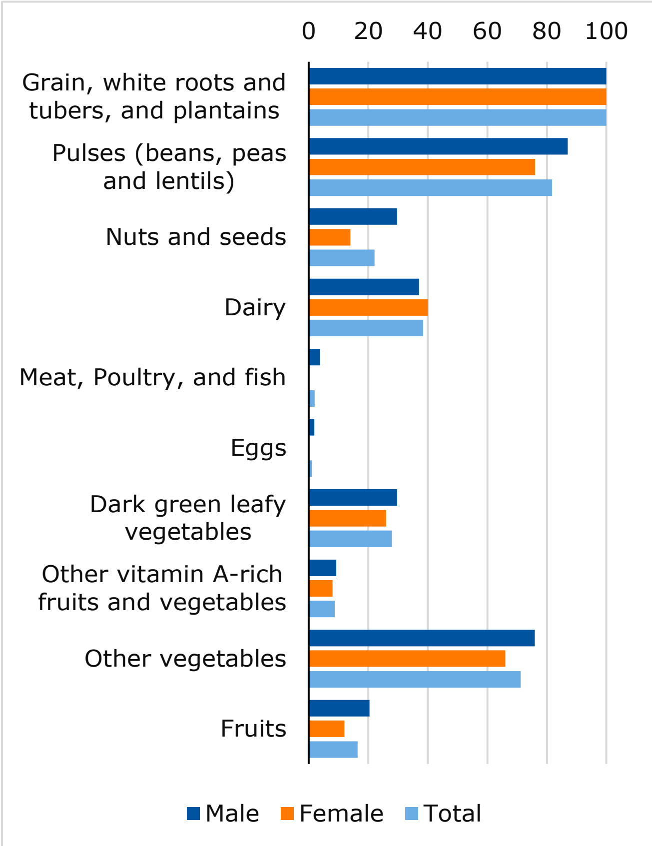


*Figure 18: Food groups consumed in past 24 hours for the two study **kebeles** of Babile*

The average dietary diversity score (DDS) of the respondents was 3.7 with 3.9 for men and 3.4 for women (Table 6). Only 30% of the male respondents and 18% of female respondents consumed five food groups in the preceding 24 hours. The majority of women (74%) in reproductive age (15-49) consumed three food groups out of 10 with average DDS of 3.3. This is far below the minimum dietary diversity for women, increasing the change that they suffer from micronutrient deficiencies[3].

It was brought up during focus group discussion that wealth status (income), gender, limited knowledge about nutritious food, lack of awareness on healthy cooking, and lack of access to irrigation to produce vegetables are the major socio-economic barriers for people to consume

[2] https://www.fantaproject.org/sites/default/files/resources/HFIAS_ENG_v3_Aug07.pdf

[3] https://www.fao.org/3/cb3434en/cb3434en.pdf

a healthy diet. Access to irrigation was mentioned as an enabler to produce nutrient dense vegetables. Food taboos are common in both *kebeles*. Meat of pork is not consumed because of religion in the area and in Ethiopia in general. Pregnant women are not allowed to consume eggs, milk and fruits such as lemon, banana, mango and papaya due to the perceived fear that the foetus can grow big and create difficulty during delivery. The respondents indicated that a healthy diet is diverse and consists of animal foods (dairy, meat, eggs) as well as different kinds of crops (grains, vegetables and fruits). However, limitations were explained in terms of balancing food based on the nutritional and health benefits. Priority topics are indicated below based on the reflection during FGD and validation workshop.

Table 6: Dietary diversity of surveyed respondents

Respondent	Food groups consumption		
	Average DDS	Food groups	Percentage of respondents
Overall	3.7 (n=104)	5 FGs	24%
		4 FGs	52%
		3 FGs	78%
Male	3.9 (n=54)	5 FGs	30%
		4 FGs	59%
		3 FGs	80%
Female	3.4 (n=50)	5 FGs	18%
		4 FGs	44%
		3 FGs	76%
Female 15-49	3.3 (n=42)	5 FGs	17%
		4 FGs	43%
		3 FGs	74%

Priority topics identified and validated by stakeholders

- Increase knowledge and awareness on the importance of healthy diet
- Increase supply of seeds and seedlings for vegetable and fruit production
- Increase the availability of nutrient dense crops through improved productivity and diversification
- Correct crop management and storage sys tem to improve food safety (e.g., groundnut aflatoxin, pesticide application to vegetables)-
- Avail irrigation so that production of fruit and vegetables is possible yearround.

Babile woreda agriculture field landscape
Photos taken by: Asfaw Zewdu

7 Inequalities based on gender identity and age

The women empowerment in agriculture (WEIA) score indicates disempowerment problem among men, women and youth in Babile *woreda* (Figure 20). Youth faced most challenges in relation to empowerment compared to men and women. The youth are mainly disempowered especially due to their lack of group membership, less control over use of income, limited input in agricultural production related decisions, and less access to and decisions on credit. Women face most challenges due to their high workload, lack of group membership and little room to speak in public. Men also face disempowerment, especially due to lack of group membership and limited access to and decisions on credit.

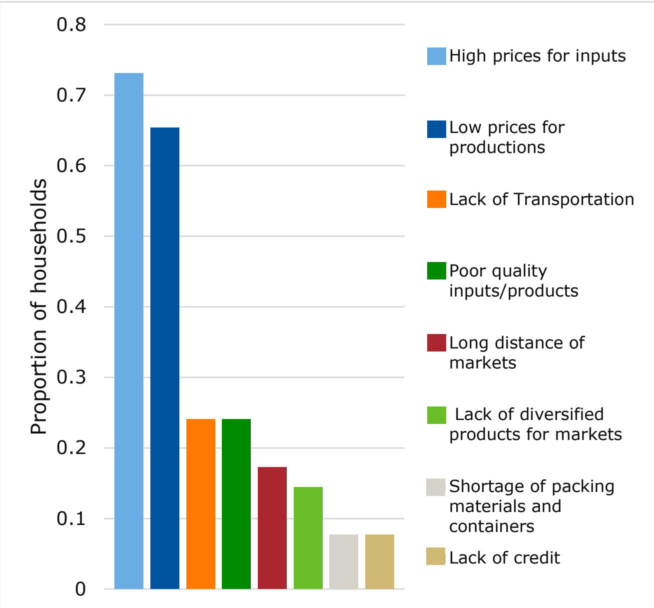


Figure 19: Women empowerment in agriculture (WEIA) score. Weighted score of the % of people classified as disempowered in specific domains[4].

Table 7 shows the percentage of people not being empowered in the different WEIA domains using predefined cut-off indicators.

Women's disempowerment and ideal women

Figure 20 and Table 7 show that women are overall less empowered than men. High workload, less room to speak in public, lack of group membership and, limited access to and decisions on credit were seen as the highest contributors to women disempowerment.

The baseline results indicate that 67.5% of women disempowerment was due to a high workload and their lack of leisure time (32.5%) (Table 7). Similar to the baseline, the RFSA also revealed that women have a higher workload than their male counterpart. The busiest months of the year for women were April to August and November months. For instance, women in Bishan Babile *kebele* were busiest in August and November due to participation in weeding and harvesting as well as threshing. While in Erer Ibada *kebele*, May till August were the busiest months for women. But they are busy throughout the year with domestic works like fetching water, milling, cooking, collecting firewood and child care. Few men engage in domestic care like fetching water, collection of firewood, and caring for children. Men are dominantly engaged in agricultural activities like ploughing, sowing, weeding, cultivation, harvesting and threshing and livestock care.

The WEIA score showed that, inaddition to the workload, less access to and decisions on credit contributed substantially to disempowerment of women. Access to finance is limited for women due to absence of financial institutions in the *kebele*, no interest free credit provision due to religion, and small amount of credit is provided. But access to credit is also a challenge for men and youth in study *kebeles*.

The baseline result indicates that 45% of women are disempowered through not speaking in public. Amongst others, social norms prevent women from speaking in public. Communities gave respects for women who are not always speaking and being silent in public or out of home. Other high contributor to disempowerment for women was lack of group members, 40% of women are disempowered in this domain (see Table 7).

Table 7: Percentage of women, men, and youth classified as disempowered in different domains using the WEIA cut-off values[5] .

Respondent	Input in production decisions	Ownership of assets	Access to and decisions on credit	Control over use of income	Group member	Speaking in public	Workload	Leisure
	%	%	%	%	%	%	%	%
Women	7.5	5.0	57.5	5.0	40.0	45.0	67.5	32.5
Men	4.9	0.0	56.1	4.9	34.1	12.2	22.0	24.4
Youth	26.1	8.7	65.2	30.4	69.6	30.4	39.1	13.0
Overall	10.6	3.8	58.7	10.6	44.2	28.8	43.3	25.0

[4] https://www.ifpri.org/project/weai

[5] https://www.ifpri.org/project/weai

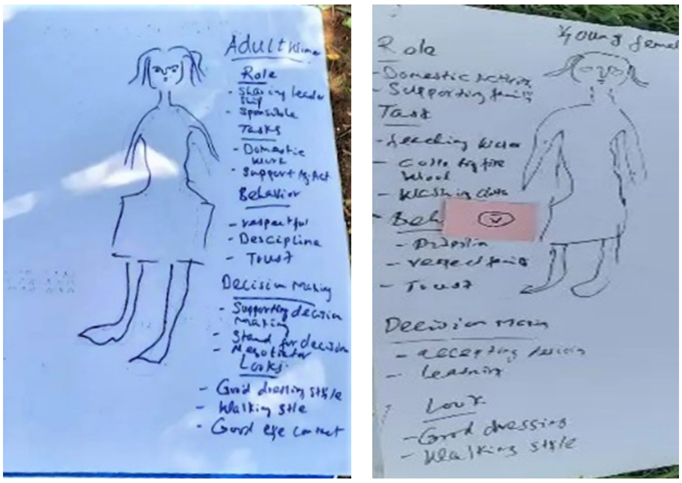


Figure 20: drawings of ideal women as described during FGD. Mentioned characteristics are: caring for her family; leadership in Afosha and other social activities good cook; takes the role of husband when he is not around; sociable, brave, unbiased, self-confident, genuine, and beautiful.

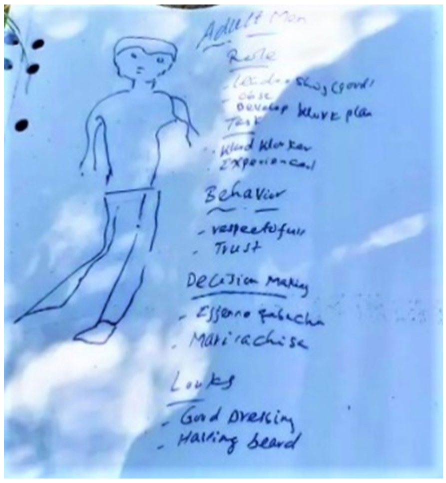


Figure 21:drawing of ideal men as described by FGD. Mentioned characteristics: family management; responsible to fulfil all basic needs of his family; hard worker; responsible, role model farmer who produce diverse cop;, disciplined; loves his family and respect all people; friendly, sociable, genuine, unbiased, self-confident, principled, good physical appearance, and having a long beard.

Youth's disempowerment and ideal men

Young people (between 18 years and 35 years) and are not household heads are most disempowered compared to men and women above the age of 35 (Figure 19Most young people are disempowered in the domain of group membership (69.6%) and limited access and decision on credit (65.2%) (Table 7). Furthermore, a much higher percentage of young people were disempowered compared to men in all domains except leisure time: decision making on production and inputs (26.1% for youth vs. 4.9% of men), control over use of incomes (30.4% for youth vs. 4.9% for men), group membership (69.6% for youth vs. 34.1% for men), speaking in public (30.4% for youth vs. 12.2% for men), access to and decisions on credit (65.2% for youth vs. 56.1% for men), workload (39.1% for youth vs. 22% for men) and ownership of assets (8% for youth vs. 2.4% for men).

Young people have limited access to land independently from the household, limited training for youth on business management, lack of income, lack of job opportunity and less orno collateral. This contributes to their disempowerment of control over income but also ownership of assets, limited input in production decisions, and migration from rural to urban and abroad. The dependency on family income, limited participation habits on public issues and social norms influences the youth not to speak in public.

Although they have high disempowerment score, young people were more empowered in the domain of leisure time, and workload compared to men and women above the age of 35.

The disempowerment score for young men and women was not calculated separately due to the limited sample size. However, FGDs suggest that disempowerment is probably different for young men and women and the low empowerment could partly be explained by gender inequality. Young men and women have different tasks than older people. For example, domestic duties such as cleaning, fetching water, purchasing food items from market, cooking and watching toddlers were seen as specific tasks for young women besides agricultural works such as sowing, weeding, harvesting and feeding livestock. Caring for livestock, ploughing, sowing, weeding, harvesting and threshing were mainly seen as a young men's task. Education was described as a specific task for both young men and women.

Men's disempowerment and ideal men

Men were most empowered compared to women and youth but even so a high percentage of men are disempowered in various domains. Most men were disempowered in the domain of access to and decision on credit (56.1%), group membership (34.1%) and limited leisure time (24.4%).

Among the priority topics, stakeholders accepted challenges faced in terms of agricultural inputs. accessibility for youth, credits, youth unemployment, and youth access extension support and women workload.

Priority topics identified and validated by stakeholders

- Reduce workload for women
- Enhance access to financial services and credit
- Increase job opportunity for youth and women
- Improve availability and accessibility of inputs and extension support for youth and women
- Increase decision-making power over household resources for women and youth

8 Policies and government support

The baseline survey and focus group discussions revealed the importance of designing policies that are customised to the *woreda*'s realities.The insights generated can be synthesized into seven overarching thematic areas that have the potential to catalyse sustainable and inclusive socio-economic development for the *Woreda* and its inhabitants. These thematic policy areas are:

- Social and economic inclusion for youth, landless and women
- Enhanced agri-inputs and advisory services,
- Diversified, safe and nutritious food systems
- Value additions and market linkage
- Climate resilient and sustainable agricultural practices
- Agricultural mechanization for agricultural management and labour-saving technologies
- Partnerships for integrated food system policies, planning and governance.

Social and economic inclusion for youth, landless and women

This thematic area encompasses enabling programs focusing on the unemployment, access to agricultural finance, participation in social activities, cooperatives and public, access to irrigation, improved participation in agricultural production, and mechanisms to provide access to extension services and training support for excluded groups in the society. The thematic area focusses on the development and scaling up of best practices for women and youth to engage in socio-economic development activities, in accordance with their existing potentials and local agro-ecologies. There is a need to give emphasis on strengthening access to finance for women, landless and youth with entrepreneurial coaching support and business skill development.

Enhanced agri-inputs and advisory services

The *woreda* has potentials for on-farm, off-farm and non-farm economic activities. Agri-inputs and advisory services should give emphasis for agricultural production potentials (lowland crops, fruits and livestock), are favourable for agri-inputs and advisory services. Ethiopia's Digital Agriculture Extension and Advisory Services (DAEAS) Roadmap 2030 and the extension strategy refer to the strengthening of pluralistic and customized extension system which would enable private sector stakeholders to start operating as service providers at *woreda* and *kebele* level. Experience derived from the cooperative sector and other innovative structures, and experiences from initiatives to distribute and disseminate agricultural services and inputs (i.e. one stop shop) need to inform future policies and investments within this domain. Scaling-up existing best practices on inputs delivery and advisory services in local areas. The private or group strictures, is required to address the encountered agri-inputs and advisory services challenges.

Locally demandable and research proved integrated inputs and extension services are required for reduction of food and nutrition security. An input supplier should target the crop specific inputs customization and supply for sustainable production, for instance, small seed pack vegetables for home garden practices. Policies, mechanisms and instruments are required to create structural support for local (agro) entrepreneurship. Supporting and linking jobless, youth, women and landless people is required in areas of financial provision and capacity strengthening in rural entrepreneurship. Additionally, providing access to market information, linking with input suppliers, and seed capital for development of the agri-food sector and supporting the creation of non-agricultural jobs in the food system.

Diversified, safe and nutritious food systems

Policies and programs that promote diversified production systems by integrating nutrition dense crops, such as horticultural crops and pulses can enhance resilience of the food system and the nutrition security of *woreda* households. In addition, there is a need to strengthen good agricultural practices and good hygiene practices of food supply chain actors in order to guarantee the safety and quality of foods to meet the demand of urban and rural consumers.

Supporting value-chain actors have been required to supply nutrient dense food commodities for the market to make these nutritious food products accessible for urban and rural consumers. Besides, efforts are required to enhance the provision of market information and fair prices, safe and timely affordable in the local market. Improving knowledge and skills of farming households are important through changing food consumption behaviour, diversifying incomes, cooking demonstrations, safe production and supply. In addition, enabling farming households to access nutrient dense foods year round from their field through home gardening for sustainable agri-food systems.

Value additions and market linkage

Agricultural products, both crop and livestock products, are currently supplied to the market with limited value additions activities. For example, groundnut is produced and supplied to the market as a raw product, without any value addition. There is potential to link the groundnut producers with the Hamaressa Edible Oil Factory through contract farming, which would both create a market linkage and support value chain development of groundnut. The close proximity of the *woreda* to larger cities like Harar, Dire Dawa and Jigjiga and to neighbouring countries like Djibouti and Somali creates diverse market opportunities for value added, processed products. For instance, currently raw milk is supplied to the market, without grading and sorting or any value addition taking place. There is a strong potential to link smallholder farmers with value chain actors, supporting value chain development, value addition and ensuring high quality and food safety standards allowing the value added products to be competitive in international and urban markets where they can access fair prices and sustainable markets.

Climate smart agricultural practices and resilient production systems

Climate vulnerability such as recurrent droughts, erratic rainfall distribution, late on-set and early cessation of rainfall and the resulting cropping pattern changes are some of the climate change related phenomena that are currently taking place. In addition, gully erosion, deforestation and soil degradation are also some of the problems which are affecting valuable land and soil resources in the *kebeles*. Increasing population pressure and traditional farming practices (poor soil and water management practices) are exacerbating the climate change which is affecting agricultural production and subsequently food and nutrition security in the *woreda*. A diversity of national and regional initiatives has been deployed to prepare the agricultural sector for climate readiness. Successful initiatives that have been tested and validated at *woreda* level, with the support of research and development partners, can be scaled and disseminated to reach more farming households in other *kebeles* of the *woreda*.

There is ample evidence and proven positive impact of climate smart agricultural practices such as crop diversification, diversification of crop genetic resources to local environment challenges, early maturing crop varieties, drought tolerant varieties, vermicomposting, green development initiatives (multi-purpose tree plantation), water management and conservation practices and integrated soil fertility management practices. There is a need to expand on programs and policies promoting the dissemination and uptake of these types of agricultural and food system innovations.

Irrigation development is one of the most important technological contributions that has the potential to reduce the recurrent drought which the communities are increasingly facing. In both *kebeles*, there is a river and underground water which is used for irrigation by communities. Innovative water harvesting methods such as roof water and pond harvesting can be validated to show their potential to help farmers to cope with drought effects.

Agricultural mechanization for agricultural management and labour-saving technologies

There are very limited labour saving and agricultural mechanization technologies in the *kebeles*. A small number of farmers have access to a water pump and tractors for ploughing. Nevertheless, most communities do not have access to the most important labour-saving technologies such as tractors, milk churners, feed choppers, threshers, shellers, groundnut diggers, cultivators, and stoves. Linking youth and women with MFIs, NGOs and Banks is required for financial access to purchase labour-saving technology and providing service for the communities. It is also a mechanism used for reducing jobless and promoting income generation through the provision of agricultural services.

Partnerships for integrated food system policies, planning and governance

Addressing complex food system requires col*labour*ative partnerships between stakeholders from different disciplines, sectors and jurisdictions of government.

There is a need to develop strategies and plans that account for local complexity and diversity in the food systems and take into consideration locally identified priorities for action.

Using a food system approach, stakeholders can consider investments that contribute to socio-economic inclusion and wellbeing, food and nutrition security and ecosystem health.

Overview of projects implemented in Babile

The *woreda* administration in col*labour*ation with diverse partners, have deployed and implemented different national policies and support programmes at a local level. Policies and programmes have worked on supporting agricultural development, nutrition and health, regenerative agricultural practices, soil and water conservation, watershed management and agroforestry.

Some noteworthy projects, programmer's and interventions that have been implemented at the level of the *woreda* are:

- Productive Safety Net Programme – Government flagship programme
- International Medical Corps Ethiopia work to provide treatment for malnourished children and programs in water, sanitation and hygiene (WASH), food and livelihood security and comprehensive healthcare.
- Mercy Corps Ethiopia working on providing goat breeds, range land management and pond construction for water harvesting, maternal and child nutrition and inclusive markets.
- Inclusive education, HIV/AIDS prevention, livelihoods, disaster risk reduction, child protection, disability mainstreaming, gender-based violence, food security, humanitarian assistance for people with disabilities and children with disabilities by Handicap International Ethiopia
- Education, WASH, nutrition, emergency response, faith and development, food security, economic development, climate change, and environmental projects and other cross-cutting programmes by World Vision Ethiopia
- World Food Programme of Ethiopia is working on emergency response, food and nutrition security, climate action and early warning system, capacity strengthening and supply chain.
- Livelihood diversification, community empowerment, public health promotion, education, provision of potable water, environmental protection, and promoting voluntarism to contribute to the development of the region by Oromia Development Association
- Ethiopia Country Refugee Response Plan is targeted on livelihoods and emergence support on displaced communities living in the *Woreda*.
- Seqota Declaration is working on high impact nutrition specific and nutrition sensitive interventions and social behaviour change communications with special consideration for cross-cutting issues such as gender mainstreaming, environment and integrated community development approaches.
- Crop, forage, irrigation , mechanizations and socio-economic research through Fedis Agricultural Research Centre and Haramaya University

Priority topics identified and validated by stakeholders

- Reduce workload for women
- Enhance access to financial services and credit
- Increase job opportunity for youth and women
- Improve availability and accessibility of inputs and extension support for youth and women
- Increase decision-making power over household resources for women and youth.

Woreda baseline study validation participants
Photo taken by: Asfaw Zewdu

Opportunities and challenges for Babile *woreda* in a food system perspective

An overview of the most important opportunities and challenges, as identified through the RFSA and baseline surveys and validated by the stakeholders, are presented in Figure 23. The challenges are formulated into goals, specific activities and interventions and placed into a food systems framework.

This overview illustrates how the identified opportunities and challenges are scattered throughout the different areas of the food system framework. In addition, it portrays how opportunities interlink and mutually contribute in specific ways to specific food system outcome areas.

Understanding and managing trade-offs and synergies in the food system

Food systems are by nature complex and dynamic and are characterised by interconnected, non-linear relations between the system elements and outcomes. When looking at any food system, one must be explicit and intentional to understand how certain activities affect different food systems outcomes, both positively and negatively.

An analysis of potential synergies and trade-offs is essential in understanding how food system outcomes at times compete and conflict with each other. For example, activities focussing on the production and productivity of staple crops have the potential to generate positive benefits in terms of yield increases with synergies that translate to the generation of income for farming HHs and contributions to improve food security at national level. Nevertheless, these activities might also generate negative trade-offs such as the formation of acid soils due to excessive use of fertilizer. In addition, a focus on staple crops might negatively deteriorate HH nutrition security and HH dietary diversity when farming HHs do not utilize the increased income to purchase healthy and nutrient dense food products. Another example of system behaviour is how activities to promote home gardens can improve the production of nutrient dense crops with potential synergies to enhance HH dietary diversity and to create a series of alternative livelihood and employment opportunities for women and youth in sector related support activities such as transport, value addition, distribution etc.

A system analysis reveals that the promotion of home gardens can also potentially generate trade-offs that have a negative impact on producers, consumers and the environment. For example, home gardening has the potential to increase the labour burden for women in the HH. In addition, the excessive use of pesticides in home gardening activities has the potential to negatively affect the health of producers and consumers but also has a negative impact on the environment.

When designing any type of food system interventions, one must be explicit and intentional to try to understand and manage how specific interventions can affect different food system outcomes. Understanding how trade-offs and synergies affect the food system and being explicit about how certain interventions can create trade-offs and synergies can support the design of bundled intervention packages, that actively pursue integrated approaches, designed to address multiple systemic food system issues.

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List of abbreviations:

AEZ	Agroecological zones
DA	Development agent
DAEAS	Digital Agriculture Extension and Advisory Services
FGD	Focus group discussions
FHH	Female headed households
HH	Household
M.A.S.L.	Meters above sea level
MHH	Male headed households
MFI	Micro-finance institutions
RFSA	Rapid food system appraisal
SACCOs	Saving and Credit Cooperatives
VSLA	Village Saving and Credit Association
WEIA	Women empowerment in agriculture
Qt	Quintals (10 Quintals = 1 metric) tonne)

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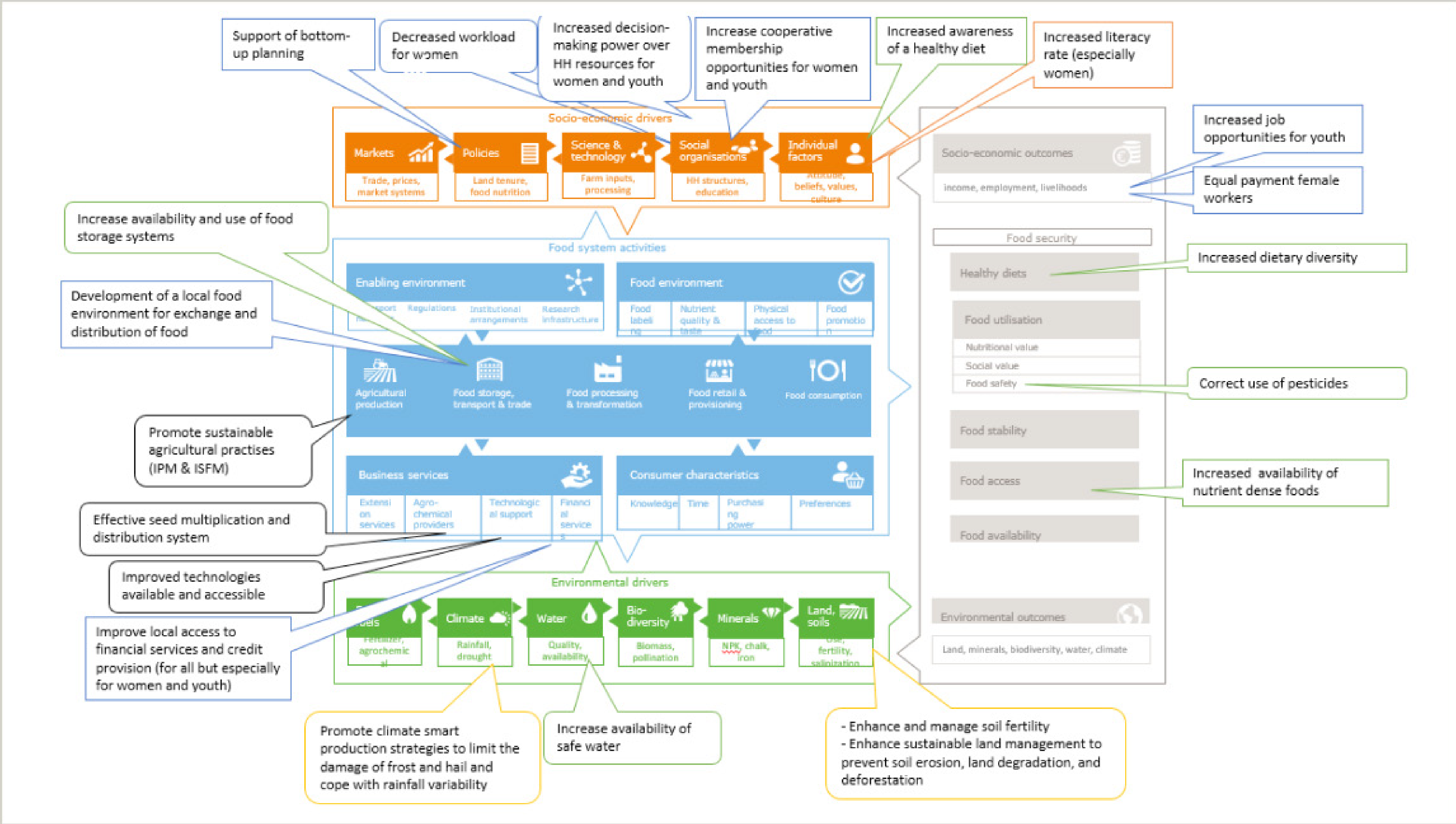

Figure 22: Identified priority topics in a food systems perspective (following van Berkum et al., 2018)

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