Scoping Study and Value Chain Analysis for Identification of Potential Value Chain Clusters in Selected Woredas of Ethiopian Somali Regional State

(Final Revised Report)

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Synonyms

ACPA	Aged and Children Pastoralist Association
ADW	Agricultural Development Worker
AHT	Animal Health Technician
BoFED	Bureau of Finance and Economic Development
BMZ	German Federal Ministry for Economic Cooperation and Development
CAHWS	Community based Animal Health Workers
FDRE	Federal Democratic Republic of Ethiopia
FGD	Focus Group Discussion
FTC	Farmers Training Centers
GDCO	German Development Cooperation Office
GI	Group Interview
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HH	Household
IGAs	Income Generating Activities
KII	Key Informant Interview
JN	Jigjiga North
JS	Jigjiga South
MoA	Ministry of Agriculture and
MoALR	Ministry of Agriculture and Livestock Resources
NRM	Natural Resource Management
PD	Pastoralist Dropouts
PRIME	Pastoralist Areas Resilience Improvement through Market Expansion (PRIME) Project
PTC	Pastoralists Training Centers
PVPs	Private Veterinary Service Providers
SDR-SR	Strengthening Drought Resilience in Somali Region
SMFI	Somali Microfinance Institute
SDR-ASAL	Strengthening Drought Resilience of the Pastoral and Agro-pastoral Population in Arid and Semi-Arid Lowlands in Ethiopia
SRS	Somali Regional State
VC	Value Chain
VCA	Value Chain Analysis
VCM	Value Chain Mapping
USAID/OFDA	United States Agency for International Development Office of Foreign Disaster Assistance

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Executive Summary

The Germany Development Cooperation Office (GDCO) through giz has been implementing a project entitled "Strengthening Drought Resilience in Somali Region" (SDR-SR) as part of the programme that focuses on 'Strengthening Drought Resilience of the Pastoral and Agro-pastoral Population in Arid and Semi-Arid Lowlands in Ethiopia' (SDR-ASAL). The program is a 12 years joint German-Swiss support and launched as a pilot intervention in partnership with MoALR.

The project aimed at strengthening capacities of target communities and pertinent institutions in Ethiopia Somali Regional State to implement drought resilient measures within legal, political and institutional frameworks that reflect issues and concerns of pastoralists and agro-pastoralists. It focuses on promoting NRM adaptation measures and VCM alternatives at local levels with the ultimate goal of attaining improved livelihood situation of the target community. The plan is to promote top-five promising VC commodities in five target woredas: Jigjiga North, Jigjiga South, Erer, Shinille and Godey.

The main objective of the scoping study and value chain analysis is to identify potential value chain commodities that have particular benefit to women, youth and pastoral dropouts in the five target woredas. The focal area of the study revolves around analyzing at least five promising value chains with the potential to support the development of VC and IGA for the project targets.

The process of the assessment was handled through applying Rapid Market Appraisal (RMA), Value Chain Analysis (VCA) and Value Chain Mapping (VCM) through taking into consideration structural analysis that incorporates economic, environmental sustainability and social dimension analysis. To facilitate the study, the five target woredas are categorized into three market clusters, such as Shinille, Jigjiga and Godey clusters. The first two clusters each consists two woredas while the third consists of Godey woreda alone.

As a methodology, mixed method of quantitative and qualitative approach is applied. To ensure the inclusion of communities with varying livelihood situation, three kebeles were selected from each woredas with the aim to consider ecological and livelihood variation in relation to pure pastoralism, agro-pastoral and urban settings. In this case, out of the planned 405 respondents 403 persons are interviewed from 15 kebeles. This enabled to address almost 27 respondents per kebele with almost equitable proportion of youth, women and pastoral dropouts.

In terms of qualitative assessment, literature review, Focus Group Discussion (FGD), Group Interview (GI[1]) and Key Informant Interview (KII) were applied in the 15 sampled kebeles. Physical and market based observations were undertaken in localities having feasible value chain interactions. Accordingly, 30 FGDs, 49 KIIs, 8 GIs and 12 observations were held in the five target woredas with almost uniform coverage across target kebeles and potential market centers. As far as the situation permitted, efforts were made to ensure the inclusion of relevant value chain actors starting from input suppliers up to end users.

The quantitative data is analysed through the application of SPSS while qualitative information was summarized and triangulated with the quantitative findings through the application of transcription and descriptive approaches. Thus, the result of this assessment indicates the involvement of target communities in various VC commodities that are grouped into five VC categories.

The identified VC categories are Milk VC, Live Animal & Livestock Fattening VC, Crop Production VC, Vegetable & Fruits VC and Oil Seeds VC. Under each VCs, various similar commodities are classified to provide rooms that would enable to analyze available opportunities and corresponding constraints in relation to potential value chains. The identified VC commodities are summarized as follows.

[1]GI is a type of interview with about 2-5 persons. It is an approach that shares the characteristics of FGD and KII

1. Milk Value Chain: The milk VC consists of cattle, camel and goat milk with highest involvement in cattle milk (about 44.2% of target respondents). The highest involvement is in JN-Hororeys woreda (56.1%) and minimum in Shinille woreda (19.8%). Engagement in camel VC is the highest in Godey woreda (28.4%) followed by Erer (20.8%). The result of the VC study indicates the dominance of cattle milk over camel milk even in woredas that are well known for their camel population including Godey, Jigjiga North and Erer. The reason may be due to the influence of sampled kabeles that have more cattle population than that of camel, and the dominance of cattle is also observed among the agro-pastoral livelihoods in the target woredas.

In most cases, the end market for cattle and camel milk is the surrounding urban centers. As a usual practice, milk is collected at village level and delivered to milk wholesaler situated in the nearest market. The collectors are village women with skill to check milk quality and have time to travel to the urban center to deliver the collected milk to the wholesaler. The whole seller usually assign vehicle for the collection process. In some areas, a group of women that are organized in microcredit style handles the process of collecting milk at village levels.

Milk production and productivity of livestock in the study area are highly dependent on traditional practice and rain fed open grazing style. Availability of rain affects milk production and efficiency of VC operation. In terms of processing, camel milk VC has a linkage with Barawaqo camel milk processing plant situated in Jigjiga, but cattle milk is directly delivered to consumers at household and/or restaurant levels. The milk VC passes through a series of long chains that do not add value except connecting one chain stage with the next. As revealed through the assessment, there are five chains between producers and end users, each adding ETB 3 on one litter of milk. Such financial margin enforces end users to pay ETB 30/lit at Jigjiga, for instance while the share of milk producers remain ETB 12/lit.

The situation is not favoring milk producers to left with certain profit margin that would enable to invest in quantity and quality improvement endeavors. This reflects the prevalence of unfair power relationship among VC actors on the one side and inefficiency of VC governance structure on the other. Irrespective of lion-share contribution of milk producers for the existence of the chain itself, still the producers have been confined in the horizon of price taker.

2. **Live Animal and Livestock Fattening VC*:*** The result of the assessment indicates the engagement of target households in cattle rearing and livestock fattening with the highest magnitude (60.5% respondents) in Godey followed by JN-Haroreys and JS- Shabelle woredas with 43.9% and 35.3% of respondents respectively. The engagement of target communities in live animal rearing and livestock fattening VC indicates the minimal scale in the cases of Shinille and Erer woredas.

In relation to camel rearing, the result of the assessment reveals the prevalence of high engagement in Godey, Erer and Shinille woredas with 26%, 17% and 15% share out of the target respondents respectively. The existing practice indicates the preference of sheep rearing and fattening to goats in the target woredas with exception in Shinille and Erer. In this case, the rate of engagement for sheep in JN-Haroreys, JS-Shaballe and Godey is almost double of engagement in goats VC.

The target community practice livestock rearing and fattening as integrated business with minimum attention for fattening due to shortage of forage and improved skills of livestock management. Thus, the rate of involving in fattening indicates less than 10% of those in the rearing business with exception in JN-Hororeys where there is an opportunity of access to international sheep value chains, particularly during the Arefa season[2].

[2] Islamic Holiday also known as Edi Al-Ada'a, that creates high demand from Saudi Arabiya linked buyers

The VC of live animal and livestock fattening in similar to milk VC depends on traditional method of production, connecting and market interaction. Livestock markets in most areas are situated at far distance away from producers in the target woredas. The domestic market channel starts from various local markets and linked with eastern and central markets while the export market either passes through Somali Land or Djibouti. In the livestock VC function, brokers have the power to define negotiation between sellers and buyers as well as setting the price through influencing the seller on the basis of clanship tie mechanism.

The brokers also serve in providing market information prior to taking decision related to bringing specific animal to the market. Culturally, the production and trading of sheep and goats is considered as women's engagement. Thus, women are involving in shoats VC as producers, negotiators, brokers, local level traders known as 'Ashakushi' and bulk collectors.

3. **Crop Production VC*:*** In the category of crop production VC, maize and sorghum are identified as the core VC commodities in three out of five woredas, such as JN-Haroreys, JS-Shabelle and Godey. The prevalence of price volatility has been significantly discouraging market actors from actively involving in maize VC, particularly around Godey.

The production of crop depends on satisfying HH food consumption and utilizing by-products to supplement animal feeding, particularly during the elongated dry seasons. The end market for grain is in most cases consumers market within the vicinity of each production sites while certain volume in excess of local level demand is being transported to the central markets.

In terms of competition, one quintal of maize at Godey, for instance is ETB 550 while it is 750 birr at Adama, a commercial hub situated at a distance of about 100 km from Addis Ababa. The transportation cost from Godey to Adama is about ETB 250 per quintal and hence transporting maize grain from Godey with the purpose of selling at central markets is not a feasible business. Thus, there is a need to think about the establishment of millhouse at Godey and exploit the huge potential of mass production through irrigation based mechanized farming system that can offer thousands of jobs for women, youth and pastoral dropouts.

4. ***Vegetable and Fruit VC:*** Vegetable and fruit VC is the backbone of Erer woreda, as more than 80% of respondents indicating their engagement in the production of orange in particular. The practice of vegetable production, with major focus on onion is a well-accustomed business in Godey and Shinille woredas as about 41% and 47% of respondents indicated their respective engagement. The production of vegetable and fruits is based on irrigation based cultivation, even though irrigation farm management has not improving to the required level.

The domestic market for fruits such as orange and mango from Erer area is Addis Ababa, Dire Dawa and Jigjiga while Djibouti and Somaliland are serving as export markets. Onion is being produced in bulk quantity from Godey and reaching up to Addis Ababa vegetable market. Production from Erer either goes to the eastern direction via Dire Dawa to Djibouti or transported to the central market of Adama and Addis Ababa. The vegetable and fruits business is associated with higher risks, increasing trend of costs and unexpected price fall depending on the time and type of product.

As a result, the business is dominated by few traders that use their financial capital as tie mechanisms through providing pre-harvest loan for small farmers during the slack period and uses such tie to enforce small holders to sell vegetable and fruits to specific collectors having established relationship. The application of traditional irrigation is leading to immediate wastage and ultimate limitation of water hindering economic utilization of irrigable plots. Professional support in the areas of applying modern irrigation management is limited. All farmers are opting to cover their plots with orange, irrespective of high demand and option of triple production in relation to vegetable products.

5. Oil seeds VC: involvement in oil seeds production is limited to Godey area with high level of engagement in sesame production and processing, as out of the total respondents, about 38.3% of them indicated their involvement in sesame production and still some in processing sesame seeds into edible oil. The importance of sesame is considered from its value to serve as a potential commodity to transform agricultural production in integration with livestock rearing and fattening business through utilizing sesame byproducts as a forage on the one hand and as a source of foreign earning through creating VC linkage with the central commodity exchange and oil seeds export markets.

The scheme of processing sesame into oil and selling both edible oil and its byproducts as input for livestock fattening have a comparative advantage. However, producers are not gaining much from such advantage, as they mostly sell sesame grains at reduced price in local markets without tempting to establish VC linkage with the processors. The bargaining power of small producers is minimal, as they have limited integration into oilseeds VC that usually operates under the influence of processors and wholesalers.

In terms of opportunities, the utilization of crop residuals and sesame oil by-product for animal feeding helps pastoralist and agro-pastoralists to concentrate on crop and oil seeds production in parallel with livestock rearing. The existence of limited information on local and international market demand and limited capacity to influence negotiation from producers' side is the major constraints in the process of CV of all commodities. The dominance of clan structure in regulating the shoats VC limits the functioning of open competition and demand based pricing.

VC governance deals with the direct and indirect influence and control being exercised with in the value chain actors and indicates the roles each actors could play in determining sustainability of the value chain function and distribution of benefit among the value chain actors. The governance structure defines quality and benefit margin each actors should gain with the ultimate focus of determining the price of specific commodity at farmers' gate in line with expected selling price at most feasible potential end market.

VC governance deals with power and the ability to control access to information, transfer of knowledge and facilitate performance and define competitive advantage. The major factors include organizational setup, social and financial capitals, product characteristics, regulatory actions and function and networking and business relations. The findings of the assessment indicates the prevalence of strong influential power that functions on the basis of social framework that provides strategic advantages for the brokers and wholesalers to control the function and relationship of actors in the entire VC process.

In addition to the governance structure, there are support service providers to enhance efficiency of VC functions. The provision of technical, materials and financial support have been undertaken by some NGOs such as MercyCorps, Save the Children and ACPA with the intention to improve the function of VC through strengthening VC actors other than producers. The contribution of such support in improving VC functions at producers' level seemed insignificant.

In terms of policies and strategies that regulate and facilitates the operation and business interaction of VC process, the Rural Development Policies and Strategies of Ethiopia designed in 1994 makes the ultimate base in promoting agriculture led development in crop and livestock production. Particularly, issues of commercialization and value addition issues have got relevant consideration in various strategic documents including GTP I and GTP II. In relation to VC, regulatory frameworks cover aspects of quality standards, price capping, competitiveness, market infrastructure and market information system. In addition to poverty reduction and growth policy, there is cross-sectoral youth policy that focuses on respecting diversity, increasing rights, and supporting democracy on the top of youth capacity building to enhance chance of employability.

In conclusion, the target woredas of the VC study are located in strategically advantageous position with close vicinity to export market outlet and access to seasonal export demand price peak. The advantage of access to irrigation based vegetable and fruits production potential in Godey, Erer and Shabelle woredas as well as the prevailing huge potential to apply spate irrigation alternative in Shinille and other parts of the target area, indicates the prevalence of promising opportunities to promote the engagement of youth, women and pastoral dropouts in feasible VCs related to vegetable and fruits, crop production and sesame production and processing alternatives. Feasible support initiative have to focus strategies that will strengthen extension and VC improvement initiatives.

The other comparative advantage is the proximity of Somali region, specifically the target woredas to the export market and thus gaining access to peak demand and high price advantage through meeting urgent delivery and fresh supply requirements. However, the prevalence of limited literacy and undeveloped technical knowhow in relation to feed management is influencing the business of fattening to focus on seasonal calendar of rainfall in expectation of availability of pasture which might not coincide with peak market demand.

In addition to dependency on open grazing, the application of supplementary feeding is common among households that involve in fattening business. Dependency on rain fed livestock management is significantly influencing the demand-supply equilibrium. Thus, adequate coverage of wet season is associated with increase in supply and subsequent decline in demand while elongated dry season on the other leads to gradual decrease in supply by more than half and disturbance in the entire VC system. To improve the feeding practice, the regional livestock research institute focuses on disseminating improved forage varieties even though the degree of adaptation at community level seemed minimal, due to limited extension service.

As recommendation remark, the provision of sustainable and integrated capacity building support for the livestock production and corresponding VC actors is a demanding intervention. The policy direction needs to consider strategic dimensions that would assist the attainment of comprehensive improvements in crop and livestock VC in simultaneous approach. The promotion of crop and vegetable improvement needs to be compared with forage production with the intention to verify cost-benefit analysis of crop production as inputs for livestock improvement in the pastoral and agro-pastoral mode of livelihood.

The promotion of value chain literacy and entrepreneurship skills improvement initiative deserves paramount attention with the aim to build the capacity of seeking, analyzing and utilizing market and VC information towards enhancing strategic advantage of base actors: input suppliers and producers. Improvement in value chain literacy at the stage of initial VC actors will influence the establishment and functioning of agricultural market information networks and proper functioning of VC governance and support structures with the ultimate goal of serving the interest of VC actors in impartial and needs responsiveness approach.

The promotion of alternative milling and processing technologies in addition to introduction of spate irrigation techniques will help to enhance employment creation opportunities for youth, women and pastoral dropouts. This will strengthen strategic engagement of intended project target in potential VC products while facilitating ease of entry into feasible VC stages. VC strategies that would promote the engagement of youth, women and pastoral dropouts needs to start from psychosocial development perspective, at the initial entry phase. The project targets have to develop entrepreneurship attitude in the initial instance and then have to get access to startup capital. Such strategies would help to reinforce the attainment of improved psychological, social, technical and managerial knowhow as prerequisite prior to injecting financial resources during the startup period.

1. Introduction

1.1. Overview of the Project

The Germany Development Cooperation Office (GDCO) through giz has been implementing a project entitled "Strengthening Drought Resilience in Somali Region" (SDR-SR) as part of the programme that focuses on 'Strengthening Drought Resilience of the Pastoral and Agro-pastoral Population in Arid and Semi-Arid Lowlands in Ethiopia' (SDR-ASAL). The program is planned to be implemented for 12 years through a joint German-Swiss support and has been launched as a pilot intervention in partnership with the Ministry of Agriculture and Livestock Resources (MoALR).

The overall aim of the project is to strengthen the capacities of target communities and pertinent institutions in Ethiopia Somali Regional state to implement drought resilient measures within legal, political and institutional frameworks that reflect issues and concerns of pastoralists and agro-pastoralists. The project is designed to respond to the needs and priorities of pastoralists and agro-pastoralists in Somali Region through focusing on key problems related to management of natural resources. The intention is to promote strategies that would enable to adapt Natural Resource Management (NRM) measures and Value Chain Management (VCM) alternatives to local levels with the ultimate goal of attaining improved livelihood situation of the target community. The project also focuses on implementing institutional support intervention as part of capacity building initiative for key stakeholders that operate at community, woreda and regional levels.

The SDR-SR project, as part of the livelihood diversification initiative intended to promote top-five promising value chains in five target Woredas that are situated in three zones of Ethiopia Somali Region. The target Woredas are Jigjiga North and Jigjiga South Woredas that are situated in Fafan Zone, Godey Woredas in Shebelle Zone, Erer and Shinille Woredas in Siti Zone.

1.2. Overview of the Ethiopia Somali Region

The Somali Regional State (SRS) is one of the emerging and least developed regions among the nine regional states in Ethiopia. The regions is characterized with substantially lower health, water & sanitation and education service coverage while reflecting the prevalence of limited status in livelihoods development. In terms of location, the region lies along the eastern and southern lowlands bordering Afar and Oromia regions internally and Somalia, Kenya and Djibouti externally. Ecologically, the region encompasses most of the lower altitude areas of the nations that ranges from 500 to 1600 meters above sea level.

As per the projection of CSA, the population of Somali region has reached about 5.7 million in 2017[3] and out of this, the rural pastoralists and agro-pastoralists constitutes 85.4% while the proportion of female is estimated to be 46.2% of the total. Out of the people that live in the region, particularly in the rural localities, the Somali ethnic group dominated the lion-share. This people shares same language and religion with Somali people that are residing in the neighboring Somalia and part of Kenya[4].

[3] CSA, August 2013: Population Projection of Ethiopia for All Regions at Woreda Level from 2014-2017

[4] Aged and Children Pastoralists Association (ACPA)

The livelihood base of agro-pastoral and pastoral communities depends on livestock rearing and crop production. As part of the coping mechanism, livestock rearing is associated with seasonal migration with the purpose of searching water and pasture during the frequently elongated dry seasons. In terms of gender role, moving with bigger animals (cattle and camel) is considered as males' responsibility while women and young children generally remain around the settlement areas and take care of small ruminants. The agro-pastoralists combine livestock production with small-scale agricultural practices depending on situation of rain fall that is erratic in nature and intensity. There is minor level of engagement in small scale irrigation in potential localities with access to river diversion, particularly in some parts of Erer and Godey Woredas[5].

In the Somali Regional State, there are prevalence of high poverty level which is being exacerbated by the combined negative effects of insecurity, recurrent drought, low rainfall and limited infrastructure. There has been livestock loss and remarkable risk of food shortage in the Region due to variability of rains in frequent pattern. According to the report of Early Warning and Emergency Response Analysis, for instance in 2016, some of the southern part of the Region exhibited rainfall Ranging from 50-100mm while the some of the south- eastern part had 25-50mm and most of the northern part of Somali Region received as minimum as 5-25mm of rainfall.

The major challenges in the areas of livestock production is related to the irregular patterns and low intensity of rainfall that usually lead to recurrent drought. This situation has been contributing to the ever increasing loss of livestock and decreasing trend of food security in almost over elongated period of time. In addition to vulnerability to negative effectives of climate change, the promotion of pro-settlement government policies and projects, fragmentation of rangeland, expansion of farming, socio-political conflicts and demographic pressures have been affecting the pastoral livelihood basis in the Ethiopian Somali region. The declining trend of resilience in this regard has been affecting women, children and youths in most cases[6].

1.3. Purpose of the Value Chain Assessment

The main objective of the scoping study and value chain analysis is to identify potential value chain clusters/commodities of particular benefit to women, youth and pastoral dropouts in Godey, Shinille, Erer, Jigjiga North and Jigjiga South Woredas. The study also aims at analyzing at least five promising value chains that would support the initiative of developing value chain and Income Generating Activities (IGA). The study also focuses on identifying specific constrains and opportunities related to selected value chains that could be addressed and leveraged through project interventions thereby to increase production, income and employment for the target poor through GIZ Value Chain Development Methodology "Value Links".

As specific objectives, the study focused on identifying and analyzing the following VC core points.

1. To prioritize value chains in the SDR project interventions areas through shortlist at least five value chains on agricultural commodities that have a feasible potential to create positive impact on IGAs and to be recommended as specific commodity development clusters;

[5] ACPA Annual Report, 2016.
[6] Abdullahi, Mohammed, &Eid, 2012

2. To undertake value chain mapping that depict chain actors and their function and inter-relationship;
3. To identify constrains and opportunities at each stage of value chain and market trends (supply and demand) including cross-border trade and competitiveness of selected value chain;
4. To undertake power analysis with value chains to understand forms and causes of exclusion at different levels of the value chain;
5. To explore enabling environment (policy/incentives and its implication) with suitable policy advice for project implementation and VC supporting/facilitating agencies and institutions at local/regional/national levels (CBOs, cooperatives, GO, NGOs and private sector) and their roles;
6. To outline key future strategic interventions and development, after critically examining the proposed strategies for sustainable development intervention.

2. Methodology of the Value Chain Assessment

2.1 The Rapid Market Appraisal (RMA)

The initial phase of the study was focused on undertaking Rapid Market Appraisal (RMA) that helped to identify and prioritize potential VC products in the five target woredas. The identification of potential VC and IGAs was handled in view of addressing the engagement of youth, women and pastoral drop out as respective targets of the project. The RMA process is used to identify and analyze opportunities and constraints as well as capacity gaps in view of engaging the focal groups of the project in the potential product value chains and IGAs.

The RMA process incorporated review of relevant documents in relation to regulatory constraints and VC support opportunities as well as conversation of local market operation. The process also used to identify views and concerns of selective VC actors such as producers, connectors, traders, processors and representative of regulatory offices. The finding of RMA is triangulated with the results of quantitative survey and other qualitative instruments.

2.2 Value Chain Analysis

The value chain approach is considered as a full range of activities that are required to bring a given product to end consumers through passing different stages starting from inputs supply, production, processing and delivery up to consideration for post utilization waste management issues. The VCA focuses on identifying and analyzing market-focused interactions, relations and conflict of interest among various stakeholders that involve in the process of value-addition in terms of physical improvement or facilitating marketing linkages.

To start with, the research team tried to categorize the target five woredas into three VC clusters through taking information in relation to the current market flow in Somali region in general and that of the target woredas in particular. Accordingly, the five target woredas are categorized into the following three market clusters.

1. Shinille cluster that comprises Shinille and Erer woredas;
2. Jigjiga cluster including Jigijiga North (Hororeys) and Jigjiga South (Shabelle) woredas, and
3. Godey cluster focusing on Godey woreda and surrounding markets.

2.3 Value Chain Mapping

The process of VCA follows structural analysis of the VC including economic analysis, environmental sustainability and social dimension analysis. The structural analysis focuses on identifying and mapping value chains through applying a visual representation of the VC system. The approach facilitates the identification of product VC starting from inputs supply to end markets (consumer market) through focusing on business operations and their functional linkages along the chain stages.

The process helps to identify the role and contribution of chain governance and supporters in view of policy environment and program support initiatives. The structural analysis is used to identify, prioritize and analyze product VCs from comprehensive perspective through applying the following analytical elements.

a. **Economic analysis:** This focuses on identifying and indicating quantified volume of products along the VC stage through highlight the market share and value addition effort along the VC stages. In handling the economic analysis, the quantitative data that are collected through HH interview is mostly used through triangulating with the findings of qualitative assessment.

b. **Environmental analysis:** This emphases the identification and analysis of impact of a particular product on the environment as well as its vulnerability to environmental effects. The focus of this part is limited to soil degradation, water and air pollution as well as some elements of vulnerability in relation to climate changes.

c. **Social and poverty analysis:** This deals with issues and concerns in relation to the inclusion of poverty groups (poor and marginalized people) in the prioritized VC. It includes analysis related to the existence of entry point for self-employment opportunities, room for innovative entrepreneurship and affordability of VC to the poor sector. The exercise also focuses on identifying the gender dimension of VC through looking into gender roles and relations in VC operation.

2.4 Power and Relationships Analysis

Power and relationship analysis deals with the process of identifying the formal and informal arrangements, and relationships in market interactions among relevant VC actors. This focuses on assessing and analysing relations, trust building efforts, procedural agreements and spiritual attachments among VC actors starting from producers up to end users.

Issues related to rules and regulations, entry and operational barriers, limitations related to capacity and capital as well as administrative and legal requirements, working space and licensing procedures. The assessment also deals with identifying issues in relation to coordination, information flow and quality control mechanism among the chain hierarchies on the top of price setting, benefit sharing, bargaining power and risk bearing responsibilities.

2.5 Data Collection and Analysis

2.5.1 Quantitative Techniques and Tools

As indicated in the inception report, multi-stage stratified sampling is applied to select representative respondents from the selected target woredas. In the initial stage, three kebeles were identified that have fair representation in terms of economic interaction, flow of VC products and presence of the focal target of the project. Representative kebeles were selected through taking into consideration ecological and livelihood variation such as pure pastoralism, agro-pastoral and urban settings.

Accordingly, three kebeles were selected from each of the five target woredas through discussing with representative of pertinent woreda level offices such as woreda administration and agricultural and NRM office. The process enabled to target 15 kebeles out of which five are urban and semi-urban kebeles that are serving as the woreda capital and major market center each woreda. The remaining two kebeles were selected from pastoralist and agro-pastoralist mode of livelihood in order to have fair representation of the entire population.

At each kebele level, adequate efforts were made to incorporate representative of the three focal targets in proportional ratio. As per the initial plan indicated the inception report, 405 persons were expected to be interviewed from 15 sample kebeles, with proportion of 27 respondents per kebele and equitable inclusion of youth, women and pastoral drop outs. In terms of accomplishment, 403 respondents are interviewed from 15 kebeles in the five target woreda (see Table 3 below for categorized detail).

Table 1: Number of Respondents by Location

Zone	Woreda	Kebele	Respondent				
			Youth	Women	PD	Total	%
Fafan	Jigjiga North-Harorays	Haroreys 01	10	11	7	28	6.9
		Akara	9	11	7	27	6.7
		Harta Ali Bayle	6	5	16	27	6.7
	Sub Total		**25**	**27**	**30**	**82**	20.3
	Jigjiga South-Shabelle	Shabeley 01	10	9	8	27	6.7
		Dadhi	6	12	9	27	6.7
		Baldka	10	8	10	28	6.9
	Sub Total		**26**	**29**	**27**	**82**	20.3
Shinille	Shinille	Shinille 01	10	9	7	26	6.5
		Harawe	10	18	0	28	6.9
		Hadkaley	10	7	10	27	6.7
	Sub Total		30	34	17	81	20.1
	Erer	Erer 01	11	16	0	27	6.7
		Fethuli	16	11	1	28	6.9
		Qandaras	8	12	2	22	5.5
	Sub Total		**35**	**39**	**3**	**77**	19.1
Shabelle	Godey	Kunsan	10	9	8	27	6.7
		Dolo Ba'ad	10	10	7	27	6.7
		Hadawe	8	11	8	27	6.7
	Sub Total		**28**	**30**	**23**	**81**	20.1
Grand Total			**144**	**159**	**100**	**403**	
Percent (%)			**35.7**	**39.5**	**24.8**		

The quantitative data is collected in proportion of 35.7%, 39.5% and 24.8% representing youth, women and pastoral dropouts respectively. This enabled to generalize data analysis with fair representation through summarizing the view and reflections of target beneficiaries for the intended VC development project. The quantitative data collection process was handled through developing structured questionnaires, which was tested during the training of data collection prior to field level application. To facilitate the data collection process, three data collectors and one supervisor were recruited in the three cluster areas. The overall process of data collection was coordinated by the research team and the entire data collection process was finalized with smooth flow and procedural application.

2.5.2 Qualitative Techniques and Tools

In addition to literature review, Focus Group Discussion (FGD), Group Interview (GI[7]) and Key Informant Interview (KII) were applied in the 15 sample kebeles. On the top of this, market observations were undertaken in feasible market areas to notice the actual interaction of VC actors in the normal market functions. As summarized in the table below, 30 FGD, 49 KII, 8 GI and 12 observations were held in the five target woredas with almost uniform coverage across all kebeles (see Table 2 below).

Table 2: Number of FGD, KII, GI & Observation held

			FGD			KII			GI			Observation
Zone	**Woreda**	**Kebele/Woreda**	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**	
Fafan	Jigjiga North-Harorays	Haroreys 01	1	1	2	1	1	2			-	1
		Akara	1	1	2	1	1	2	1		1	1
		Harta Ali Bayle	1	2	3	1	1	2			-	
		Woreda level	1		1			-			-	
	Sub Total		**4**	**4**	**8**	**3**	**3**	**6**	**1**	**-**	**1**	**2**
	Jigjiga South-Shabelle	Shabeley 01	1	1	2	1	2	3	1		1	1
		Dadhi		1	1	1	1	2			-	
		Baldka	1		1	1	1	2			-	1
		Woreda level			-	1	1	2	1	1	2	
	Sub Total		**2**	**2**	**4**	**4**	**5**	**9**	**2**	**1**	**3**	**2**
Shinille	Shinille	Shinille 01	1	1	2	1	2	3			-	1
		Harawe	1	1	2	2	1	3	1		1	
		Hadkaley	1	1	2	1	2	3	1		1	
		Woreda level			-		1	1	1		1	1
	Sub Total		**3**	**3**	**6**	**4**	**6**	**10**	**3**	**-**	**3**	**2**
	Erer	Erer 01	1	1	2	1	2	3			-	
		Fethuli	1	1	2	2	1	3			-	1
		Qandaras	1	1	2	1	2	3			-	1
		Woreda level			-	1	2	3	1		1	1
	Sub Total		**3**	**3**	**6**	**5**	**7**	**12**	**1**	**-**	**1**	**3**
Shabelle	Godey	Kunsan	1	1	2	1	2	3			-	1
		Dolo Ba'ad	1	1	2	2	1	3			-	
		Hadawe	1	1	2	1	2	3			-	
		Woreda level			-	2	1	3			-	2
	Sub Total		**3**	**3**	**6**	**6**	**6**	**12**	**-**	**-**	**-**	**3**
Grand Total			**15**	**15**	**30**	**22**	**27**	**49**	**7**	**1**	**8**	**12**

2.6 Data Analysis and Reporting

The consultant team applied SPSS in analysing quantitative data while transcription and descriptive approach is used to analyse data that are collected in qualitative approach from input suppliers, producers, traders, consumers and brokers. Responses to open-ended questionnaire are summarized in excel formats and then analysed to serve as part of the triangulation process.

Finally, this VCA report is compiled into six parts and accordingly, part one dealt with background information while methodology of the assignment is presented in part two. Part three discusses scoping of VC and end market analysis while discussion related to value chain mapping is covered under part four. Part five and six deal with opportunity & constraints and recommendations respectively.

[7]GI is a type of interview with about 2-5 persons. It is an approach that shares the characteristics of FGD and KII

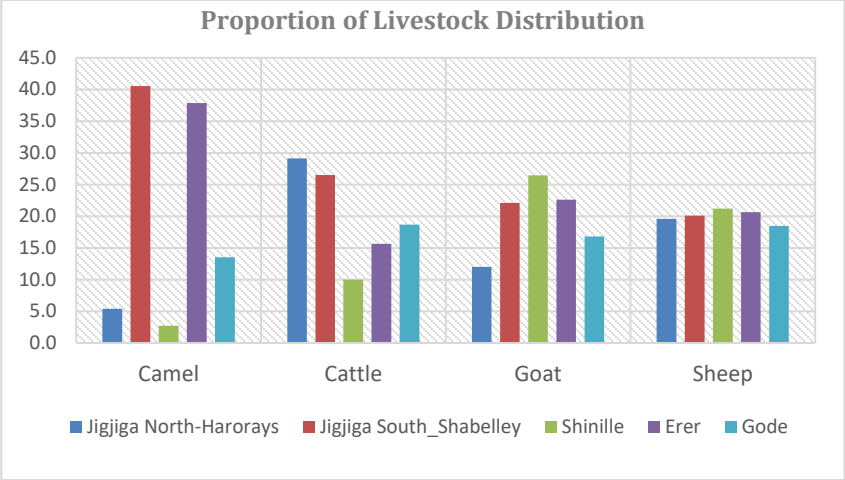
3. Scope of the Value Chain and End Market Analysis

3.1 Findings on the Background of the Study

The VCA targets youth, women and pastoral dropouts that are living in the five target woredas. To address this intension, the data collection process covered youth, women and pastoral dropouts with a proportion of 35.7, 39.5 and 24.8 percent respectively and this indicates the prevalence of almost equal proportion of coverage across the project targets (see Table 1 under section 2.5.1).

In terms of age distribution, about 49.6% of the respondents are in the age range of 15-30 and this indicates the participation of youth in the VCA to reach almost 50%. The remaining majority are from the age range of 31-50 which represents about 44.7% in cumulative approach respectively. In a nutshell, the age distribution reveals the participation of active population in the VCA under discussion. In similar trend, the representation of women is about 60% and this justifies the findings of the VCA in addressing gender issues in significant proportion. The marriage condition indicates the existence of 76.7% married respondents followed by 18.6% single respondents. The modal family size is 7 persons per HHs while about 75.9% of respondents have 5 and more family size. Educational participation indicates the dominance of non-literate population in the target area, as about 66.3% of the respondents are considered as non-literate adults and those with grade 1-4 and grade 5-8 represents about 8.4% and 10.4% respectively (see Annex 1, Tables 1 to 4).

As far as ownership of livestock is concerned, out of the total respondents, 42.9% do not have any type of cattle and among those with cattle, the majority owns 2 cattle per household. The camel resource is scarce, as only 9.2% of the target respondents indicated possessing camels. Camel is considered as the precious reserve asset in accordance with the wealth indication of the Somali people. The ecology of JS-Shabelle, Erer and Godey is suitable for camel rearing while that of JN-Haroreys and parts of Shinille are not favoring the production of camel in similar to the former three woredas. This holds true for goats rearing in most cases, for instance in the stated two woredas, the proportion of goats are 20% of the total shoat population. Thus, in terms of shoats, 51.6% and 45.5% of respondents indicated as possessing goats and sheep respectively with mean number of 10 per household (see Graph 1 below).



Graph 1: Proportion of Livestock Distribution in the Target Woredas

The result of the assessment indicates the practice of holding land for farming, irrigation and grazing purposes. In this case, the practice of holding land for farming purpose is common in all of the five woredas with maximum holding in Godey (3.6 hectare per HH on average) and minimum holding in Erer (1.2 hectare per HH on the average). The practice of land holding for irrigation purpose is well known in Shinille, Erer and Godey woredas with 1.7, 1 and 1.9 hectare per HH on average respectively. The practice of land holding for grazing purpose is familiar in JN-Harorays, JS-Shabelle and Erer woreda with average holding of 4.8, 1.9 and 1.1 hectares per HH respectively. The practice of land holding for irrigation and grazing purpose is reversely related with the exception in Erer whereby the households involve in land holding for all of the three purposes (see Table 3 below).

Table 3: Average Land Holding

Woreda	Average Land Holding in Hectare		
	Farm plot	**Irrigation plot**	**Grazing plot**
JN-Harorays	3.4		4.8
JS-Shabelle	2.2		1.9
Shinille	1.3	1.7	
Erer	1.2	1	1.1
Godey	3.6	1.9	

3.2 Products and Value Chain Boundaries in the Study Area

The application of the VC concept starts from defining and drawing the system boundary of potential products in connection with available markets and operators that add certain values to the product from raw material to the final consumption. This deals with categorizing, aggregating/disaggregating products and markets in the project areas.

To define and determine the horizontal and vertical boundaries of commodities and markets in the VC, analytical methodologies related to economic, social, environmental and institutional factors are applied in integrated approach. This method is used to divide products into VC categories on the basis of feasible

criteria in combination with internationally recognized industry and product classification system which is known as 'International Standard Industrial Classification of All Economic Activities' (ISIC)[8]

The criteria used to select potential value chains is based on the core dimensions of sustainable development which considers the economic potential accompanied by environmental and social benefits as well as the institutional dimension as necessary precondition in identifying and analyzing a categorized VC products from the interest and priorities of project beneficiaries. The result of the quantitative data reveals the involvement of target communities in various value chain commodities that are grouped into five VC categories with prioritized product value chains under each category (see Table 4 below).

Table 4: Prioritized VC Products

VC Product		Percentage of HHs Engaged in Product VC in the Target Woredas					
		JN-Haroreys	JS-Shaballe	Shinille	Erer	Godey	%
1	**Milk VC**						
1.1	Cattle milk	56.1	47.6	19.8	48.1	49.4	44.2
1.2	Camel milk	1.2	3.7	1.2	20.8	28.4	11.1
2	**Live Animal & Livestock Fattening VC**						
2.1	Cattle	43.9	35.3	9.9	6.5	60.5	31.2
2.2	Camel	6.1	3.6	14.8	16.9	25.9	13.6
2.3	Goat	23.2	14.7	13.6	7.8	22.2	16.3
2.4	Sheep	41.4	30.5	16	-	40.7	25.8
3	**Crop Production VC**						
3.1	Maize	86.6	97.5	-	5.2	43.2	46.5
3.2	Sorghum	92.4	74.4	1.2	-	18.5	37.3
4	**Vegetable & Fruits VC**	26.8	2.4	46.9	81.8	40.8	39.7
5	**Oil Seeds VC**	2.4	1.2		1.3	38.3	8.7

3.2.1 Milk Value Chain

The result of quantitative data indicates the existence of more engagement in the milk value chain in the entire five target assessment woredas. The milk value chain consists of cattle, camel and goat milk with highest involvement in cattle milk VC reaching about 44.2% of target respondents. The highest figure of involvement is in JN-Hororeys woreda (56.1%) while the minimum engagement is revealed in Shinille woreda (19.8%).

In relation to camel milk VC, there is high level of engagement in Godey woreda (28.4%) followed by Erer (20.8%). The outcome of the VC study indicates the dominance of cattle milk over camel milk even in woredas known to have higher camel population such as Godey, Jigjiga North and Erer. The indication of cattle milk as major VC is influenced by the selected kabeles in the target woredas that are mainly agro-pastoral where cattle population is very high in comparison with camel population. In addition to this, the target respondents that were sampled from women, youth and pastoral dropouts are mostly from low income group in terms of wealth ranking and assumed to have limited capacity to possess camels.

Even if the questionnaire was focused on indicating the major product VC in the target community, the background of respondents still have certain influence in viewing products out of their engagement as a major product. The traditional perception of considering camel as non-commercial animal rather as reserve for social security purpose might have restricted respective respondents from identifying camel

[8]The International Standard Industrial Classification of All Economic Activities (ISIC) is the international reference classification of productive activities. ISIC is the international reference classification of productive activities. Its main purpose is to provide a set of activity categories that can be utilized for the collection and reporting of statistics according to such activities (www.unstats.un.org)

milk VC as marketable commodity in comparison with that of cattle milk that have well-known commercial values. In this regard, the findings of milk value chain deserves socio-cultural interpretation in considering as representative of the entire woreda.

In terms of Goat milk VC, Godey, Shinille and Erer indicate the practice of utilizing goat milk, but considering as part of the potential VC product would not be feasible for the reason that majority of households use goat milk for home based consumption rather than marketing as part of recognized product VC.

3.2.2 Live Animal and Livestock Fattening VC

As indicated in the table 4 above, the households in the five target woredas are engaged in live animal rearing and livestock fattening activities. The quantitative result of the assessment indicates the engagement of target households in cattle rearing and livestock fattening VC with the highest extent in Godey followed by JN-Haroreys and JS- Shabelle woredas at a rate of 60.5%, 43.9% and 35.3% of the target respondents respectively. The engagement of target respondents in live animal rearing and livestock fattening value chain indicates minimal in Shinille and Erer woredas.

In relation to camel rearing, the result of quantitative assessment indicates the prevalence of high engagement in Godey, Erer and Shinille woredas with 26%, 17% and 15% share out of the target respondents respectively. Engagement in camel rearing indicates the minimal rate in the two woredas situated around Jigjiga due to less suitability of ecological condition of this area for camel rearing in general and that of JN-Haroreys in particular. In terms of shoats value chain, the existing practice indicates the preference of sheep rearing and fattening to goats in the target woredas with exception in Shinille and Erer. In this case, the rate of engagement for sheep in JN-Haroreys, JS-Shaballe and Godey is almost double of engagement in goats VC (see Table 4 above).

The target community practice livestock rearing and fattening as integrated business with minimum attention for fattening due to shortage of forage and improved skills of livestock management. In this case, the result of the quantitative survey reveals the prevalence of less than ten percent of target respondents that engage in fattening with the exception in JN-Hororeys whereby involvement in sheep fattening is well accustomed as a result of more opportunity of access to international shoats value chains, particularly during the Arefa season[9].

3.2.3 Crop Production VC

In terms of crop production VC, maize, sorghum and wheat are cultivated in three out of five target woredas. Sorghum and maize are equally important in JN-Haroreys and JS-Shabelle woredas with more than 75% coverage. Godey is also known for its maize production with 43% coverage. However, there is price volatility of maize with significant variation between locations. This is considered as a discouraging factor which often hinders market actors from active involvement in maize value chain. There is a weak linkage of maize value chain from Somali region with that of the central maize market. Cost of transportation, in particular that from Godey is considered as a challenging factor in hindering functional linkage of maize trade with the central market value chains.

[9] Islamic Holiday also known as Edi Al-Ada'a, that creates high demand from Saudi Arabiya linked buyers

3.2.4 Vegetable and Fruit VC

Vegetable and fruit VC is the backbone of Erer woreda with more than 80% of respondents indicating their engagement in this value chain. The practice is well-known in Godey and Shinille woredas as well with 41% and 47% of respondents' involvement respectively (see Table 4 above). Access to irrigation based farming has been encouraging agro-pastoralists to engage in fruits and vegetable production, mainly orange in Erer and onion in Godey woreda. In Shinille woreda, the prevalence of huge underground water potential and ease of access to Djibouti market is considered as the encouraging factor for engagement in vegetable and fruits value chain.

3.2.5 Oil seeds VC

The quantitative result of the study reveals the existence of involvement of Godey area community in oil seeds VC with high level of engagement in sesame production and processing into edible oil. In this case about 38.3% of respondents indicated their engagement in sesame production in Godey woreda (see Table 4 above). Engagement in sesame production is being supported by the existence of opportunity to involve in subsequent value chain including processing sesame seeds into edible oil and utilizing the by-product for livestock feeding. In this case, sesame could be considered as a potential commodity to transform agricultural production in integration with livestock rearing and fattening through utilizing sesame byproducts as a forage. The production of sesame could also be linked with the potential to tap international market demand for oil seeds and local market demand for healthy edible oil products.

3.3 Markets and Demand Analysis for the Prioritized VC

3.3.1 Market Segmentation for the Prioritized VC

End market is the starting point to analysis product VC. It refers to the people who buy and use the product as consumers and still hold influential power related to determining the characteristics of the product in terms of quality and price, quantity and timing of supply as well. The end users are considered as the important sources of demand and market information. Thus, end-market analysis focuses on assessing current and potential market opportunities. The assessment deals with gathering information related to the characteristics and preference of current and potential consumers. The assessment also considers market trend and competitive analysis with respect to the capacity of VC actors to respond to the demand and expectation of end market.

In terms of woreda specific market location, Jigjiga is serving as the major market for the two woredas: JN-Haroreys and JS-Shabelle. The former is located to the northern side of Jigjiga on the way to Wochale at a distance of 25 km while the later woreda is situated at a distance of 35 km to the west with about 10 km diversion from main road to Harar town. In most cases, the two woredas share similar markets except at very local situation and thus, the main domestic markets on the top of Jigjiga are Harta Shiekh and Harshin while Wochale, which is found at about 75 km from Jigjiga, is serving as a border market in connecting Ethiopian producers with the Somaliland and middle East VC actors.

The major markets for Erer and Shinille woredas include Dire Dawa, Harar and Jigjiga to the eastern direction while Asbuli in the Erer woreda with estimated distance of about 60 km from Erer town and about 50 km from Shinille is serving as the major livestock market for VC actors from both woredas. As international VC linkage, Djibouti with a distance of about 290 km from Dire Dawa, is the key potential for

both Erer and Shinille woredas. Godey is located about 595 km from Jigjiga to the south-eastern direction and the major markets are Dhagah Bur, Kabri Dahar, Jigjiga and Hartasheikh. The woreda has ease of access to informal cross border trade routes through Beled Weyne. In relation to the prioritized products VC, the research team have summarized relevant information related to market access as discussed under the sub-sections below.

3.3.1.1 Markets for Milk and Milk products

The end market for cattle milk is more of surrounding local market and urban centers in the vicinities. The end market for cattle milk from JN-Haroreys and JS-Shabelle woredas are Jigjiga. In most cases the cattle milk are collected at village level and delivered to milk wholesaler situated in Jigjiga. There are 7-12 milk collectors at village level and assign one lady to transport and deliver to the wholesaler, for instance, there are 10 collectors locally known as 'Analey' in Baledka kebele of JS-Shabeley woreda.

As revealed through the FGD held with the Analey group members, the end market defines quality and determines price of milk and the Analeys have the responsibility to supervise the quality of milk being collected from each household and provide feedback to the producers. There is a trend of retuning back defective milks from the wholesaler and even end users back to the producer back through the VC channel. The collectors (Anoleys) check the quality through smelling and use milk taster in case of certain suspensions. Tasting milk by sipping is common way of quality verification.

The camel milk VC is active in JS- Shabelle and Erer and have linkage with Barawaqo camel milk processing plant situated in Jigjiga. The camel milk collection is held in similar pattern with that of cattle milk. As observed in Shabelle 01, the camel milk collectors use Izuzu truck to collect from villages and transport to Jigjiga. Producers are organized into cooperative to facilitate the process of collection and transporting camel milk from production point to end market. In Godey, camel milk end market is Godey town itself and passengers traveling through Godey to the Afdher and Liban zones.

As a normal tradition, the milk market is restricted to that of camel and cattle milks while goat milk is churned and converted into butter for sale at village markets. Milk production and productivity of livestock in the study area is highly dependent on traditional practice and rain fed open grazing style. In this case availability and non-availability of rain usually affects the VC relationship between end consumer and producers. The goat milk is serving more of HH consumption and thus it has limited significance to consider as part of the potential VC products in the target woredas.

3.3.1.2 Markets for Live Animals and Livestock Fattening

The live animal and livestock fattening VC have similar characteristic, as the business of fattening is found at the emerging stage in the target woredas. The target communities follow traditional method of livestock production and fattening depending on the demand of end market. The livestock trade for live animals in most cases situated at limited areas that are far away from most villagers in the entire Somali region in general and in the target woredas in particular.

There are domestic and export market opportunities for live animals. The domestic market channel starts from Jigjiga and reaches up to the metropolitan central market Addis Ababa. The export market passes through Wochale to Somali Land for those around Jigjiga and its vicinities while Djibouti is serving as export route for localities that are situated on the railway route from Dire Dawa to Djibouti.

In the target areas of the study, JN-Haroreys and Shinille woredas, there are comparative advantages owing to proximity to Somali Land and Djibouti, as the demand for shoats, particularly sheep becomes usually high in Middle Eastern countries during the month of Arafa (Edi-Ada'a). As indicated in many research reports, the meats of Ethiopian lowland breeds, in particular that of Boran variety bulls and Somali Blackhead sheep and goats have high preference among the Middle East consumers. The geographical proximity to Egypt and the Gulf makes live animal and chilled meat exports more feasible as well. In JS-Shaballe, Dagahle livestock market is serving as the potential accessible market. Dagahle livestock market is situated at 30 km from Jigjiga on the way to Addis and serving as access market for livestock producers.

As revealed through the FGD held in Harawe and Hadkaley kebeles of Shinille woreda, the participants of the discussion expressed the challenging situation they have been facing as a result of trade bans passed by the Djibouti government. The trade ban relates to restricting the Middle East traders from buying live animals inside Djibouti for export purpose. The reason, as explained by the Shinille woreda agricultural and food security office heads, is focused on stabilizing livestock price inside Djibouti with the intention to protect local consumers inside Djibouti.

The communities in the vicinity of Jigjiga, use Jigjiga as livestock market to buy and sell livestock for breading purpose while usually use the Wochale market for fattened animals marketing. The Wochale market, a border town at the Ethio-Somaliland border is serving as a transit market to reach the end market of Berbera port.

The livestock market for bigger animals is Dire Dawa for communities living in Shinille and some parts of Erer. Those who live far away from this areas such as HHs from Hadaklay villages in most cases travel for about half a day to reach the main livestock market known as Asbuli, which is serving as linkage market between the livestock rich pastoral areas and central market such as Adama and Addis Ababa. The participants of the FGD in Hadakley kebele raised the concern of inaccessibility as hindrance in the livestock VC.

The governing norm of livestock VC emanates from the long established trust built between broker known as Delalas and other VC actors. As the Delala serves as a broker through representing livestock seller coming from specific localities or having clanship attachment, the Delalas do serve in providing market information prior to taking decision related to bringing specific animal to the market.

The demand of Shoats at export market becomes peak during the Arafa period (Hajji Season). The producers usually involve in the VC of shoats in two ways in order to maximize their benefits. Shoats producers might use two alternative approaches: purchasing a one year old shoats and keeping for 9 -12 months with a plan to make ready for the Haji season or starting fattening shoats usually sheep for 3 month prior to the arrival of Hajji season, in order gain peak demand of the Hajji Season.

3.3.1.3 Markets for Crop Products

Subsequent to livestock rearing, the livelihood base of pastoralists and agro-pastoralists people living in the five target woredas depend on production of crops with main focus on sorghum and maize, in the initial instance to satisfy HH food consumption demand and utilize by-products to supplement animal feeding, particularly during the elongated dry seasons. The end market for grain is in most cases consumers market within the vicinity of each production sites while certain volume in excess of local level demand is being transported to the central markets.

3.3.1.4 Markets of Vegetable and Fruits

The center of vegetable and fruits production are Erer and Godey followed by Shinille woredas and the domestic market for fruits such as orange and mango from Erer are Addis Ababa, Dire Dawa and Jigjiga. Djibouti and Somaliland are serving as export markets. In terms of vegetables, the main focus is on production of onion with bulk volume is from Godey that reaches up to Addis Ababa vegetable wholesale market. The production from Erer either goes to the eastern direction via Dire Dawa to Djibouti or transported to the central market of Adama and Addis Ababa.

The market analysis is considered from the factors that facilitate and/or hinder the entry and operation of the target youth, women and pastoral dropouts' perspectives. The vegetable and fruits business environment are associated with higher risks, increasing trend of costs and unexpected price fall depending on the time and type of products. The findings of the qualitative assessment from Erer woreda indicates the living challenges of small fruits and vegetable producers and collectors.

The vegetable and fruit business is dominated by few traders that use their financial capital as tie mechanisms through providing pre-harvest loan for small farmers during the slack period. This enforces small holders to sell vegetable and fruits such as orange and onion to the trader that has contractual tie through pre-harvest loan. The situation controls competition through blocking entry of small actors in VC while enforcing producers to assume the position of price taker.

The prevalence of limited access to service markets such as micro finance and on-credit input supply services leads small farmers to approach the big traders to facilitate the process of delivering improved inputs and provide temporary loan service on the basis of 'use and pay upon harvest'. This has been negatively affecting the opportunity of access to competitive market and fair negotiation.

There is locational and conditional disadvantages during peak production period that often coincides with unexpected rain of the mid-highlands. The small holders have limited financial and negotiation power to influence actors in the transportation sector and thus forced to avoid taking risks in taking vegetable and fruits to potential markets. There are about five rivers crossing the road from Erer to Dire Dawa and out of these, three are out of bridge crossing that usually used as pretext to raise marketing costs and obstructing opportunity of entry into the VC chain. Godey has relatively better road infrastructure that links its vegetable products to the main markets. Distance and high transport costs remain hindrance as producers, collectors and whole sellers do not have negotiating power on transport costs.

3.3.1.5 Markets for Oil Seeds

The oil seeds VC is feasible in Godey through taking into consideration the production and marketing potential of sesame, which is becoming an essential cash crop in the area. The significance of sesame as cash and food crop has been increasing in the past eight years as a result of emerging demand and social stability in the Somali Region. Culturally, the Somali communities prefer the consumption of sesame oil not only as food stuff but also as part of the traditional herbal medicine.

Sesame is one of the high value export commodities with high demand from international market, particularly from middle-east and China. Locally, the market is dominated by the demand from oil processors that use sesame as one of the major inputs. The processors sell extracted sesame oil as well as its by-product known as Mankal, which is considered as valuable animal feed. The scheme of processing

sesame into oil and selling both edible oil and its byproducts as input for livestock fattening have a comparative advantage. However, producers are not gaining much from such advantage, as they mostly sell sesame grains at reduced price in local markets without tempting to establish VC linkage with the processors.

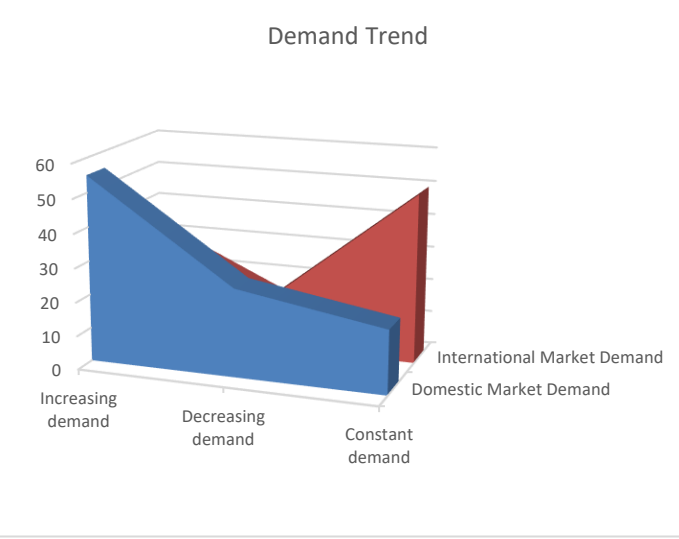
The bargaining power of small producers is limited, as they have limited integration into oilseeds VC that usually operates under the influence of processors and wholesalers. The level of participation of small producers in the vertical value chain is under the pressure of an unequal distribution of decision power related to price setting that puts the producer of sesame to assume the position of price taking.

3.3.2 Demand Trend and Competitiveness of the Prioritized VC products

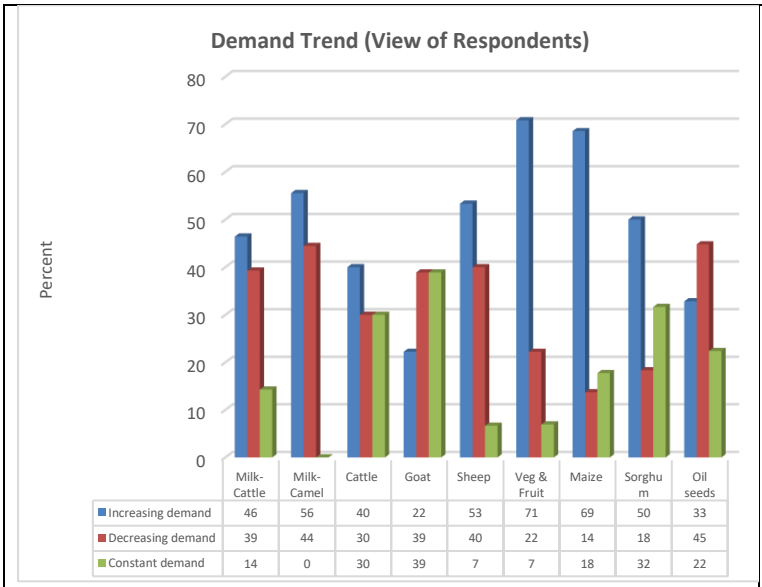
3.3.2.1 Market Demand Trend

The demand trend analysis focuses on assessing the volume and trend of market demand at local and export markets. The assessment also took into consideration volume of unmet market demand and associated price of prioritized products in the past five years.

As summarized from the quantitative survey result, the trend of demand at domestic market is skewed towards increasing while the trend of international market demand is remained constant in most cases (see the Graph 2, right). In support of this assumption, the findings of the qualitative assessment revealed the existence of constant international market demand for livestock products that passes through Wochale to Somali Land while there has been a decreasing trend in the case of Djibouti route due to trade embargo on live animal purchase for export purpose through utilizing Djibouti as transit.



Graph 2: Trend of Domestic & International Market Demand



Graph 3: Trend of Demand for Prioritized VC Products

The view of respondents vary in explaining trend of demand for prioritized products. They express the prevalence of increasing demand trend for all products VC, except oil seeds, which is decreasing. Majority of them have reflected the existence of high demand for vegetable & fruit, maize and sorghum products (see Graph 3, left). Trend of increase in demand of milk is a little bit higher than the trend of decrease. Variation of demand for milk and milk products is associated with seasonal rain and its intensity, as elongated wet seasons usually leads to high volume of supply and corresponding decrease in demand. Demand for live goats is either decreasing or remaining constant, as the view of the majority.

The reason for the increasing demand of sheep is explained from the seasonal market demand for sheep during the Arafa season which usually accelerates the local market demand with the intension to meet the volume of order being requested from end markets. As the local level collectors of sheep from Haroreys woreda explained, the local level supply even becomes short of meeting the volume of request that fulfills one cargo at the port of Hargessa. The participants of the KII further refined the situation, as the time of even collecting low quality sheep for the sake of fulfilling the volume of request from the next VC actors, mostly merchants from Wochale, in this case.

3.3.2.2 Competitiveness of Prioritized products

The issues of competitiveness has limited conceptual understanding among the target respondents and participants of qualitative assessment as well. On the one hand, it is difficult to identify indicators of competitiveness for the identified products, as each of the prioritized products are being sold without comparing with similar products coming from other areas. On the other, there is limited information related to similar products being exported to the same chains from different countries.

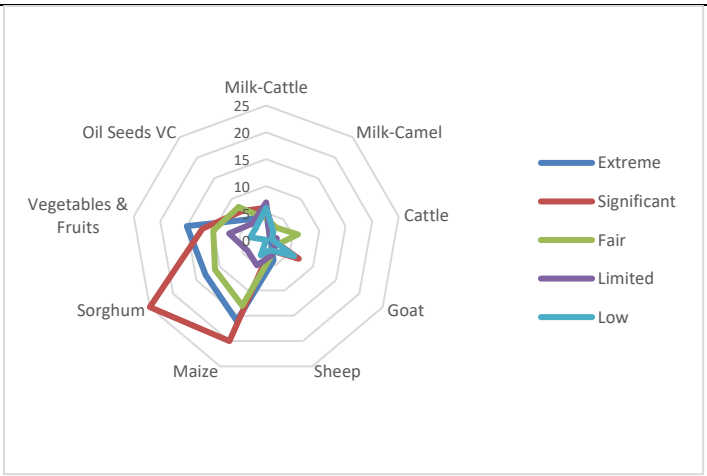


Diagram 1:Web-diagram of Competitiveness of VC Products

The application of competitiveness criteria such as quality, price, response time, punctuality, ease of deliver system is applied in traditional approach, for instance in the milk and vegetable VC, the quality and delivery system matters in determining the price. To serve the purpose of this study, we assessed the level of competitiveness of a given product in terms of quality, price and ease of delivery system. Respective performance of each prioritized product is then assessed on the base of 5 point Likert Scale[10]. The findings of the quantitative survey is summarized and presented on the web-diagram above(see Diagram 1, above)

In line with this, respondents rated sorghum and maize as significantly competitive in the local market. Vegetable and fruits products from Erer and Godey localities are considered as having the highest level of acceptance at end markets, as the Orange of Erer and Onion of Godey are recognized as part of the well-known brand among the central vegetable and fruits markets.

With regard to live animals and livestock fattening, the level of competitiveness is rated below average, due to the prevalence of limited effort in relation to quality improvement initiative among the pastoral communities and associated VC actors. Findings from discussants of FGD and KII merged with the observation of review team indicate the prevalence of limited care in milk handling at home and during delivery. The application of used jerry-can is widely noticed as milk container during delivery from home up to collection and then end users.

[10] Likert Scale is a scale measuring the degree to which people agree or disagree with a statement, usually on a 3, 5, or 7-point scale

4. Value Chain Structure

4.1 Value Chain Maps of the Prioritized Products

Value Chain Mapping (VCM) is a structural description of a value chain that provides an overview VC system and the position of VC actors in a comprehensible visual presentation with the aim to serve as analytical and communication purpose. In handling the VCM for the five prioritized VC products, we followed the conceptual framework that comprises eight generic elements to characterize and constitute the basics of value chain mapping.

In line with this, the research team preferred the eight VCM elements that are proposed in the ValueLink Manual and applied in a way to serve the purpose of VCA assignment. The research team facilitated the process of developing representative VCM for each of the five prioritized VC through selecting one kebele as a sample from each target woredas.

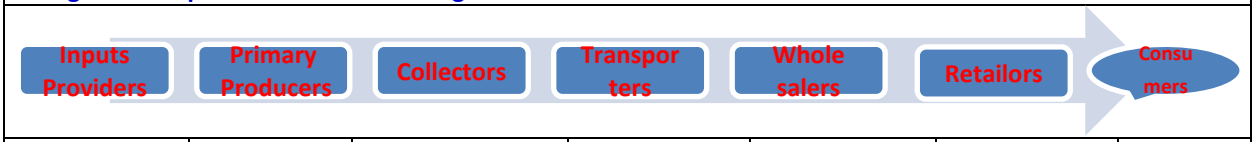
4.1.1 Milk Value Chain Map

The following VCM of milk is worked out at field level through participating women milk collectors as part of the FGD process in Balad kebele of Shinille woreda. The draft sketch is further refined through incorporating additional information from the result of quantitative survey and findings of literature review and further enriched with inputs of resource persons in the field of livestock and dairy farm management.

Milk Value Chain Map (Functional Sequence of VC taking Balad Kebele of JN-Shaballe woreda as a sample)

Supply of:- • Forage, • Vet medicine	**Involve in:-** • Bread selection; • Feeding & care; • Milking & selling	**Involve in:-** • Collecting & transporting; • Quality control; • Financial record keeping	**Involve in:-** • Arriving at collection & distribution centers punctually • Serving the chain consistently	**Involve in:-** • Storing; • Distribution to retailors; • Provide info on price & feedback on quality issues	**Involve in:-** • Storing & distributing to consumer; • Inform upper chain on consumers' feedback	**Cow & Camel Milk**

Categories of Operators and their Linkages



Input suppliers at Haroreys sell 1kg of improved forage at ETB 16& producers give 0.5-0.75kg per day for lactating cow as supplementary feeding	Primary producers handover 1 liter of cattle & camel milk at ETB 12 to collectors at village levels inside Balad kebeles (price of cattle & camel milk is the same).	One woman collects 7 lit of cow & 3 lit of camel milk on daily base during wet season and this will be reduced to 3 & 1liters during dry season. A collectorhandovers 1 liter of milk at ETB 21 to wholesaler. Her margin of benefit is ETB 3/lit.	Transporter charge ETB 3/lit as part of contractual agreement to overcome opportunity cost from both sides	Wholesaler handovers to a retailorat ETB 24/lit, through adding mark up ofETB 3/litas margin benefit.	Retailor handovers to a door to door distributorat ETB 27/lit, through adding mark up ofETB 3/litas margin benefit.	Final consumer buys 1 liter of milk at ETB 30 at her/his door.

Diagram 2: Milk Value Chain Map of Shaballe woreda

4.1.1.1 Economic Analysis of Milk VC

As indicated in the above VCM and clarified further in the next diagram, the lion share of benefits have been claimed by downstream actors irrespective of their contribution to the improvement of upstream dairy production activities. As revealed from the assessment, milk producing HHs sell a liter of milk at ETB 12 at a distance of 25 km radius from Jigjiga while the same milk is being sold at ETB 30 to a consumer that is residing in Jigjiga suburb (see Diagram 3 below). It takes a maximum of 2-3 hours to deliver milk from collection center to end users at their door inside Jigjiga. In normal deliver, there is no effort of storing in the refrigerator or changing milk container. Even there is a trend of distributing a particular producer's milk to identified consumers with the intention to maintain preferred taste and quality of end users.

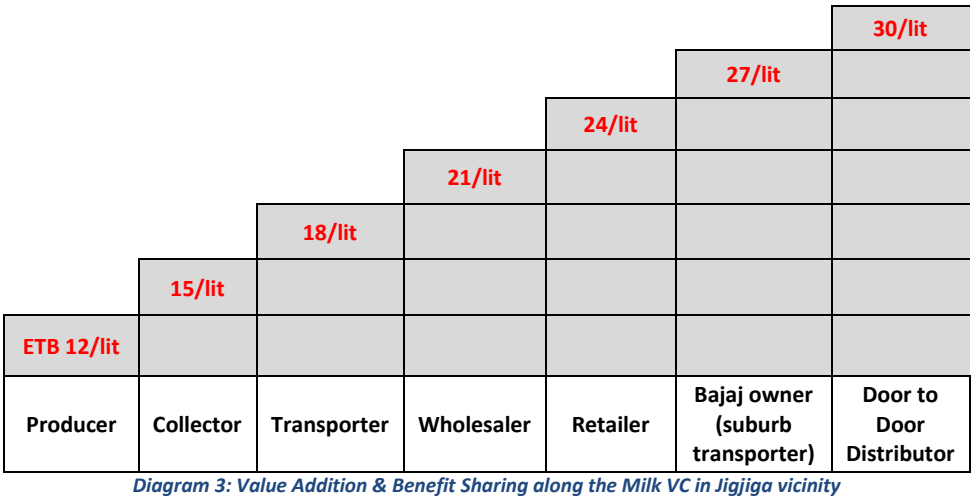


Diagram 3: Value Addition & Benefit Sharing along the Milk VC in Jigjiga vicinity

In this case, much of the economic benefits are being diverted from investment in the area of dairy improvement and input supply efficiency. This is a typical reflection of the unfair power relationship in the functioning of a given VC. The benefit being received by pastoral dairy cow owners is too minimal to cover the cost of production, if there is a proper mechanism of record keeping starting from the initial investment outlaid to purchase lactating or expecting cow over the milk bearing period and treat as cost of depression.

As revealed during the FGD held with milk producing women in JS-Shaballe woreda, the level of literacy has been preventing producers from taking financial records on daily expenses that could be considered as running cost. As a result they tend to follow the traditional way of keeping dairy cows with limited attention for supplementary feeding and breed improvement alternative.

The benefit margin of non-producers in the downstream VC in lump sum is the difference between the final retail price, which is ETB 30/lit and price of one liter of milk at farm gate market, which is ETB 12/lit). The difference in this case is calculated to be ETB 17/lit and the share of a given dairy farmer from the entire benefits package remains 40% of the total. In this view, the other actors in the downstream VC are sharing ETB 3 per head irrespective of difference in their contribution. The situation reflects the prevalence of inefficiency in the areas of regulatory and support functions related to chain governance from government and NGO sector.

4.1.2 Shoats Fattening Value Chain Map

The study woredas in general and that of JN-Haroreys woreda in particular is considered as the major sources of shoats, specifically sheep for export. Live animal exporters usually prefer animals originating from the lowland localities for their resistance to overcome animal losses during transportation under high temperature on the way to Middle East by ship.

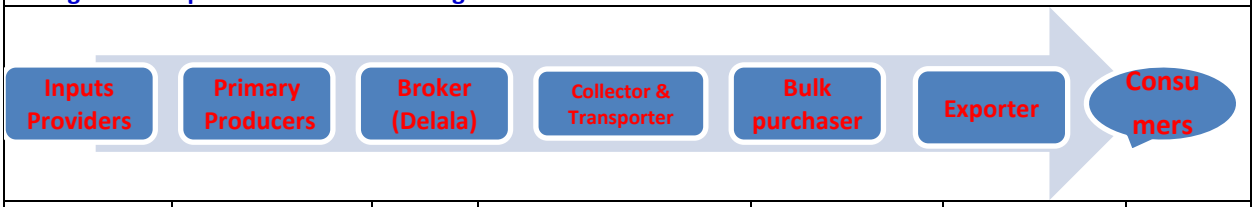
In line with, the VCM of shoats is worked through taking into consideration the VC function along the export route. The VC actors include producers, which include smallholder pastoralists and agro-pastoralists that usually buy animals for breeding and fattening purposes. The group prefers local breeds from known locations to insure adaptability of animals to ecological condition of the lowland. The pastoralists buy shoats either at the end of the dry season to overcome feed shortage or in calculation of forthcoming Arafa season to get time for fattening and gaining fair benefits.

Brokers, locally known as Delala facilitate the process of selling and buying through linking producers with collectors/small traders that purchase live shoats to supply to people in the export markets. Factors related to breed type, weight, and end market preference are being used as determinant of price at local markets.

Shoats Fattening Value Chain Map through taking JN-Hororeys woreda as a sample)

Supply of:- • Forage, • Vet medicine	**Involve in:-** • Bread selection; • Feeding & care;	**Involve in:-** • Connecting sellers with buyers; • Price setting & facilitating negotiation • Provide guarantee agaist fruad	**Involve in:-** • Collecting&transporting • Facilitating custom clearance	**Involve in:-** • Storing; • Distribution to retailors; • Provide info on price & feedback on quality issues	**Involve in:-** • Storing & distributing to consumer; • Inform upper chain on consumers' feedback	**Cow & Camel Milk**

Categories of Operators and their Linkages



Input suppliers at Haroreys sell improved forage on average at ETB 30 per shoat. Vet medicine cost ETB 150 and labour cost about ETB 25 per shoot.	Primary producers purchase single shoat at ETB 700 & invest on average 200 per head. Selling price of a fattened shoat is about 1200 at Haroreys. Margin of mark up is 300 per shoat.	A broker (Delala) receives EBT 50 per shoat.	Collector & transporter add mark up of ETB 250 per shoat and handover to wholesaler at ETB 1500 at Haroreys	Wholesaler or bulk collectors at Haroreys handovers to exporters at ETB 2000 per shoat with mark up ofETB 500 per shoat.	Exporters sell at ETB 3000 per head, at Barbara through adding mark up ofETB 1000 per shoat. Cost of shoat at Barbara is estimated to be about 100-120 USD	Finally shoots are sold mostly inside KSA during Afar season at ETB 4500 on the average.

Diagram 4: VCM on Shoats Fattening, through taking JN-Hororeys woreda

4.1.2.1 Economic Analysis of Shoats VC

The production process of shoats is more of traditional through maintaining Black Head sheep and Somali goats, locally known as Wanka and Ari Cad the Somali goat respectively. Shoats are the most important sources of income to meet household's immediate cash needs. Shoat rearing is the dominant livelihood for almost all agro-pastoralists and in terms of input supply, the Somali community in the region and livestock owners in the target woredas in particular accustomed to open grazing style leaving the shoats to depend on natural pasture and shrubs as the source of survival and breeding. The pastoralists and agro-pastoralist in the five woredas maintain sheep and goats with certain tendency towards the former or latter on the basis of ecological suitability, for instance, sheep is preferable in JN-Haroreys while goat is in JS-Shabelle.

In most cases, the people keep shoats from 4-6 months in expectation of gaining weight for Arafa period peak price season. Thus, engagements in shoats fattening and trading is the major focus of pastoral and agro-pastoral households, in particular to engage the project target women, youth and pastoral dropouts in organized group/cooperative approach starting from inputs supply along the entire VC, specially production and marketing with focus on having influential power on the export link of shoats VC. Even though it is difficult to obtain the informal livestock market data, there has been a significant cross border transaction of live animals across Somalia, Somaliland and Djibouti borders. Jesh abattoir near Jigjiga buys live animals through traders, and there is shortage of supply due to three years successive drought and if the livestock could recover from stress of drought, the abattoir could serve as potential market for pastoralists.

Shoats VC actors include producers, connectors (known as Delala) who work on clan based trust in facilitating livestock trade. Bulk purchasers buy shoats in bulk and take to various potential markets inside and outside even through the utilization of informal routes. There is licensing requirement to involve in livestock export trade. Heavy, multiple and non-transparent taxation approach has been raised as constraints in hindering urgent delivery requirements. The Bureau for Trade and Transport has limited attachment with the custom authority, as a result of policy gap, overlapping responsibilities and un-clarified implementation modalities.

4.1.2.2 The Role of Women in Shoat VC

The involvement of women in the shoats VC is prevailing in almost all localities in the target woredas. As a sense of cultural standard, the production and trading of sheep and goats are considered and remained as the area of women and children's engagement. In this study, the research team met and discussed with women that are involving in shoats VC in more of the target survey kebeles. The women work as producers, 'hadkelay' (known as the rope mother), brokers, 'Ashakushi' (known as opportunity trader), bulk collectors and negotiators. As a typical example, we summarized the role and involvement of women in shoats VC as a case and presented below.

Women's Entry in Potential VC

(The case of women shoats collector and trader groups)

In many parts of the target study areas, women usually engage in livestock rearing and trading with some exception that involve in petty trade. The role of women mainly focuses on shoats rearing while camel and cattle managment remain the task of men. Gender roles is based on the biological difference of the two sexes, and accordingly livestock rearing that demands migration and hardship is being handled by men while women take the responsiblity of looking after small ruminants that mostly kept around home in combination with household chores.

In terms of goats and sheep, the women have exclusive control over the resource starting from rearing, stock management, selling and financial utilization. The FGD participants explained the existence of about 80% of spouse practicing the tradition of handling over cash from sell cattlr to their wife to be managed by women as part of household expenditure and minor investment on petty trade such goat trading. As estimated through the qualitative assessment, a representative household follow the tendency of selling livestock about 20% of camels, 20% of cattle and 40% of shoats on annual base out of the total livestock population. The situation encourages most women to involve in shoats collection and selling to the next potential markets.

In terms of cost benefit analysis, a goat/sheep purchased at Birr 1,000.00 at farm gate market in Hadklay kebel, could be sold at Birr 1,500.00 in Asibuli, the nearest livestock market. The marketing cost of about ETB 50 (related to trekking (20), tax (10), shepherding (10), and broker fee (10)) per shoat is expected to be incurred per shoat on the average. In case of normal market situation and non-existence of post-purchase losses (death, or being eaten by hyena or fox), there is a possibility of gaining about Birr 400.00 per shoat on the average.

Being initiated by the promising profit margin, a group of women started shoat collection and trading to the next potential market through mobilizing funds and their effort. The initiatve focuses on collecting goats and sheep from farm gate markets and transferring to the nearest market on monthly basis. The purchasing process is usually handled by individual members, while the marketing activity is being handled by one woman per month on round base. Thus, each member will get the chance to market the collected shoats twice a yea. However, the recurrent drought in the target area may interrupt the trend and enforce the group to liquidate their capital.

Photo 1: Women and girl while shepherding shoats, Fetihwi kebele, Erer woreda
Photo by the research team member, April 2, 2018

Irrespective of the irregular nature of their involvement in shoat collection and trading, the member of women self-help group witnessed the emerging impacts in relation to women capability to cover food and associated HH expenses on the top of enhancing trend of capcity to deal with shoats value chains. The women also started investing their profits on live animal rearing and this is serving as a means to improve the perception of men partners. Thus, there is a tendency of appreciating the effort and contribution of women in coping seasonal shocks while focusing on assets building at HH level.

The self-initiated group of 6 women was started to emerge before three years and currently the members grew to 20 with group capital of 20,000.00. As there has no any sort of support from government structure and NGOs agencies, the group has been facing challenging scenarios in relation to shortage of working capital, limited entrepreneurship and financial literacy skills that are mentioned as hindering factors to address the needs of more women through expanding scope of engagement in potential value chain stages.

Photo 2: Women in goat trading locally known as Asha-Kushi to mean opportunity seeker,
Photo by the research team member, March 26, 2018, Dhagahle livestock market, 30km from Jigjiga

4.1.3 Maize and Sorghum Value Chain Map

Maize and sorghum is considered as staple food among the rural Somali communities as well as inside the emerging min-towns. The grain and straw of such crops are considered as the most favored animal feed throughout the season and during drought period in particular. The vast majority land of Somali Region has suitable potential to produce maize and sorghum, even under moisture stress situation, as sorghum has strong drought resilience potential.

Maize VCM, Functional Sequence of VCthrough taking Kunka Kebeleof Gode as a sample)

Inputs Supply → Production → Collection → Transporting → Wholesellinh → Retailing → End Product

Supply of:-	Involve in:-	Involve in:-	Involve in:-	Involve in:-	Involve in:-	
• Seeds • Pestcides • Fertilizers • Fuel for water pump	• Seed selection; • Irrigation &irrigation pump renting • Labour arangmemnt	• Collecting & transporting; • Variety check; • Financial record keeping	• Loading from farm site & transporting to market centres	• Storing; • Distribution to retailors; • Provide info on price & feedback on quality issues	• Storing & distributing to consumer; • Inform upper chain on consumers' feedback	**Maize Grain/ Corn**

Categories of Operators and their Linkages

Inputs Providers → Primary Producers → Collectors → Transporters → Wholesalers → Retailors → Consumers

Input suppliers at Kunka sell 1kg improved seeds at ETB 30 birr to producers. producers sows 10 kg of improved seed at 1 hectare of farm	Total input cost for 1 hec is ETB 8320., which yield 25 quitals. Selling price of 1 qui is 500. Total cost of prod'n is culculated to be 332.2 per qui & this eables farmes to obtain a margin of 167.8 per quintal	Collectore buys 500 per qui from producers and handoovers to wholesellers at 600 per quital	Transporter charges20 per qui from Kunka to Gode town.	Wholesaler handovers to a retailorat680 /qui, aadding a margin of 60 per quital	Retailor handovers to a door to door distributorat 730 per q, through adding a mark up of 50 per quintal	Final consumer buys 1 quital at ETB 730 .

Diagram 5: Maize Value Chain Map

In some parts such as Godey, the cultivation of maize is handled through the application of irrigation. However, the community members complain the prevalence of limited access to fair and profitable grain markets. The participants of the FDG reminded the time of bulk production to meet the requirements of grain demand for emergency response and later refusal leading the producers to face unexpected lose, the case of negotiation with WFP during the emergency response of 2011/12 is mentioned as a practical example.

In terms of demand, processed maize powder has more demand in Somalia and even within the Somali region, as there is a tradition of preference for processed corn floor that is to be grinded through the traditional manual mechanism. Processing maize grain is hard and very labor intensive chore for women in rural areas, as the manual grinding process may take 3-4 hours to process a quantity that could suffice daily consumption for an average household.

In terms of competition, one quintal of maize at Godey, for instance is ETB 550 while it is 750 birr at Adama, a commercial hub situated at a distance of about 100 km from Addis Ababa. The transportation cost from Godey to Adama is about ETB 250 per quintal and hence transporting maize grain from Godey with the purpose of selling at central markets is not a feasible business. Thus, there is a need to think about the establishment of millhouse at Godey and exploit the huge potential of mass production through irrigation based mechanized farming system that can offer thousands of jobs for women, youth and pastoral dropouts.

The establishment of maize milling house to process maize grain into refined flour to be used as major inputs in forage making will facilitate the potential of linking the mill and associated group of youth, women and pastoral dropouts with the export market. Procedural and focused investment in improving maize VC will add value in the entire VC.

Maize farm through irrigation in Godey

Preparing maize straw for livestock feeding

Pictures are taken by the memeber of the research team during the field assessment in Godey from 15-18 April 2018

4.1.4 Orange Value Chain Map

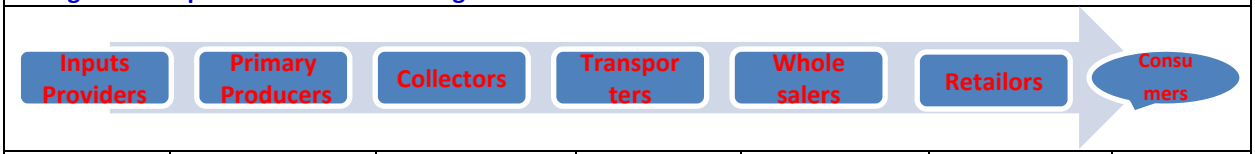
Erer woreda is divided into 15 rural and 3 urban kebeles, and out of the 15 rural kebeles, 9 are agro-pastoralist and the remaining 6 are pure pastoralists. The nine agro-pastoral kebeles have access to irrigation and mostly practice fruit cultivation with domination of orange as permanent plant. The main reason is to cope up with shortage of irrigation water that is being demanded by many households in increasing scale. The irrigable land holding size is about 0.75 hectare per HH on the average and every HH in the 9 agro-pastoral kebeles have access to at least 0.25 irrigable plot.

There are four rivers in the woreda: Hurso, Harsho, Garru and Erer, all are being utilized for irrigation purpose. There are areas under the cultivation of state farm and private investors. These groups have the lion share of water utilization and influential power in defining rationing of water for irrigation purpose. As the finding of the wealth raking exercise indicates, 20% of the farmers in the irrigation potential areas have access to 2 and more hectares of irrigable land while about 50% and 30% of the HHs have access to 1 and 0.5 hectare of irrigable land respectively.

Orange Value Chain Map (Functional Sequence of VC through taking Fetihwi Kebele of Erer as a sample)

Supply of:- • Pestcides • Fertilizers • Labour	**Involve in:-** • Orange variety selection; • Irrigating through water sharing • Labour arrengementt	**Involve in:-** • Collecting & transporting; • quality check; • Financial record keeping& credit provision; • Linking producers with wholesalers	**Involve in:-** • Provisio of transport &	**Involve in:-** • Storing; • Distribution to retailors; • Setting price range • Provide info on price & feedback on quality issues	**Involve in:-** • Storing & distributing to consumer; • Informing upper chain on demand & supply situation	**Orange**

Categories of Operators and their Linkages



	Total cost of production to produce 2,000 kg of orage ranges from 9,000-12,000ETB. Farm gate price of 1kg orange is ETB 2 on the average. Price ranges 15-32 Birr.	A collector has linkage with farmers as it facilitates pre-harvest credit. Covers picking, packing & transportation cost.	Truck owner or drivers' chage 1/kg to transport from Erer to DD. Charge rises depending on condition of rain to transfer risk of road block	A wholesaler receives from collectors, cover tranportation & custom fee on truck base. Custom fee is about 5/kg (2500/Izuzu truck).	A retailor or juice house stores, select, categorize & sell to HHs and process to juice and sell to consumers.	Final consumer purchase 1 kg of orange at ETB 30 at Dire Dawa.

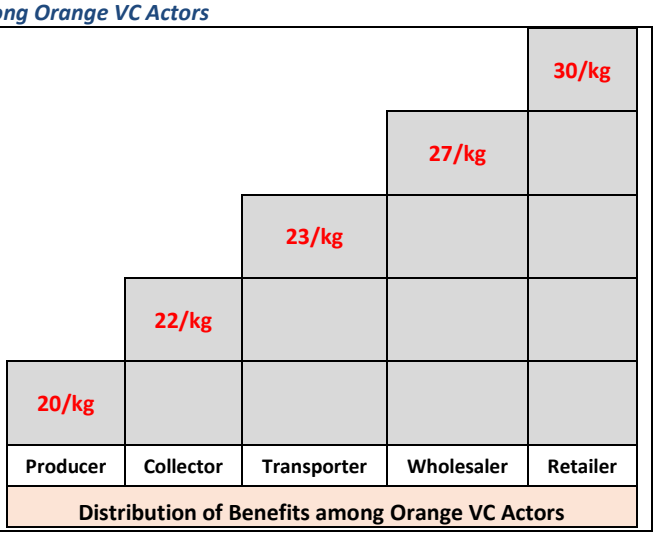
Diagram 6: Orange Value Chain Map, Erer woreda

There are two harvest seasons for orange per year, the first season is from Sept & Oct while the second season falls around may every year. The proportion of harvest in the first season is 75% of the annual production. An average farming HH has the potential to produce about 2000 kg and sell within price range of 15-32 ETB. The maximum price pick is during shortage of supply around end of October up to mid-November. Some speculative farmers may manage to gain from such advantage through planning

irrigation and taking care of early ripen fruits. Those are farmers with dependable financial capital and have no pre-harvest credit attachment with collectors. Out of the following tables, the first indicates cost benefit analysis of an average farmer while the second shows distribution of benefits among the orange VC. As there is no tradition of record keeping in relation to mark up costs, it is difficult to calculate the actual margin of benefit in downward value chain.

Table 5: Cost Benefit Analysis & Distribution of Benefits among Orange VC Actors

Orange VC-Cost Benefit Analysis-Erer woreda					
Description		**Unit**	**Qty**	**Rate**	**Total**
1	**Revenue**				
1.1	Sell of Orange	Kg	2000	20	**40,000**
2	**Expenditure**				
2.1	Various kinds of pesticides	LS			1,500
2.2	Fertilizes (uria)	"			2,800
2.3	Harvesting & packaging cost	"			5,000
2.4	Labor cost	"			9,300
Total Cost					**9,300**
Profit Margin					**30,700**



As stated by the expert from Erer woreda Natural Resource Management office, there are 8 collectors next to orange farmers in the vertical line of orange VC. The collectors work on individual base with varying capacity, but similar marketing strategy. Each collectors have direct access to individual farmers or deal through Delalas (broker) on the basis of established ties that includes lending money to orange farmers during slack periods and collecting upon harvest. The tie serves in facilitating farmers' access to emergency cash needs, but usually binds orange farmers from looking for alternative advantage, such as dealing with competitive buyers through negotiation on fair pricing.

In terms of extension support, there are Farmers Training Centers (FTC) in each kebele that serves in providing training for orange farmers. The FTCs also serve as center of inputs supply, particularly pesticides. However, the provision of irrigation based extension service is not as strong as the situation demands at the ground. As observed during the field assessment, the application of irrigation is based on the traditional skills of the farmers leading to high volume of water wastage through improperly designed earthen irrigation channels and diversion weirs.

Professional support in the areas of applying modern irrigation management is limited. All farmers are opting to cover their plots with orange, irrespective of high demand and option of triple production in relation to vegetables. The application of traditional irrigation has been forcing the target farmers to wait two to three weeks to get turn of access to water. The farmers claim the limitation of water as challenging factors while the research team observed the prevalence of traditional methods as the core factor in hindering economic utilization of irrigable plots. The situation has been forcing the target farmers to prefer cultivation of orange to high value vegetables as orange trees have the capacity to resist temporary stress due to shortage of irrigation water.

Even though the target agro-pastoralists have the tendency of rearing cattle and shoats, the effort of looking for linking irrigation value addition with the live-long practices of pastoralism is being dominated by the overall tendency of favoring orange cultivation as main stake. As an agro-pastoral community, the more feasible approach seemed to be focusing on cultivation of improved forage with the intension of linking irrigation potential with livestock fattening and dairy farm.

Photo 3: Orange Farm, Fetihwi kebele, Erer Woreda
Photo by the research team member, April 2, 2018

Photo 4: Traditional irrigation management-Fruit Farm, Fetihwi kebele, Erer Woreda
Photo by the research team member, April 2, 2018

Photo 5: Furdossa Ali Orange collector at Erer town (Furdosa Ali and her assistant)

Photo 6: Orange collected & packed to be transported to reach wholesaler in Dire Dawa.

Photo by the research team member, April 3, 2018

4.1.5 Onion Value Chain Map

Onion is one of the major cash crop with very large volume of production around Godey. The estimate of some informants indicate that on daily base about 1,000 quintals of onion is estimated to leave Godey and supplied to domestic markets. The onion seed variety known as Hadermot is the most preferred type among onion producers around Godey. The major source of seed supply is the informal trade route from neighboring Somalia. The Agro-pastoralists prefer applying higher rate of seed per hectare in expectation of increased yield through overcoming seed failure prior to germination.

Onion Value Chain Map, a Functional Sequence through taking Doloba'ad Kebele of Godey as a sample)

Supply of:- • Seeds • Pestcides • Fertilizers • Fuel	**Involve in:-** • Seed selection; • Irrigating &irrigation pump renting • Labour arrengementt	**Involve in:-** • Collecting & transporting; • Variety check; • Financial record keeping	**Involve in:-** • Arriving at farm site & transporting to market centres	**Involve in:-** • Storing; • Distribution to retailors; • Provide info on price & feedback on quality issues	**Involve in:-** • Storing & distributing to consumer; • Inform upper chain on consumers' feedback	**Onion**

Categories of Operators and their Linkages

	Total input cost for 1 hec is ETB 68,800. Yield is expected to be 15,000kg . Peoducers sell at 8/kg at farm site. Production cost reaches 6.5/kg	A collector buy 8/kg & sell to wholeseller at 10/kg	Transporter charge0.4/kg to transport onion from Dolloba'ad to Gode town	A wholesaler handovers to retailorsat 11.2/kg with 1/kg mark up	A retailor handovers to a door to door distributorat 13/kg, adding mark up of 1.6kg.	Final consumer buys at 13/kg.

Diagram 7: Onion Value Chain Map

4.1.5.1 Economic Analysis of Onion VC

On the basis of data obtained from Godey woreda Agriculture office, about 24,750 quintals of onion is expected to be produced from Godey woreda in 2018/19 (2010 E.C.) production season. Productivity of onion is estimated to be 15,000 kg per hectare and selling price at farm gate market is to be ETB 8 per kg on the average. The FGD exercises held with representative of agro-pastoral communities in Kunka and Dolo Ba'ad kebeles of Godey woreda facilitated undertaking cost-benefit analysis of onion VC as presented in the table below.

Table 6: Cost-Benefit Analysis of Onion (through taking 1 hectare as a benchmark)

Description		Unit	Qty	Rate	Total		
					Cost	Revenue	Profit
1	Revenue						
1.1	Sell of onion	Kg	15,000	8		120,000	
Total Revenue						**120,000**	
2	Expenditure						
2.1	Seed cost	Lump sum			5,600		
2.2	Various kinds of pesticides	"			10,200		
2.3	Fertilizes	"			7,200		
2.4	Fuel for pumps	"			28,000		
2.5	Labor cost	"			7,800		
2.6	Plowing and other cost	"			10,000		
Total Cost					**68,800**		
Expected Profit							**51,200**

As indicated in the above table, a producer with one hectare of onion is expected to allocate cash outlay equivalent to ETB 70,000 to gain about ETB 50,000 within 4-6 months. However, many smallholder lack such financial potential and being forced to look for partner or money lender, as the level of access to culture sensitive microfinance service has not developed yet. Onion farmers are expected to transport up to Godey and sale at prevailing market price which is governed on the basis demand and supply. If demand drops, onion farmers might be even forced to throw their supply. As stated by one of the participants of FGD, he said that "this is vegetable, so perishable item that does not giving time even to breathe and think twice, so we have to accept the first offer without calculating whether it covers our cost or not". As he mentioned, there had been bad days whereby onion farmers were forced to pay additional cost to cover transporting rotten onions out of the market and heave in the open fields.

In the onion VC, there are connectors between producers and traders that work on the basis of kinship in most cases. There are three types of production systems in Godey area. The first is when private farm owner deals with individual trader on the basis of getting certain amount of initial loan to cover production cost and then to supply the entire product to the borrower at reduced margin lower than the prevailing market price. The second approach works on the basis of cooperative modality whereby a group of people contribute money and invest with the agreement to share profit or loss. The third approach is known in local term 'Kala-Goys', which refers to sharing responsibility of availing labor and covering non-labor production cost by some actors operating in the onion VC.

Onion wholesaler in Godey

Onion ready to be transported to next VC

Pictures are taken during the field assessment in Godey from 15-18 April 2018

Wholesaler usually own or rent big warehouse to store onion and regulate the supply line through traders that transport and sell throughout the chain markets situated in Kabri Dahar, Dhagah Burr, Jigjiga, Harar and Dire Dawa towns and even there is times when onion is supplied throughout the northern route as far as Mekelle, the capital of Tigray region.

As far as the trade route of onion from Godey is concerned, there had been good times when it abled to reach up to Sudan. As reliable sources indicate, there is a market linkage of onion from Godey and Charrati localities even reaching Tanzania through crossing Mandera, a border town near to Dolo-Ado in the Kenyan side and situated at the intersection of Ethiopia, Kenya and Somalia border. The preference of consumers for onion from Godey is said to be maintain at higher level for the brand long attached to the quality of onion from Godey locality. It is known for having long shelf live and resistance to hit for long days during transporting under the hot temperature of the Somali lowland.

The challenging scenario is revealed to be the ever increasing trend of fuel cost to operate irrigation pumps. As the participants of FGD Indicated, the fuel cost takes almost half of the total input cost. As they mentioned, about 1,400 liters of fuel is required to irrigate one hector of onion farm. The fuel cost is ETB 20 per liter at local level and this makes the total fuel cost to reach as high as ETB 28,000. This usually forces smallholders to approach people with financial capital to cover initial investment costs and allocate reliable finance resource to cover running costs without facing problems related to cash flow and emergency costs that ensure smooth flow of the production process.

The production of onion is associated with various challenges related to unfavorable production process and escalating trend of input cost. Still the involvement of target population in the onion VC is considered as the most profitable venture in the target area. In terms of future investment, the engagement of targeted VC groups- youth, women and pastoral dropouts seems vividly feasible through allocating adequate initial investment and running costs on reliable trend. In addition, there is a need to work in coordinated effort to link the onion VC of Godey area with the central potential market through focusing on strategies that might help to ease operational and linkage related difficulties.

Crazy Initiation or Innovation?
(The case of 'Tiger Valley Vegetable Farm', JS-Shabelle woreda)

Abdi Mo'alin had been in Somaliland for 10 years working as daily laborer on vegetable farm that applies irrigation and improved farming techniques. When he returned home, he brought with him some seeds of vegetables and mini water pump with the vision to replicate what he had gained during his stay in the neighboring Sumali Land. After a while, he started clearing an idle land situated in the Shebelle valley about a km distance from his village.

In the initial attempt, he cultivated lettuce and onion on about a quarter of a hectare. That times, the member of the community labeled Abdi as a crazy guy who came back home with mental disorder. This conclusion was based on the assumption of considering the Shebelle valley as home of tigers. The name of the valley is derived from Sumali words to express the presence of Tiger (shabel ley). Prior to the degradation of the natural environment, which is a recent phenomenon, the villagers had been considering this valley as the most terrifying place even to cross leave alone considering as a place of work and overnight stay. This was the reason behind labeling Abdi's effort as the initiation of crazy man.

Irrespective of the negative energy from the villagers and physical challenges related to vegetable production, Abdi continued to focus on his intention and vision even under dropping tendency of support from his family members as well. Fortunate enough, the initial harvest was good and enabled him to gain about ETB 37,500. This initiated him to go for marriage with the intention to have partner that would share his view and provide support in due course of his live. The intention of soliciting marriage partner started to divert the thinking people that had been considering him as a crazy man. Then people started dialoguing on Abdi's initiation and success and rather tried to convince each other to consider him as a man of conviction and perseverance.

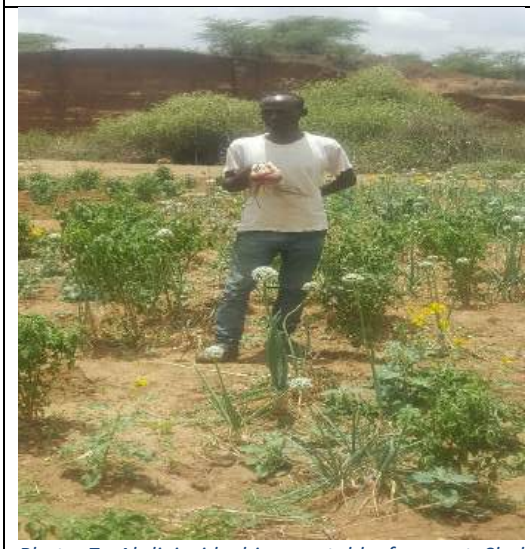


Photo 7: Abdi inside his vegetable farm, at Shabelle (Tiger Valley)
Phote by the research team member, March 25, 2018

The financial status and subsequent marriage has changed the perception of most villagers, particularly his old friends. In appreciation of Abdi's effort and achievement, Ahmadnur Abdullahi, an intimate friend joined Abdi's and started cultivating in the 'Tiger valley' through sharing Abdi's water pump. Ahmadnur as a new comer gained about Birr 50,000 from sale of paper and tomato in the initial harvest while Abdi gained about 70,000 from sale of onion, paper and tomato in the second harvesting season. In this year, during visit of the consultant team, another friend has joined Abdi and Ahmadnur to work together in the 'Tiger Valley'.

The craziness of Abdi's idea was also emanated from the intention to start irrigation based vegetable cultivation in a place there is no river or underground water potential within shallow depth. But there is a big flood bank with accumulation of sand at the bed of wide and lengthy gorge. Abdi started digging the sandy bed and tried pumping the water over the bank to irrigate his field situated in the half layer of the flood bank.

The initiative of Abdi and fellow friends has been influencing many youths and women towards starting cultivating in the the 'Tiger Valley' where there is ample virgin land with the potential to promote spate irrigation in extended scale. The challenging scenario is having access to reliable water pump and professional support in the areas of spate based irrigation technique.

As reveled during the field visit, there are many youths and women with courage and conviction to start working in valley though utilizing spate irrigating as source of water to cultivate fruits and vegetables. As Amina[11] expressed during our visit to the 'Tiger Valley', she said that "we have been living for long without realizing the potential of the valley, rather people had been considered as the most dangerous place in the village.

Recentlry, the villagers started realizing the existence of ample potential that might suffice to feed and support the entire villagers. We used to live losing some of our livestock as a result of attack from wild pests, hayna and tigers. But a crazy boy with crazy idea has changed the picture of this valley within one season of harvest. Now, every villagers started considering Abdi as innovator person that tried to challenge the unchallenged scenarios. We recongnized that Abdi is no-more crazy, but there are many crazy youth ansd women sitting ideal and thinking crazy ideas. We have to bring them to the tiger valley and treat their wild craziness through showing the effort and achievement of Abdi and his friend. Then, we hope there will be a wind of change to blow in our village"

Ahmadnur, a friend of Abdi shares the view of Amina and added his impression as follows. "If there is a coordinated effort in supporting the initiation of Abdi, there are many villagers in general and more youth, women and pastoral dropouts in particular to follow the footstep of Abdi. What we are expected from the government and other supporting agencies is training and working capital. The recent achievement has the potential to show the community how to transform the long lived tradition of dependency on rain fed cultivation. He added that 'we expect the government bodies and potential supporters to focus on technical and financial support, which will enable the community members to learn through doing in actual practice.

Photo 8: Amina and Abdi's team with the member of research team inside vegetable farm, Shabelle
Phote by the research team member, March 25, 2018

As research team observed, the community members have limited exposure to improved agricultural practices and what is more important is to train, support and encourage the people to change their old thinking and attitude. They deserve improved water pumps, sustainable dams along the flood valley and modern irrigation practices. The potential market is Jigjiga and down route to Soamli Land as well as to the central area including Harar and Dire Dawa. There is no problems of access to market and transport routes, as the woreda capital is within two km distance from the valley. Jigjiga and Harar could serve as potential market links to purchase inputs and create VC links in relation to output marketing. Thus, the research team would like to advised the importance of working availing improved techniques of spate (flood) irrigation around the 'Tiger Valley' and help the target community towards explioting the untapped potentials that migh change the economy of the village into 'Tiger Economy'.

[11] Amina is a lady with an initiative to follow the footsteps of Abdi and has started cultivation in the Tiger Valley adjacent to Abdi's plot

4.1.6 Sesame Value Chain Map

The involvement of the target community in sesame production has a short history, even though with in half of a decade, the acceptance sesame as major cash crop has become widening around Godey area. The main actors in the sesame VC include input suppliers, producers, traders, processors and consumers. The producers use the local black sesame variety through selecting and storing seeds in traditional mechanism. There is a trend of exchanging non-sesame quality sesame with that to serve as seeds on the basis of certain additional margin. The exchange or purchasing process is usually handled through tracing location and productivity of sesame to be assumed as seeds.

There are two cropping season, the first is during the onset of the main rainy season, known as *Gu* in local context and lasts from April to June while the second is called *Deyr, a* short rainy season from October to December. The producers usually use family labor and hire labor during the process of land preparation, weeding, harvesting and threshing.

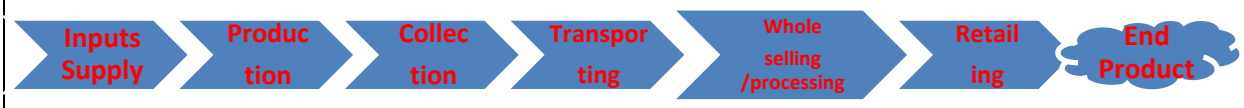
There is a tendency of supporting the sesame production through the application of irrigation, at least 3-5 times per cropping period through utilizing water pumps in cost recovery arrangements. The application of fertilizer and pesticides is minimal, as the fertility of soil is in a good condition and sesames has minimal susceptibility to diseases and pests. As the Godey ecological condition is suitable for sesame production, the woreda community has been considering it as an emerging cash crop production potential.

As revealed through literature review, the producers usually allocate about 0.25 hectare for sesame production and expect an estimated yield of 2.5 quintals and this gives productivity per hectare of about 10 quintals on the average, which is considered higher than the national productivity rate, about 6.9 quintals per hectare.

As revealed through the qualitative assessment process, the participants of FGD & KII indicated the existence of increasing tendency of producers' preference towards the production of sesame for the reason of moisture stress tolerance, minimal rate of chemical application and most importantly the prevalence of high market demand. In terms of VC, the nature of chain operation provides rooms for the involvement of producers in both up and downstream chain functions, starting from inputs supply to trading of sesame oil and utilization of byproduct as animal feeding.

In the sesame CV, the processors provide milling service for smallholder producers through charging milling fee and handover the extracted oil and byproduct to be used as animal feeding. The processors of sesame charge 7-10 Birr to extract oil from 1 kg of sesame grain. At output level, on average, 40 liters of edible oil and 50kg of byproduct could be extracted from 1 quintal of sesame grain.

Sesame VCM (Functional Sequence of VC through taking Doloba'ad Kebele in Godey as a sample)



Supply of:- • Seeds • Pestcides • Fertilizers • Fuel	**Involve in:-** • Seed selection; • Irrigation &irrigation pumps renting in • Labour arrengement	**Involve in:-** • Collecting & transporting; • Variety check; • Financial record keeping	**Involve in:-** • Arriving at farm site & transporting to market centres	**Involve in:-** • Storing, • Processing; • Distributing to retailors; • Provide info on price & • Feedback on quality	**Involve in:-** • Storing & distributing to consumer; • Inform upper chain on consumers' satisfaction	**Sesame oil**
Categories of Operators and their Linkages						
Inputs Providers	Primary Producers	Collectors	Transporters	Whole salers/ processing	Retailors	Consumers
	Total input cost for 1 hec is ETB 15,150 with expected yield of 10 qui/hec. 400 lit of oil could be extracted from 10 qui of sesame seeds (40 lit/qui) & selling price is 100/lit at Gode. Prod'n cost per litre is 40/lit, giving 62/lit as margin of benefit	Collectors buy 100/lit from producers and sells to wholesellers at 117 adding mark up of 17/lit	Transportation charge is 2/lit from Dolloba'ad to Gode town	Wholesaler buys 119/lit from collectors & handovers to a retailorat ETB 133/litre with addition of mark up 14/lit. Processing cost is 7-10/lit on the averae	Retailor handovers to a door to door distributorat ETB 155/lit through adding mark up of22/lit.	Final consumer buys 1 lit of sesame oil at 155 birr

Diagram 8: Sesame VCM

4.1.6.1 Economic Analysis of Sesame VC

As summarized from the quantitative and qualitative assessment process, the estimated total cost to produce 10 quintals of sesame grain is about ETB 28,000. On the average, about 40 liters of oil could be extracted from 1 quintal of sesame seed at Godey oil milling centers. In this case, a farmer with one hectare sesame production could have the opportunity to obtain about 400 liters of extracted sesame oil (40 liter per quintal times 10 quintal of sesame is equivalent to 400 liters of processed sesame oil).

The selling price of 1 liter of sesame oil is about ETB 100 on the average at the time of the assessment and this will enable to generate ETB 40,000. In addition, if the by-product could be sold, there might be revenue of ETB 3000. The total revenue could reach up to ETB 43,000 and the total production cost is estimated to reach ETB 28,000. In this particular reference, a farmer/agro-pastoralist investing on one hectare of sesame production could generate a benefit of about ETB 15,000 in general without calculating family labor as part of the total cost(see Table 7, below).

Table 7: Cost-Benefit Analysis of Sesame Production in Godey woreda (Source: FDG extract)

Description		Unit	Qty	Rate	Total		
					Cost	Revenue	Profit
1	**Revenue**						
1.1	Sell of extracted Sesame oil	Lit	400	100		40,000	
1.2	Sell of by-product of sesame	Kg	300	10		3,000	
Total Revenue						**43,000**	
2	**Expenditure**						
2.1	Fixed production cost	Qui	10	1,520	15,200		
2.2	Variable production cost		10	720	7,200		
2.3	Extraction Cost		400	10	4,000		
2.4	Transportation cost		400	2	800		
2.5	Selling cost		400	2	800		
Total Cost					**28,000**		
Expected Profit							**15,000**

In addition to gaining direct financial advantage, the effort of processing oil has the opportunity to create employment and development of additional VC such as livestock fattening in integration with sesame production, processing and oil selling. The production of sesame in local context will help to accommodate more labor and substitute the import of edible oil from abroad with additional contribution to the effort to reduce the living pressure on foreign exchange requirement. Its by-product could help in scaling up livestock production and to enhance share in live animals and meet export endeavor. This will help to enhance the engagement of youth, women and pastoral dropouts in the primary and secondary VC of sesame.

At national level, there is limited effort in linking the sesame production of Godey areas with the central market and export marketing facilitation through the agent known as Ethiopian Commodity Exchange (ECX), which is popular in facilitating the transformation of sesame marketing in the northern part of the country. In relation to gender role, women are being considered as part of the main actors in the sesame VC through involving in production, collection and trading of small quantity of sesame and selling to consumers and processors.

As summarized from the assessment process, integrated investments in the production and processing areas worth adequate investment, so as to promote the employment generation for youth, women and pastoral dropouts as the intended beneficiaries of VC program. In addition, the prevalence of more preference of locally produced sesame oil to imported oil products is another competitive advantage to encourage investment in the improvement of sesame VC.

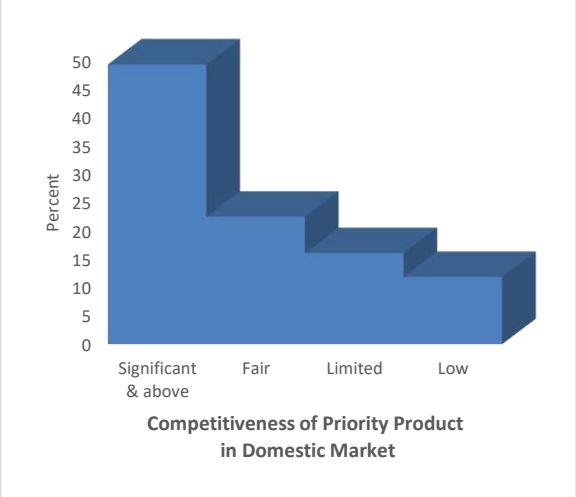
5. Opportunities and Constraints

5.1 Milk VC

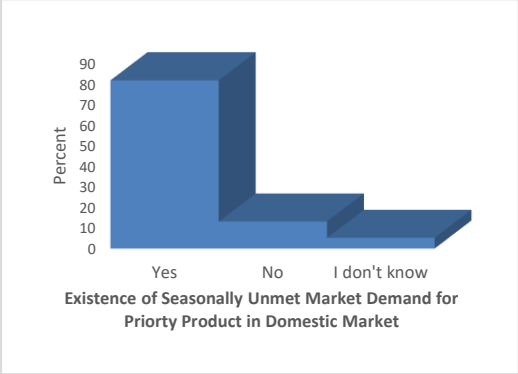
1.2.1 Opportunities

- In the input supply VC stage, the utilization of crop residuals for animal feeding leads pastoralist and agro-pastoralists to see the importance of crop production in parallel with livestock rearing. This will create a favorable ground to transform the practice of subsistence crop production practices into improved forage production alternatives in view of upgrading the livestock VC.
- The existence of research and academic institutions with livestock and pastoral mode of live as focal research agenda could create an opportunity to deal with the constraints of dairy farm and milk VC in wider scale through linking recommendations of feasible researches with funding potentials and action based development initiatives;
- In the stage of milk production VC, the pastoralists and agro-pastoralist HHs have inherited attitudes of involving in livestock VC as an inescapable part of livelihood engagements and this will enhance the level of commitment people will have in promoting livestock improvement initiative in general and milk VC in particular.
- The inbuilt knowledge and skills in the pastoral and agro-pastoral mode of live has huge potential to reinstate pastoralism on unshakable ground. What is demanding is the need to integrate such live-long experiences with modern and improved systems and approaches;

- The increasing trend of domestic market demand (see graph 5 below)has the potential to encourage investments in production improvement. This will play a pushing factor in inputs supply area to invest on feeds improvement technologies with the intention to meet the expectation and demand of dairy producers. The overall effort is expected to increase the production of milk on constant trend with the application of mechansims that could tolerate dry seasons drop in production.



Graph 4: Competitiveness of Priority Product

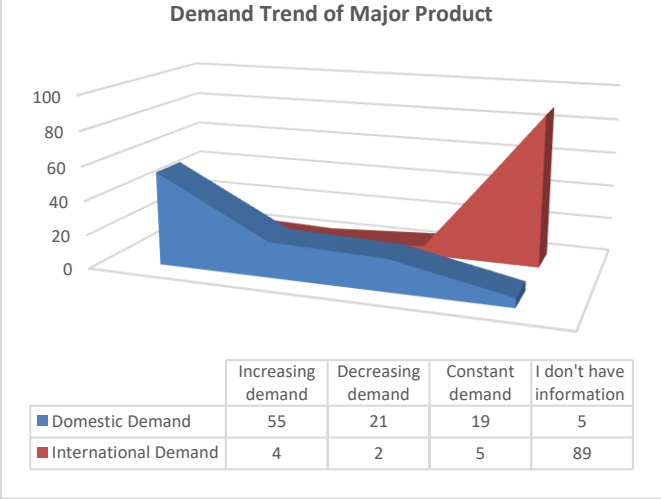


Graph 5: Existence of Seasonally Unmet Market Demand

- VC improvement initiative will help to decrease the prevailing pressure on natural environment related to overgrazing. Ultimately, investment will revitalize the entire VC through considering innovation and successive VC improvement effort as mechanism to maintain sustainable VC development in the dairy VC and gradually transforming the traditional system into modern dairy business.

1.2.2 Constraints

- The existence of limited information on international market demand and product CV linkage with cross border trading. As indicated in the graph (see graph 6 right), out of the total respondents, almost 90% of them have no or unclarified information about their major products in the international market. This is also evidenced through the qualitative assessment, as most of the KII participants have limited understanding about the market linkage beyond their first market. This indicates the prevalence of highest level of illiteracy on VC and related market functions.



	Increasing demand	Decreasing demand	Constant demand	I don't have information
Domestic Demand	55	21	19	5
International Demand	4	2	5	89

Graph 6: Demand Trend of Msjor Product VC

- The prevalence of frequent drought and its impact on pasture & water has been limiting the quantity of supply the domestic market demanding throughout all seasons. This reflects the prevalence of over dependency on open grazing and traditional feeding practices that has been leading to environmental degradation and associated vulnerability to impacts of climate change. As per the quantitative result, out of total respondents, that 329 (81.6%) expressed the existence of unmet market demand on seasonal base; and out of the respondents with the believe on the existence of unmet demand, 236 (71.7%) associated the cause with limited volume of production due to climate variability on seasonal base (see the next two tables).

Table 8: Availablity ofunmet market demand on seasonal base

Is there unmet market demand on seasonal base		
	Frequency	Percent
Yes	329	81.6
No	53	13.2
I don't know	21	5.2
Total	403	100

Reasons for unmet seasonal market demand		
	Frequency	Percent
Limited volume of production due to climate variability	236	71.7
Limited supply of inputs	15	4.6
Poor transportation	40	12.2
Limited skill on improved production	15	4.6
Limited market information	23	7.0
Total	329	100

In support of this view, the participants of FGD in various milk producing villages indicated the trend of decrease in volume of milk by 60% during dry seasons, as milk collectors used to reduce the level of collection per head from 7 and 3 liters of cattle and camel milk during wet season to 3 and 1 liters during dry season respectively.

- There is limited and uncoordinated initiative in supporting livestock production and productivity improvement in live animals in general and dairy products in particular.
- There is limited information and understanding related to VC functions in relation to power relationship and benefits distribution among VC actors. As a result the producers and input supplies have access to less than 40% of the overall income being generated, irrespective of their contribution to over 90% to the entire milk VC.

5.2 Live Animal & Livestock Fattening VC

5.2.1 Opportunity

- Locational vicinity to the export market chain is creating an opportunity to strategically plan the production and fattening business with the expectation of meeting high pick demand of the Arafa season;
- Stress resilience characteristics of goats tend pastoralists to consider them as means of saving and wealth accumulation strategy. The situation serves as potential opportunity to integrate production with fattening and then selling with shorter period stock to minimize risk;
- The lowland sheep and goats' varieties have strong preference in gulf countries because of their quality attributes such as smell, color and size. The export demand pick period is from the end of Ramadan up to the start of Haji (Arafa) every year. Domestic demand has been on growing trend. The situation is an encouraging investment on live animal and animal fattening;
- Existence and growing trend of abattoirs in Somali region and other parts of the country has been leading to demand of bulk supply. This in turn encourages improvement in shoats production to meet quality of meet, skin and hides at the end market, mostly export market;

5.2.2 Constraints

- The traditional production system that provides limited space for application of improved forage while tending to stick to total dependency on natural grazing that limits bulk supply of fattened animals within shorter time span. To overcome such problem, producers tends to use overdosed drugs and other materials such as sugar as quick fattening arrangement. The trend, however is leading towards affecting the quality of meet established in the taste of the end market consumer, particularly Ethiopian meet consumers from the Gulf countries;
- Limited access to veterinary treatment and livestock extension services due to poorly organized veterinary clinics and extension workers with low commitment. The situation rather leads the target community to rely on traditional herbal medicine and livestock care system, that might not overcome chronic diseases which could affect quality standards;
- The prevalence of elongated drought and its negative impact on pasture and water availability cause animals to weaken immunity and disease resistance capability leading to increased mortality and morbidity. This constrains the supply of required number and quality of shoats for export market;
- The prevalence of limited literacy and technical skills on feed conservation has been enforcing the business of fattening to focus on seasonal calendar of rainfall in expectation of availability pasture which might not coincide with peak market demand. The situation forces the operation of live animal VC on the basis of seasonal variability, which discourages entry and sustainable engagement;

- Both legal and illegal marketing systems are operating in the target woredas in general and along the board of Somaliland and Djibouti in particular. The informal livestock marketing system that works on border-crossing arrangements affects the strategy of maintaining sustainable export trade and backward support initiative by governments and other supports;
- The dominance of clan structure in regulating the shoats VC limits the functioning of open competition and demand based pricing. The livestock trade in general and that of shoats in particular is governed through clan based brokers that assumes the power of price setting and negotiation with the buyers. Even though the brokers serve in sharing market information downward to their clan members and provide advisory service as well, they still block entry of new comers to operate through holding essential marketing information.
- As evidenced from the findings of the quantitative survey result, the majority of respondents, except those in the business of goat fattening limited information in relation to end market price. For instance out of those preferring involving in sheep fattening, only 33% have information on the end market price for fattened sheep and VC operation system. In triangulating this, the participants of the qualitative assessment also indicated as having limited information on VC stages and the value of their livestock end market.

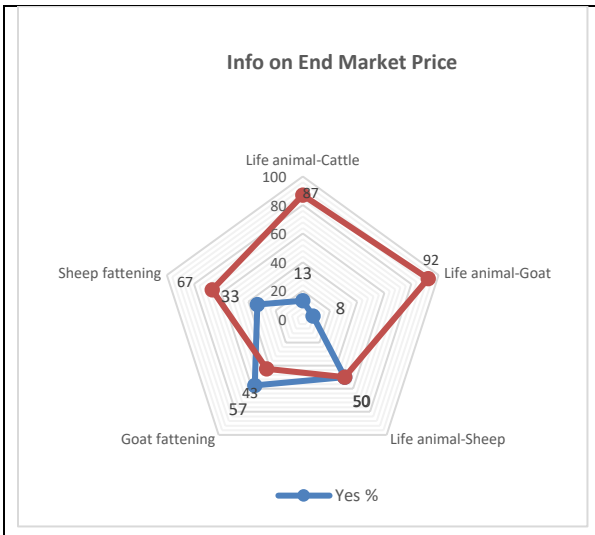


Diagram 9: Producers access to market info of livestock

Photo 9:Delala setting price at Daghale livestock market

- Absence of access to short distance market centers is demanding undesired effort to reach livestock market. Prevalence of poor road network is hindering movement specifically during rainy seasons and blocking market access to potential livestock markets. Pastoralists in remote areas are expected to trek for days and more to get access to potential markets. This reduces the competitiveness of shoats, as fattened shoats easily lose weight and attractiveness due to long trekking;
- Environmental degradation of rangeland, particularly prominent grazing valleys around Godey, Hadhawe Kebele known as Todobada Tuur iyo Afarta Ban (The seven seasonally streams and the four plains) has been affected by gully erosion. This has been leading to the loss of major dry season grazing pasture for hundreds of thousands pastoralists in the Shabelle, Erer, Afdher and Nogob zones while affecting livestock population on gradual pattern.

5.3 Maize and Sorghum VC

5.3.1 Opportunity

- Maize in Godey continues to serve as a significant contributor to the food security situation of the region with economic benefits starting from serving as a stable food source and utilizing for various purposes including serving as ingredients in various food preparation industries. As revealed through the VCA, maize and sorghum are the major cereals with high potential in serving as animal feed directly through feeding cereal or utilizing by-products. Sorghum with stress resistant capability has strong acceptance among the pastoral and agro-pastoral communities;
- Suitability of maize for irrigation in very vast land of Shabelle basin of Godey woreda is considered as an opportunity to promote its production in the form of mechanized commercial farm;
- Existence of basic infrastructure such as tarmac road and permanent power supply could help Godey to serve as center of production and supply of maize and sorghum on extended scale. This will also encourages the initiative of looking for the establishment of cereals processing plant and entering the local and international market with various types of products to be processed from

maize and sorghum. This will help to promote value addition at individual plot level through creating linkage with processing plants;

5.3.2 Constraints

- The production of maize is based on smallholder maize farms in many parts of the target woreda through rain fed except in Godey. As maize has limited tolerance to overcome moisture stress condition of the region, increasing production demands access to supplementary irrigation, which requires huge investment on the other;
- In areas with access to irrigation, there has been reports of pest infestation, damage by wild animals such as warthogs, and increasing cost of irrigation coupled with limited extension service support. Access to profitable market is another constraint hampering bulk production, as the local market has limited observing capacity. On the other hand transportation cost makes the product from this area to lose competitive advantage at enteral markets;
- There is no effort and initiative of processing maize at local level and transport processed product to potential market existing somewhere else. The prevalence of limited access to improved technology still makes the ideas of involving in value addition effort less feasible;
- As observed during the VCA process, In Godey town, the study team observed a group of women engaged in pounding maize using pistol and mortar to grind maize into locally suitable flour and then selling to consumers. However, such traditional mode of processing still has limited observing capacity, except supported with alternative technologies.

5.4 Vegetable and fruits VC

5.4.1 Opportunities

- There are opportunities and potential that would reinforce the need to increase vegetable and fruits production and marketing throughout the VC in domestic and international market. In usual trend, the VC of vegetable and fruits production and marketing is associated with attractive price and income;
- In terms of comparative advantage, the vegetable and fruits production localities of Somali region is endowed with seasonal advantage of producing vegetable and fruits during the rainy season and link certain portion to be supported with irrigation. The Somali lowland areas could be considered as ideal place to promote production of perishable vegetable and fruits through investing on underground water potentials and surface water catchment alternatives;
- The other comparative advantage is the proximity of Somali region, specifically the target woredas of the VCA to export market and thus gaining access to peak demand and high price advantage through meeting urgent delivery and fresh supply requirements;
- The increasing trend of consumers' preference for onion from Shebelle riverine areas in favor of quality, could be considered to serve as brand name for onion from Somali region. The situation

could serve to encourage vast production of onion and other vegetables to be supplied to the central markets;

- The advantage of having access to irrigation based vegetable and fruits production potential in Godey, Erer and Shabelle woredas as well as the prevailing huge potential to apply spate irrigation alternative in Shinille and other parts of the target area, is an indication of potential opportunities to engage in the production of vegetable and fruits in extended scale;
- Particularly, Godey onion has long shelf live compare to highland areas and can be processed at local level through drying and opting to supply dried onion in bulk quantity. Such dried onion products could be linked with many spices processing factories in Addis Ababa and other major cities across the country.

5.4.2 Constraints

- In the inputs supply side, there are rising inputs price in relation to seeds, chemicals, and fuel costs for irrigation based onion production. The situation is considered as discouraging factor that hinders the involvement of resource poor HHs in the production of vegetable and fruits in general and that of onion in particular;
- There is limited opportunity of access to credit service and as a result many small holders tend to approach people with financial capital to involve in share farming. The trend forces small holder to lose asset building potential while strengthening dependency on external resources to overcome the ever decreasing working capital;
- There is limited support related to extension and VC linkage alternatives, as the pertinent woreda level organizations have shortage of skilled experts with relevant participatory and market oriented extension approach. As a result, majority of producers rather apply their own experience and more of traditional cultivation techniques that often reduce productivity and product quality;
- There is limited technical knowhow in handling operation and maintenance of water pump, application of improved irrigation management skills, and recommended production techniques for different types of vegetable and fruits varieties;
- Seasonal fluctuation of price in relation to vegetable and fruits market added with improper farm planning leading producers to usually assume the position of price taker and then to shoulder associated risks including to vulnerability to knockout from the VC;
- Limitation in the application of appropriate storage, communication channels and alternative market outlets to overcome drop of demand in one market route;
- Limited support initiative that would enhance the application of collective action of vegetable and fruits produces in the VC.

5.5 Sesame VC

5.5.1 Opportunities

- There is established experience among the agro-pastoralists in selecting and maintaining seeds for later use and practice of traditional production without or with limited application of chemical fertilizers and other inputs;
- The Godey area has high potential to produce favorable varieties of sesame with much higher yield per hectare and high opportunity for extensive production through the application of mechanized irrigation system. The Godey area is endowed with suitable agro-ecology, fertile soil, and ample water potential for irrigation from Shebelle River;
- Sesame is also known for limited vulnerability to disease and pest that facilitate the application of simple agronomic practices in line with the work norm of agro-pastoralist. Sesame has a potential of serving as raw material in oil milling plants that can be handled at small scale level. This facilitates an opportunity for producers to involve in processing and selling oil and use its by-product for livestock feeding and then improve their share in the livestock marketing VC;
- The effort of sesame processing has the potential to add value to the product on the one hand while creating employment opportunity on the other. The cost benefit analysis indicates the associated increase of return on investment through involve in multiple VC stage such as production, processing, selling and end user of by-product as well;
- There is increasing trend in global market demand of sesame with enhancing trend of consumers' preference for domestically processed sesame oil which has the potential to create huge market for edible oil being processed from sesame. The availability of standard asphalt road connecting Godey with the central markets facilitate the opportunity of linking sesame producers with essential central domestic markets and feasible exporters firms;

5.5.2 Constraints

- Access to potential markets is considered as the major problem to the sesame farmers, as the link between producers and whole sellers is with lose bondage and on the top of this, there is heavy taxation and high transportation cost challenging market linkage with central and export market alternatives;
- Limited access to improved seed varieties and water pump for irrigation and tractor as well as prevalence of high labor cost. There is limited level of access to skill training on improved approaches of crop management;
- The application of traditional agricultural practice due to limited effort of support from research institutions and agricultural extension providing organs. This constraints the production of sesame to be seasonal depending on the rainfall pattern and annual production calendar. On the other hand, the situation has been enforcing local oil processing plants to face slack period and work with overcrowded capacity during the peak harvest period while leading to fluctuation of supply and associated demand;

6. VC Governance and Support Services

6.1 VC Governance

VC governance deals with the direct and indirect influence and control being exercised with in the value chain actors and indicates the roles each actors could play in determining sustainability of the value chain function and distribution of benefit among the value chain actors. The governance structure defines quality and benefit margin each actors should gain with the ultimate focus of determining the price of specific commodity at farmers' gate in line with expected selling price at most feasible potential end market. The VC governance defines the relationship between actors through controlling access to market information, limiting negotiation power and setting benefit margins each actors are expected to gain.

Value chain governance refers to the relationships among the buyers, sellers, service providers and regulatory institutions that operate within or influence the range of activities required to bring a product or service from inception to its end use. VC governance deals with power and the ability to control access to information, transfer of knowledge and facilitate performance and define competitive advantage. Thus, the findings of the VC assessment took into consideration the following factors that serves as guiding stars in the process of defining the degree of influence and magnitude of power in making decision in relation to VC operation and relationship between and among VC actors.

The major factors include organizational setup, social and financial capitals, product characteristics, regulatory actions and function and networking and business relations. The findings of the assessment is discussed in the table below.

VC Governance Factors and Functional Characteristics

VC Governance Factors	Functional Characteristics and Degree of Influence in the VC Operation
1. Organizational setup	▪ There are week organizational set up of producers, in most cases producers operate individually and this leads to have loose collective action; ▪ The Sumali cultural and traditional clan based tie and provision of priority to kinship relation is challenging the application of modern approach of organizational setup;
2. Social capital	▪ Valuable market information flows through the social framework that operates on the basis of kinship attachment; ▪ This provides strategic advantage for the brokers and wholesalers to have influential position in the entire VC functions; ▪ The prevailing
3. Financial capital	▪ Risks associated to vegetables and fruits requires financial dependable financial capital and sustainable flow throughout the year; ▪ This provides opportunity to few wholesalers to monopolize the VC functioning throughout the upper stages; ▪ These wholesalers uses their financial potential to create closed tie relationship between them, collectors and producers; ▪ Pre-harvest financial loan provision leads to domination of producers to accept the position of price taker;

4. Product characteristics	▪ Perishability of vegetable and fruits added with limited application of alternative production schedule puts producers to shoulder risks associated with price drop during peak production periods; ▪ Producers are price takers as they hardly negotiate on competitive price due to fear of post-harvest loss, in case the product is not sold;
5. Function of regulatory actions	▪ Function of regulatory actions in the VC emanates from the requirement to set product, process, and logistic standards, which then influence upstream and downstream chain actors through defining roles and responsibilities of each actors in the VC stages; ▪ Wholesalers have sufficient information about the supply of vegetable and which direction it flows along the marketing channels and markets in different parts the country and cross-border trade as well; ▪ This weakness the application of rules and regulation that favors smallholders and reinforcement of pro-poor VC functions; ▪ The regulatory structures have limited capacity to influence wholesalers and retailers to act in favorable of producers and consumers;
6. Networking & business relation	▪ Networking and business relations operates on the basis of kinship structure which overlooks the importance of applying formal agreement and contractual relationships based business transaction that incorporates collateral and risk transfer alternatives; ▪ The functional network operates under the implicit interaction of wholesalers with brokers and retailers on basis of informal flow of information related to prevailing price and end market demand, local supply situation and prospects of harvest from various potential supply routes; ▪ Producers have limited options other than agreeing on the price the wholesaler is willing to offer, as the network of traders purposively make information flow more and more complex while focusing options to introduce knowledge and skills sharing among chain actors. There is no information and knowledge sharing mechanism among producers and buyers. ▪ There is low coordination among VC actors in exchanging information and transferring knowledge towards promoting the application of rules and regulations in fair situation; ▪ In the VC network, the wholesalers assisted by brokers play determinant role in entire operation of VCs commodities under discussion;

6.2 VC Support Services

The operation of VC encompass the full range of activities and services required to bring a product or service from its conception to sale in its final markets including inputs suppliers, service providers, producers, connectors, processors, wholesalers, retailers and buyers. The VC process at single or multiple stages might have access to service providers in the form of technical, materials and financial support either in unitary or integrated intervention. In this section, we tried to assess the contribution of some NGOs that have been providing technical, material and financial support with the aim to improve the efficiency of VCs in SRS in general and in the target study woredas in particular.

NGOs Promoting VC related Interventions in the Taregt Woredas.

1. MercyCorps Jigjiga Program Office

- MercyCorps Works in the GIZ target woredas except Godey with the objective to ensure sustainable markets for producers through providing capacity building support for market actors other than producers such as traders (wholesalers, retailers, input suppliers) and private enterprises;
- In promotion of VC improvement initiative in area of milk VC, the organization focused on capacity building support for milk collectors cooperatives through provision of training on milk hygiene and sanitation, business and financial management skills, as well as organizing exposure visit and linkage workshops with well-functioning VC actors in other localities;
- The support also includes provision of financial grant for the acquirement of relevant equipment such as deep freezer, improved milk collectors containers and milk testing instrument. The intention is to enhance the influential role of milk collection cooperatives in reinforcing milk hygiene and quality;
- At higher level, MercyCoprs had supported private enterprises such as Barawaqo milk process factory through provision of grants for the purchase of cool trucks and generators in integration with the establishment of cold rooms. The intention was to enhance milk intake capacity for processing and then to accommodate raw milk supply leading to constant demand and fair price throughout the year for producers;
- In the area of vegetables and fruits VC, the capacity support of MercyCrops focused on enhancing the capacity of inputs suppliers in Erer and Jigjiga (North and South) with the aim to increase the opportunity of access to improved seeds and tools for vegetables and fruits producers at their vicinity;
- To improve productivity in key livestock market systems, MercyCorps supported the undertaking of refresher trainings for CAHWS and pastoral producers on animal feed production, conservation and utilization for women pastoral groups as well as training in business management for private veterinarian pharmacies (PVP) and livestock traders through implementing the small scale competitive business expansion grants for the PVTs networks, establishment and improvement of milk collection points, establishment of livestock feedlots and holding grounds and increased animal feed production;
- As revealed through KII made with marketing program coordinator working for MercyCorps Jigjiga office, the effort of improving functional linkage between VC actors has not bringing the intended replicating effect, due to limited concern and commitment of relevant government offices and prevalence wholesalers' influence through the kinship based VC relationship;

- RAIN, with specific emphasis on adopting a market systems-based approach in a context that is environmentally, economically, socially and politically fragile operational considerations. RAIN moved to a systemic market development approach which identified and addressed underlying constraints in supporting markets. This refocus has achieved considerable success and provides substantial opportunities for learning, with early indicators pointing to sustainable system wide change.

2. **Save the Children Jigjiga office**

- Save the Children Jigjiga office focused on the implementation of a program entitled 'Building the Potential of Youth' through targeting Jigjiga North, Jigjiga South, Godey, Babile and Kabirdhar woredas. The purpose of POTENTIAL is to provide Ethiopian youth (ages 15-29) in rural areas and towns with access to workforce development/livelihood support and resources, tailored to their specific needs and market demand, so that they can a) achieve increased income and b) strengthen skills, knowledge and social capital required to achieve economic self-sufficiency over the longer-term. POTENTIAL is a USAID-funded program that promotes opportunities for young Ethiopians to positively contribute to the betterment of society;
- In line with, Save facilitated VC and labor market assessment that indicated live animal VC, animal fattening VC, and incense and gum VC as priority value chains in Godey while in Jigjiga locality, live animal VC, Shoats VC, and milk VC are identified as priority VC areas deserving program based support and intervention in line with promoting youth employment opportunities;
- The program is designed for 5 years and at the time of this study it is on the four years of implementation period. The plan is to address 4,600 youth and recently reached covering 2000 youths through facilitating micro financial linkage for 720 youths and encouraging the remaining to start self-employment through facilitating access to startup capital on their own means and mechanisms. In the case of facilitating access to micro-credit alternatives, Save played a role of taking collateral guarantee for youth;
- The main activities undertaken through potential program intervention includes identification of market potentials for women and youth, life skill training both soft and hard skills. The hard skill in particular is provided for those deserving special skills to link with potential employment and improve the situation of existing IGAs;
- Work based learning in the form of on job training supported by successive coaching through assigning woreda based facilitators and community based volunteers;
- In terms of progress made, the initial reaches that had access to micro credit have been progressing with the expected trend through paying loan regular pattern without a single defaulter so far;
- The provision of needs based functional training for three to four months through focusing on building commitment from inside-out. Creating opportunity jobless youth to earn regular income with incremental rate with the tendency and skills of maintaining regular record keeping related financial issues and progress in personal skills.
- Increasing trend of commitment to favor self-employment and dependency on own capital sources and this has been encouraging many fellow youth to appreciate the importance self-employment and tendency of overcoming dependency syndrome;
- Utilizing role models from the trained youths to serve as inspirational leaders in boosting commitment of self-initiation among non-target friends;
- The provision of training is mainly focused on personal development and negotiation skills for about 25 days through the application of motivational and adult learning approach to incorporate non-

literate youths. The exercise is focused on internalizing the findings of Rapid Market Assessment and leading the youth to focus on VC identification with potential for own engagement;

- Post training follow up is highly emphasized as part of the initiative on successive base within the initial one year with the aim to ensure regular progress through supporting target youth in overcoming short term challenges and handling bottlenecks;
- Working with and through government structure in particular Youth and Sport Bureau and Micro-Finance Enterprise on the basis of well-defined agreement also facilitate smooth flow of planned activities while facilitating the establishment of close working relationship at target woreda levels;
- The application of launching workshop at regional and each target woredas, regular implementation of joint review and monitoring exercise, as well as facilitating resource sharing at woreda level, specifically utilizing vehicle of Save and expert resource from pertinent government offices strengthened by process review meeting have been contributing for the effective implementation of the program;
- In relation to challenges and constraints, the program coordinator raised points related to frequent turnover of government staff without proper handing over process, limitation of line government offices in maintaining proper documentation and negative energy in connection with the prevailing attitude related to aid dependency syndrome.

3. **Aged and Children Pastoralist Association (ACPA)**

- Aged and Children Pastoralist Association, or ACPA, is the first local NGO in the Somali Region to receive direct USAID funding through a competitive process to lead the implementation of camel milk VC project.
- The overall objective of the USAID Camel Milk Value-Chain Development Project is to expand the productivity and competitiveness of the camel milk value-chain sector resulting in increased incomes and enhanced nutritional status of people in two zones of Siti (Shinile) and Fafan (Jijiga) of Somali Region with the plan to benefit more than 50,000 households;
- The project planned to work with Bureau of Livestock, Crop and Rural Development, and the Somali Pastoral and Agro-pastoral Research Institute through supporting the introduction and expansion of improved camel husbandry techniques at the household level while focusing on the provision of support for milk-marketing groups to improve milk hygiene and quality and link them with milk buyers and processers to receive better pay for their milk products;
- ACPA has been promoting improved livestock husbandry through supporting intervention in relation to improved breading and feeding. The promotion of milk hygiene and market linkage creation through strengthening milk cooperatives and facilitating working space in the urban centers with the intension to minimize the influence of middlemen and elongated VC stages that influences the benefits sharing proportion of milk producers;
- In collaboration with Jigjiga University and Sumali Region Agricultural Research Institutes, ACPA has been involved in the promotion of improved feeding and forage production alternatives with the intention to introduce hay making and application of concentrated forage;
- The trend of adaptation by agro-pastoralists is not promising, as far as the director of ACPA indicated during the discussion in his office. The prevalence of high political turmoil and frequent turnover of experts added with weak extension service are sited as the major factors that hinders the promotion of adaptation exercise and application of improved livestock production exercise;

7. Policies, Enabling Environment and Constraints

7.1 Policies and Strategies

1. The assessment also looked into policies and strategies that regulate and facilitates the operation and business interaction of VC process. The Rural Development Policies and Strategies of Ethiopia designed in 1994 makes the ultimate base of the agricultural development of the Nation. Under the Agricultural Development Led Industrialization as overarching framework for the consecutive development plans and policy directions, Agriculture Led Development covering both crop and livestock production and marketing has been pursued. Particularly, issues of commercialization and value addition of agricultural products got explicitly focus in the policies, strategies and plans of the government since GTP I (as of 2010).

2. Along with the broader Rural Development Policies and strategies, specific policies addressing agricultural marketing like Cooperative Societies Proclamation No. 986/2016 (Revised 2016) and Agricultural Cooperative Sector strategy 2012-2016 (ATA and MoA Revised 2012), Business Licensee Proclamation No. 686/2010 meant to address issues of agricultural inputs and out-puts marketing. The Ethiopian Commodity Exchange Proclamation and Warehouse receipt system proclamation also address output marketing for selected high value crops like sesame. The policies and regulatory frameworks cover aspects of quality standards, price capping, competitiveness, market infrastructure and market information system.

3. In the area of crop value chains (including Maize, Sesame and Horticultural crops), National Seed proclamation No 206/2000, the National Seed Industry Policy (Revised 2012/13), National Fertilizer Policy (1993), National Pest Control, proclamations and related directives provided the policy, strategies and instruments for improving productivity of the crops. Specifically, the Maize Sector Development Strategy (Working Document 2013-2017) is formulated by MoA and ATA (2012) to ensure all components of the maize sector addresses a comprehensive value chain approach in a coordinated manner.

4. In relation to improving production, productivity and marketing of livestock, relevant coverage is made in the rural development policy (2001) and subsequent plans (SDPRD, PASDEP, GTP I and II). The National Livestock Development Program (2009), Livestock Breeding policy and Strategy (2008 EC), Growth and Transformation Plan II (2015) and Livestock Master Plan (2015), all address issues related to production, processing and marketing in value chain commodity approaches with remarkable focus on dairy, small ruminant and live animals production and marketing strategies.

5. The Water Sector Strategy (MoWR, 2002) and national irrigation strategy (ATA, 2015) promote the development and use of agricultural water for irrigation to produce horticulture (vegetables and fruits). The Water User Association Proclamation (MoWR, 2012) also provides how to establish irrigation based cooperatives and promote efficient use of agricultural water.

6. The new businesses licensing proclamation The Ethiopian commercial Registration and Business Licensing Proclamation No.686/2010 requires separate licenses for wholesale trade, retail trade, export trade and input supply. According to the ministry livestock rearing, fattening, feed production and processing of animal products lie in different business categories needing different trade licenses.

7. As a cross-sectoral strategy, the agricultural development policy aims to bring growth in yield, marketable surplus and raw materials for industries through the application of dynamic agricultural extension system that meets the demands of the smallholder and growth targets of the government. The agricultural extension strategy has been designed and revised at different times. The latest one was developed in 2017 by Ministry of Agriculture and Natural Resources. The objective of the strategy is to transform Ethiopia's agriculture through the implementation of pluralistic extension system through providing demand-driven and market-oriented extension services to male, female and youth farmers, pastoralists and agro pastoralists.
8. In addition to poverty reduction and growth policy, there is cross-sectoral youth policy that focuses on respecting diversity, increasing rights, and supporting democracy in addition to capacity building. The policy outlines ways to support the health, judicial, education, and economic wellbeing of youth through the coordination of Ministry of Youth and Sports for the implementation of the policy. Nonetheless, much of the responsibilities is placed on family, civil society, and the youth themselves.

7.2 Enabling Support System

There are three types of recognized institutions that facilitate the enabling environment of value chains in Sumali region in general and the target woredas in particular. These institutions could be categorized as regulative, normative and cognitive institutions. Regulative institutions encompass government ministries, bureau and offices that focus on devising and enforcing mandatory legislation and regulations. Normative institutions are agencies that focus on promoting improved business practices and ethical standards. This category comprises research institutions and support provision agencies, such as the agricultural extension service providers. The third category refers to cognitive institutions that guide the reflection and perception of people on the basis of accustomed norms and customary patterns.

Normative institutions in this regard refers to organization providing institutional support with the objective to improve the efficiency of value chain functions. Some of the government institutions that are providing supportive service in the SRS are discussed below.

4. Somali Region Pastoral and Agro-pastoral Research Institute (SoRPARI)
• Somali Region Pastoral and Agro-pastoral Research Institute (SoRPARI) located at the capital of the region and with one branch office in Gode is in charge of promoting research and study in agricultural production in the region; • The institution focus on conducting agricultural research through taking into consideration the local environment while aiming at securing access to food and increasing agricultural income; • The institution collects relevant technical information and promotes important interventions focusing on researches with the aim to enhance adaptation of improved varieties and cultivation techniques on the basis of accumulated technical information in relation to practical crop growing experiments. • The institution works in close collaboration with NGOs involving in the VC promotion initiative and we observed some of the adaptation trail focusing on promoting improved livestock forage in Shinille woreda;

- The challenging scenario is the tendency of the community in internalizing the adaptation trial and approach of targeting model farmers as well as limited commitment of extension agents in engaging into down to earth promotional initiaitves.

5. Somali Region Livestock Development Bureau (SRLDB)

- The overall objective of the Livestock Development Bureau is to develop a competitive and more efficient livestock industry that contributes to the improvement of the wellbeing of pastoral and agro-pastoral whose principal occupation and livelihood is based on livestock rearing;
- The major thematic activities include feed resource and feeding packages development, rangeland development, animal disease outbreak investigation, prevention and control of livestock diseases, veterinary health service, adoption of technologies and innovations for livestock production, livestock breed improvement, market access and exploiting market opportunities, animal product processing and value addition, supporting small and large scale livestock investment;
- The challenging part is the overlapping responsibilities in relation to provision of agricultural extension services in relation to livestock extension support. Structurally, the extension agents are organized under the rural development bureau and have no vertical relationship with the livestock development office;
- The recent merging of the two ministries (MoARD and MoLF) into single ministry (MoAL) is expected to solve the stated structural problems. However, as revealed through the discussion made with some member of **Somali Region Livestock Development Bureau leadership team,** there is no intention of merging the Bureau with the agricultural development bureau in the Sumali region context.
- The other drawback as the head of veterinary health department head of the bureau expressed during the KII process is the disintegration of existing departments in working towards ensuring the attainment of market access and enhancing market opportunities in collaboration with NGOs working in this regard. The team leader indicates that their focal area is concentrated on promoting livestock health care while the market expansion unit deals with value addition issues. Thus, integration of working units within the bureau needs to get priority attention prior to dealing with support service at community level in collaboration with NGOs.

6. Sumali Region Bureau of Agriculture and Natural Resource (SR-BoANR)

- Responsible to implement activities outlined in the agricultural development and extension service strategic documents through overseeing integration and harmonization of various sectors;
- Responsible to facilitate the coordination and alignment of the intervention among development collaborates to ensure the delivery of integrated agricultural extension services;
- To familiarize the extension strategy among Regional and Woreda key stakeholders and facilitates cross learning through coordinating the collection and documentation of good practices;
- To facilitate creation of enabling environment for the provision of improved agricultural inputs for farmers and agro-pastoralists through strengthening functional linkage with relevant actors;
- To coordinate the establishment and proper operation of Pastoralists Training Centers (PTCs) while ensuring availability of relevant furniture and equipment as well as technologies for demonstration and trainings of pastoralists in both crop and livestock production.

• To coordinate the process of strengthening PTCs through active participation of community and capacity building towards enhancing agricultural knowledge and information services with the aim to promote market linkage and value chains enhancement.
7. **Somali Microfinance Institute (SMFI)**
• Somali Microfinance Institution Share Company (SMFI) is a microfinance institution with focus for the inclusion of customary and religious concerns of Sumali communities; • To serve such purpose, SMFI in partnership with MercyCrops and Belcash Technology Solutions PLC has been implementing a joint program that would enable SMFI to extend financial services to the unbanked population of the region via mobile phone banking and payment services; • The initiative has improved access to alternative financial services and self-employment leading increased incomes;

7.3 Constraints

1. Regardless of the policy and regulatory generic provisions, the value chain competiveness and development are constrained by various issues related to the enabling environment. In most cases, the available policies and instruments are not adequately understood and degenerated into practice at regional and woreda levels. The infrastructure, standards and systems set in the regulatory frameworks are not actually available at the ground. The institutional rollouts, applicable directives, capacities and capabilities at implementing institutions level have not developed yet to the extent being demanded to serve service seekers. The situation in turn has been providing favourable space for the operation of traditional customary mode of interaction in leading various value chain, irrespective of the prevailing bottlenecks and constraints.

2. Specifically, the dairy value chain is affected by low productivity, lack of product handing facilities (chilling, transportation), volatile market, weakned price incentive. The live animals' value chain is being affected by poor productivity (low carcass weight), lack of adequate feed, lack of standard in pricing/marketing, illicit cross-border trade, limited market and quarantine infrastructure and weak regulatory frameworks (LMD, 2013, MoA, 2015).

3. The VC assessment also indicates the prevalence of weak and poorly governed dairy cooperatives with limited institutional capacity to transform into processing and value addition engagements such as quality based pricing through overcoming problems related to product adulteration in the process of handling raw milk. Thus, the milk VC in the target woredas acts on the basis of traditional quality testing standards such as smelling and testing by milk collectors.

4. The promotion of integrated livestock business process might face regulatory challenges in relation to licensing and application of VAT on animal feeds marketing, illegal cross-border veterinary drugs trading has been discouraging investments in relation to quality improvement in the dairy farm , and livestock fattening business.

5. The rural credit services for smallholder farmers and pastoralist to initiate value chain in crop, dairy and live animal fattening and agri-business promotion is essential to commercialize and attain economy of scale. In this case, agricultural practices in the pastoral and agro-pastoralist environment

is associated with multiple risk factors leading financial institutions to demand collaterals. This limits the financial capacity of cooperatives to attain loan requirements of their members.

6. In the similar fashion, the crops value chains are affected by several constraints at production, processing, marketing levels. For instance, maize value chain is affected by low productivity, price volatility and demand sinks (ATA, 2012). Similarly, sesame production and marketing in Ethiopia has been facing various challenges including low productivity and quality, poor market infrastructure, long and traditional marketing channels among others.
7. The horticulture value chain is severely constrained by lack of quality seeds, availability and proper use of agro-chemicals, limited post-harvest handling technologies for perishable products, weak market linkages and value addition facilities. Meeting safety and quality standards for export markets remained challenging for smallholder farmers. Lack of cropping plan, use of appropriate technologies for water use efficiency, weak extension systems, lack of tax exemptions for farmers to buy micro-level irrigation technologies, lack of guideline and enforcement of agricultural water billing and poor operation and maintenance of schemes are constraining factors that regularly challenges competiveness and growth of vegetable and fruits value chain.
8. Challenges in relation to local government attitudes in terms of exerting control and with lesser effort and support to strengthen the enabling environment has been hindering the promotion of facilitative VC development approaches. This further constraints legalized operation, business registration and transparent operation of small and medium enterprises in the target woredas. The tendency has been favoring the prevalence of unfriendly business environment through challenging the application of competitive market systems.
9. There is constraints in relation to extension services in the area of promoting improved irrigation and livestock management added with the prevalence of inadequate focus on livestock research and alternative technologies to support the implementation of small scale irrigation at individual household levels.
10. The outbreak of conflict around Oromia and Sumali regions border and escalating to political issues has resulted in displacing a number of people that had been acting in various VCs. As the tensions has gone escalating throughout the year, formal government sector functions and VC relations have been affected in continuous trend.
11. The application of traditional norms and established clan based linkages in the operation of market system is major constraint in promoting transparent and completion favored VC governance system. In the Sumali community, the clan based traditional system overlooks the importance of government driven legislation and regulations. The tradition rather considers the application improved VC governance as constraint to the smooth functioning of customary norms and value. As a result, the traditional leaders rather focus on reinforcing barriers to the free flow of information and VC commodities through favoring kinship VC relations and business interactions. Such support for function of traditional based VC governance alternatives has been constraining the application of formal VC strategies that would promote fair benefit sharing mechanisms and improvement of VC towards incorporating modern mode business interactions.

12. Pastoralists and traders in Somali Region have no direct access to ports and thus have to access foreign markets through the ports of Berbera, Bossaso and Djibouti. This in turn provides influential position for VC actors from Somaliland and Djibouti, whose ports are used by livestock exporters. The trade has been going on for centuries on the basis of social and economic ties between traders on both sides of the border. This makes ineffective the application of rules and regulation to control cross-border trade.
13. In relation to youth employment, the major constraints for both those actively engaging in pastoralist mode of livelihood and still wishing to remain in the livelihood system as well as for pastoral dropouts are summarized prevalence of limited access to information and skills related to modern pastoralism approaches, opportunities and improved mode of livelihoods within the pastoral setup;
14. The tendency of looking for skills and knowledge that could enable them to engage in other mode of life rather than pastoralism such as commerce, mechanic and driving, metal and wood works, construction and related fields;
15. Low level of education and prevalence of huge number of non-literate youths and women with inability to read, write and compute basics maths that would help to participate in technical and business skills training programs as well as to handle intended business through taking care of records and bookkeeping in proper manner;

8. Conclusion and Recommendation

8.1 Conclusion on Milk and Shoats Fattening VCs

The pastoral mode of live depends on livestock rearing as the core livelihood support function. The agro-pastoral and pastoral households of the target five woredas involve in livestock production and fattening business in one way or another. The ecology of the woredas influence the level of focus on one or another type of live animal production and fattening, for instance sheep is preferred to goats in JN-Haroreys and the reverse is true in JS-Shabelle.

The target woredas of the VC study are located in strategically advantageous position with close vicinity to export market outlet and access to seasonal export demand price peak. The situation has been creating an opportunity to pastoralists to plan ahead in expectation of maximizing benefits from livestock production and fattening, in particular from shoats fattening which is mainly the areas of women's engagement in relation to role division of pastoralists and agro-pastoralists.

The mode of production is traditional with almost total dependency on open grazing and partial support with feeding from crop residuals. The application of supplementary feeding is practical among pastoralist and agro-pastoralists that involve in fattening business. The livestock research institute has developed and disseminated improved forage varieties even though there is minimal effort from the community side in adopting the initiative, due to limited extension service.

The involvement of pastoralist in livestock VC incorporates milk production, shoats fattening, live animals trading VCs. The involvement of women is concentrated in milk and shoats VCs, while the area of cattle and camel is more or less reserved to the engagement of men. The division of labor is seemed as based on the biological difference of women and men. The women not only involve in the production and fattening process, but also have the privilege to use the income from such VCs. The shoat and milk VC is also under the influence of women up to collection and in the stage of primary market interaction.

The overall dependency of livestock production on natural environment leading to challenges related to variation of supply of milk and shoats as well as big animals on seasonal base. The supply of livestock and livestock products increases during wet seasons and decline with the length of dry season, for instance, the supply of milk decreases by 60% during the elongated dry season.

The milk VC could be analyzed in two division. The initial stage that incorporate inputs suppliers and producers while the subsequent stages includes actors starting from collection to retailing. In terms of benefit sharing, the ratio of the initial stage is 40% of the total benefits being generated from the entire VC. In relation to contribution, the second stage of the VC has limited effort in improving quality and distribution networks.

The VC support initiative and VC governance structure has vivid limitation in providing relevant support and coordinated supervision process. The provision of livestock extension and vet service is almost at the stage of non-functional. The livestock trade and market information is dominated by the broker, known as Delala who have clan based linkage with producers. This has a limiting factor in promoting free market and right of access to competitive marketing that have comparative advantage to the pastoralists and agro-pastoralists.

8.2 Recommendation on Milk and Shoats Fattening VCs

- There is a need to provide sustainable and integrated support for the livestock production VC actors operating in the stage of inputs supply so that to have the required capacity that would enable to address demands related to feeds and drugs supply;
- The need to involve producers to focus on the production of locally feasible livestock forages and improved feed varieties through introducing drought resistant species in the agro-pastoral mode of crop production
- The importance of promoting capacity development of livestock extension service in line with incorporating livestock marketing strategies as guiding pillar of extension service among the pastoral and agro-pastoral communities. There is a need to focus on livestock management experts and vet technicians capacity building so that to encourage them provide needs based training for pastoralists and agro-pastoralists towards bringing the attitude of thinking pastoralism from marketing perspective;
- There is a need to organize producers into marketing cooperatives so that to have collective decision power and influential role in shoats VC starting from inputs supply up to reaching end markets and gaining fair share of benefits out of their engagement in the shoats VC;
- The need to promote access to reliable market information through establishing livestock market info networks with focal activities of collecting, analyzing, interpreting and disseminating relevant and realistic market information. There is a need to facilitate the establishment of mini-markets and collection centers that works on the basis of close linkage with primary market situated at nearby distance;
- The need to promote VC literacy and entrepreneurship skills improvement among the producers and inputs supply value chains actors. This will help to improve the understanding of VC principles, concepts and functions with the aim to enhance ultimate influence in the VC operation.

8.3 Conclusion on Vegetable and Fruits VC

The Somali region in general and the target woredas in particular have huge potential and comparative advantage to promote vegetable and fruits VC. The Shebelle riverine basin is endowed with high volume of water flow throughout the year along the fertile land. Erer woreda has access to irrigation water from the four rivers coming from the Oromia highland and covering 9 kebeles out of 15 kebeles in the woreda, although there is shortage of water in addressing the irrigation demand of all HHs. The ecology of this area, favors the agro-pastoralists of the woreda to produce the ever sweet species of citrus, specifically orange, with known brand of 'Erer Orange'. There is potential and experience of producing high quality onion, tomato and other types of vegetables as well.

Shinille woreda has potential to the application of ground water as a source of irrigation. The Harawe valley is identified as having huge underground water potential. In recognition of this, the pastoral development program has been promoting a large scale ground water development project for the purpose of enhancing the opportunities of access to sprinkler irrigation. During the time of the VC assessment, the FGD & KII participants from Harawe kebele indicated the encouraging prospect of the project towards engaging many households in irrigation based production alternatives.

Some woredas, specifically JS-Shebelle has spate irrigation potential. The Shebelle valley and other small flood gorges could serve as potential sites to develop spate based irrigation and engage youth, women and pastoral dropouts as respective VC actors through developing full-scale project with appropriate design prior to mobilizing the target beneficiaries. Issues related to conflict of interests among the upper and downstream users as well as associated environmental impacts deserve thorough investigation prior to entry phase.

The vegetable and fruits VC is operating under various pressures staring from environmental factors to knowledge and skills gaps of VC actors, which has been hindering producers of vegetable and fruits from attaining effective resource utilization and claiming equitable benefit sharing. Engaging of youth, women and pastoral dropouts in the vegetable and fruits VC is considered from active involvement of women and youth in the production and collection part, though the place of pastoral dropouts is somewhat difficult to define, as they lack certain form of attachment either to the urban or rural household setups.

Feasible entry points are determined by the relation and asset potential of each individuals rather than group based action, as the prevailing VC structure is being defined by VC actors with influential power at the stage of wholesaling. The VC governance and support structures are not active and needs responsiveness in addressing the challenges of VC operation and relationship of actors towards ensuring fair benefit and equitable access information and rights of entry to potential VC stages.

Thus, the engagement of youth, women and pastoral dropouts deserve extensive training and competency building prior to organizing and involving in feasible potential IGAs and VC stages. The issues of availing starts up working capital deserve paramount attention, as this VC demands dependable cash flow status. That is why the sector is dominated by few individuals that are operating at collection and wholesaling VC stage and play influential role in determining the price and controlling entry loopholes throughout the entire VC stage, except at producers' level, which deals with access to irrigable plot.

8.4 Recommendation on Vegetable and Fruits VC

- To promote improved agronomic practices through building the capacity of vegetable producers in terms of knowledge, skill and experience. The effort of continuous capacity building exercise deserve attention to enhance vegetables and fruits producers to develop relevant skills related to pre and post-harvest vegetable management practices;
- Facilitating the establishment of dependable inputs supply centers that works in close collaboration with producers. The inputs suppliers could be organized from women, youth and pastoral dropouts through involving producers as shareholders so that to have influence in VC operation;
- The credit service at micro enterprise level and commercial banking services need to incorporate credit facilities that could address the cash demand of vegetable and fruits VC actors. Short term loans and time specific credit service could have the potential to leverage vegetable and fruits producers from the pressure of informal money lenders in the shade of 'use and return up on harvest' base. This type of informal credit facilities have been limiting producers from taking advantage of competitive marketing and pricing, as the lender has the privilege of determining the time of collection and mode of selling;

- There is a need to strengthen the extension service and VC governance structure. The regional government needs to see the opportunity of availing vegetable extension experts rather than assigning experts trained in general agronomy. The VC governance structure needs to restructure and operating in transparent and accountable approach to address the expectation of producers through minimizing the unfair interest of VC actors operating starting from collection up to retailing;
- The promotion of training and capacity building for producers as core operator of the VC. Improving access to market oriented extension and information sharing, understanding and initiating collective engagement in the VC in strategic direction with the ultimate success related to overcoming or minimizing the influence of other actors in the process of price setting and VC linkage;

8.5 Conclusion on Crop and Oil Seeds VC

The production of crops and oil seeds are part of the livelihood engagement of agro-pastoralist and pastoralists that have access to irrigation based production potential, specifically those situated in the Shebelle riverine areas. The production of maize is considered as the major engagement with the aim to utilize corn grain as stable food and maize stalks as supplementary livestock feeding. The volume and intensity of maize production is high in Godey as a result of irrigation based production alternatives. The production of sorghum is also considered as the major engagement in the other moisture stress areas in the target woredas.

The production of sesame is well accustomed in Godey as high value cash crop with the purpose to use its seeds as raw material in oil processing and the by-product for animal feeding in particular for animal fattening. The processing of maize is well known in Godey, though handled in manual ways to serve household consumption and recently there is some initiative of packing and transporting to feasible markets. The production of maize and sorghum is handled in parallel line in areas that are suitable for both types of cereals while the production of sesame is restricted to Godey area through the application of irrigation based farming.

The production of cereals and oil seeds usually undertaken in small scale traditional cultivation mechanism except the application of irrigation in Godey areas. The effort of supplementing rain fed production with irrigation enables those with potential of access to overcome the moisture stress condition of lowland area. The effort of processing sesame into oil seeds enables the producers to gain increased advantage from selling processed oil with additional benefit margins than selling the sesame seeds without processing. The by-product is also additional advantage that encourages livestock producers to engage in fattening business.

The market demand and corresponding price of maize and sorghum vary in line with production volume and supply of food aid to address emergency and humanitarian crises. In terms of sesame, the global market is found on increasing demand scenario. The domestic market has increasing trend of preference for domestically processed sesame oil. The situation will enhance the engagement of youth and women in the sesame VC, particularly processing and marketing of processed oil.

8.6 Recommendation on Crop and Oil Seeds VC

- Introducing maize milling machines to facilitate the grinding process in different types of grain with the purpose of value addition. This will engage many women in the process of milling, packaging and trading throughout the value chains. The potential for processing is high and many informants recommend the importance of a medium size corn milling machines in Godey as there is permanent power supply;
- The importance of promoting capacity building through improving human competency and access to investment capital in order to transform the production of maize and sorghum as well as sesame by-products for the purpose of animal feeding and then transforming the livestock VC into modern dairy farm and fattening activities;
- To improve the production process and then increase productivity level, there is a need to improve the VC stage in the areas of inputs supply in association with introduction of improved seed variety, small scale tractors and technologically sound irrigation equipment and design supported with the provision of needs based training on agronomic and post-harvest management practices,
- To strengthen collective marketing through supporting cooperatives or contract marketing schemes that would enhance the bargaining power of cereals farmers and then stabilize selling prices during unexpected drop of demand at pick harvest period;
- There is a need to introduce and promote spate irrigation techniques in maize and sorghum producing areas and then introduce the adoption of sesame production as cash crop in order to overcome the moisture stress condition of most law land areas and still gaining advantage from low level of sesame's vulnerability to disease and pest infections;
- The Godey area has high potential to produce favorable varieties of sesame with much higher yield per hectare in comparison with other parts of Ethiopia, but has no linkage with the central market due to limited attention from VC supporting agencies that are operating at national level;
- To strengthen the involvement of youth, women and pastoral dropouts, there is a need to promote the application of micro-scale cereals and oil seeds processing into various kinds of food stuff and gaining from value addition and alternative marketing advantages;
- To facilitate access to finance, there is a need to vitalize users' friendly credit modalities that take into consideration the cultural and religious background of the target community. The application of Islamic Banking Scheme could serve the purpose of addressing the financial needs of sesame producers and processors;
- In terms of marketing, there is a need to create procedural linkage between producers and traders working in the sesame export VC. In this regard, organizing producers and individual processors into marketing cooperatives with the aim to enhance their bargaining power through collective action and networking;
- The application of solar power pumps instead of diesel engine for irrigation to reduce cost of production that would enhance benefits margin for producers while supporting sustainability of engagement.

Annex

- Annex 1: Tables
- Annex 2: TOR, GIZ-VCA, August 21, 2017;
- Annex 3: Inception Report (Revised Version), March 13, 2018
- Annex 4:Questionnaire (Revised Version), March 19, 2018

References

- GIZ-ValueLinks 2.0, Volume 1 Value Chain Analysis, Strategy and Implementation, Manual on Sustainable Value Chain Development: GIZ ValueLinks, July 2017;
- GIZ-ValueLinks 2.0, Volume 2 Value Chain Solutions, Manual on Sustainable Value Chain Development, January 2018
- GIZ-Project Description: Strengthening Drought Resilience in Somali Region
- GIZ-Camel Milk Value Chain Development Jijiga, Somali Regional State Stakeholder Workshop Report;
- Value Chain Analysis for Ethiopia: Agricultural Growth Project - Livestock Market Development (AID-663-C-12-00009), March 31, 2013;
- Smallholder dairy production and marketing systems in Ethiopia: IPMS experiences and opportunities for market-oriented development (Working Paper No. 31), 2013 International Livestock Research Institute (ILRI);
- Regional Overview and Summary of the Results of the 2015 Household Economy Analysis Baseline Update of Somali Region, Ethiopia
- Labor Market Assessment and Value Chain Identification For Gode Woreda, Somali Regional State: Save the Children International-Ethiopia, February 2016;
- The Lower Shebelle Irrigation Scheme in Ethiopia: an Assessment of Productive Options, Ethiopian Somali Regional State, December 2013;
- End Market Analysis of Ethiopian Livestock And Meat, USAID, 2009
- Demese Chanyalew. 2015. Ethiopia's Indigenous Policy and Growth: Agriculture Pastoral and Rural Development. Mater Printing Press. Addis Ababa.
- Demese Chanyalew. 2017. The Quest for Change. Ethiopia's Agriculture and Pastoral Policies, Strategies and Institutions.
- USAID. 2013, Prepared by AGP-Livestock Market Development Project. Value Chain Analysis for Ethiopia: Meat and Live Animals, Hides, Skins and Leather and Dairy. Expanding Livestock Markets for the Small-holder Producers.
- Terefe Negasa Abebe, 2016. Review of Sesame Value Chain in Ethiopia. International Journal of African and Asian Studies. ISSN 2409-6938 An International Peer-reviewed Journal. Retrived on 1st August 2018. www.iiste.org
- Oxfam 2015. Irrigation Extension Policy and Allied Issues Analysis.
- PROCLAMATION No. 985/2016 COOPERATIVE SOCIETIES PROCLAMATION
- MoA and ATA. 2012. Cooperative Sector Strategy, MoA and ATA 2016. National Irrigation Strategy
- Ministry of Information. 2001. Rural Development Policies, Strategies and Instruments.
- MoL. 2015. Livestock Master Plan and MoA. 2009. Livestock Development Program.
- MoFED. 2010. Growth and Transformation Plan (2010-2015). Main Text
- NPC. 2015. Growth and Transformation Plan (2015-2020). Main Text