

BUILDING RESILIENCE THROUGH SOCIAL SAFETY NETS IN SOUTH SOMALIA PROJECT



OPPORTUNITIES FOR INCOME GENERATION ACTIVITIES IN LOWER JUBA: A RAPID VALUE CHAIN AND COMMUNITY LIVELIHOODS ASSESSMENT

Opportunities for Income Generation Activities in Lower Juba: A Rapid Value Chain and Community Livelihoods Assessment

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TABLE OF CONTENTS

| | |
|------------------------------------------------------------------------------------------------------|----|
| Executive Summary | 6 |
| Section 1: Background to the assessment | 9 |
| Introduction | 9 |
| Demographics and groups in Lower Juba | 9 |
| Livelihoods and vulnerabilities in Lower Juba | 11 |
| Section 2: Methodology for the assessment | 12 |
| Purpose of the assessment | 12 |
| Study Approach and Methodology | 12 |
| Data collection methods | 15 |
| Section 3: Understanding livelihood and value chains that were important for income generation | 16 |
| Understanding livelihoods and incomes in Lower Juba | 16 |
| How households in utilize their livelihoods and community assets for IGAs..... | 16 |
| Income generation activities in the region..... | 17 |
| Income generation activities and stream interventions..... | 18 |
| Important value chains in Lower Juba Somalia | 19 |
| The livestock related value chains | 19 |
| Livestock value chain | 19 |
| Relevance of the livestock value chain for the target group | 19 |
| Current presence of target population in the value chain | 19 |
| Nature of their participation in the value chain | 20 |
| Appropriateness of sector for the poor..... | 21 |
| Opportunities for sector growth | 22 |
| Likelihood for sector growth | 22 |
| Scope for improving the target group's income generation activities | 22 |
| Feasibility to stimulate change | 22 |
| Willing and able market actors..... | 22 |
| Conduciveness of political economy | 23 |
| Likelihood of distortion | 23 |
| The milk value chain..... | 23 |
| Relevance of the value chain for the target group..... | 23 |
| Current presence of target population in the value chain | 23 |
| Nature of their participation in the value chain | 23 |
| Appropriateness of sector for the poor..... | 24 |
| Opportunities for sector growth | 25 |
| Likelihood for sector growth | 25 |
| Scope for improving the target group's income generation activities | 26 |
| Feasibility to stimulate change | 26 |
| Willing and able market actors..... | 26 |
| Conduciveness of political economy | 26 |
| Likelihood of distortion | 26 |
| Agriculture related (crop) value chains | 27 |
| Relevance of the agricultural value chain for the target group | 27 |
| Current presence of target population in the value chain | 27 |
| Nature of their participation in the value chain | 27 |
| Appropriateness of sector for the poor..... | 29 |
| Opportunities for sector growth | 29 |
| Likelihood for sector growth | 29 |
| Scope for improving the target group's income generation activities | 30 |
| Feasibility to stimulate change | 30 |

| | |
|----------------------------------------------------------------------------|----|
| Willing and able market actors..... | 30 |
| Conduciveness of political economy | 31 |
| Likelihood of distortion | 31 |
| Commodity trading..... | 31 |
| Relevance of the agricultural value chain for the target group | 31 |
| Current presence of target population in the value chain | 31 |
| Nature of their participation in the value chain | 31 |
| Appropriateness of sector for the poor..... | 33 |
| Opportunities for sector growth | 33 |
| Likelihood for sector growth | 33 |
| Scope for improving the target group's income generation activities | 34 |
| Feasibility to stimulate change | 34 |
| Willing and able market actors..... | 34 |
| Conduciveness of political economy | 35 |
| Likelihood of distortion | 35 |
| Fisheries related value chains | 35 |
| Relevance of the agricultural value chain for the target group | 35 |
| Current presence of target population in the value chain | 35 |
| Nature of their participation in the value chain | 35 |
| Appropriateness of sector for the poor..... | 37 |
| Opportunities for sector growth | 37 |
| Likelihood for sector growth | 37 |
| Scope for improving the target group's income generation activities | 38 |
| Feasibility to stimulate change | 38 |
| Willing and able market actors..... | 38 |
| Conduciveness of political economy | 38 |
| Likelihood of distortion | 39 |
| Nature based value chains | 39 |
| Relevance of the value chain for the target group..... | 39 |
| Current presence of target population in the value chain | 39 |
| Nature of their participation in the value chain | 39 |
| Appropriateness of sector for the poor..... | 40 |
| Opportunities for sector growth | 40 |
| Likelihood for sector growth | 40 |
| Scope for improving the target group's income generation activities | 41 |
| Feasibility to stimulate change | 41 |
| Willing and able market actors..... | 41 |
| Conduciveness of political economy | 41 |
| Likelihood of distortion | 42 |
| Section 4: Conclusions and Recommendations | 43 |
| Recommendations addressing the challenges facing IGAs in Lower Juba | 43 |
| Recommendations for addressing the underlying value chain constraints..... | 45 |
| Livestock related value chains (Live livestock and milk value chains..... | 45 |
| Agriculture related (crop) value chains | 45 |
| Fisheries value chain..... | 46 |

ACRONYMS AND ABBREVIATIONS

| | |
|---------------|-------------------------------------------------------------------------------|
| ACTED | Agency for Technical Cooperation and Development |
| ADESO | African Development Solutions |
| ARC | America Rescue Committee |
| CAHWs | Community Animal Health Workers |
| FAO | Food and Agriculture Organization of the United Nations |
| FGDs | Focus group discussions |
| FSNAU/FEWSNET | Food Security and Nutrition Analysis Unit/Famine Early Warning System Network |
| Ha | Hectares |
| HEA | Households' Economic Analysis |
| ICRC | International Committee for the Red Cross and Crescent |
| IDPs | Internally Displaced Persons |
| IGAs | Income Generation Activities |
| JCCIA | Jubaland Chamber of Commerce, Industry and Agriculture |
| JRIA | Jubaland Refugees and IDPs Affairs Commission |
| NGOs | Non-governmental organizations |
| MT | Metric Tonnes |
| SoSh | Somali Shilling |
| SOWELPA | South Western Livestock Professionals Association |
| STREAM | Somalia Resilience Action Consortium |
| UNHCR | United Nations High Commission for Refugees |
| USD | United States Dollar |
| VCA | Value Chain Analysis |

EXECUTIVE SUMMARY

The Somalia Resilience Action Consortium implemented by the African Development Solutions (Adeso) and the Agency for Technical Cooperation and Development (ACTED) aims to provide a sustainable opportunity for resilience building for households in Lower Juba. In order to refine the design of this new project and help build household and community level resilience to drought and other hazards, the Consortium undertook a rapid value chain and community livelihoods assessment in Lower Juba region. The assessment identifies and assesses the potential value chains and linkages in the pastoral, riverine, agricultural and agro-based sector of the Lower Juba economy. The assessment was to determine which income generating activities (IGAs) best suited to substitute negative coping mechanisms. Mixed method design comprising qualitative as well as quantitative methods was adopted in conducting the assessment. While a detailed review of secondary data was conducted, primary data was collected using structured and semi-structured interviews with sector experts and market actors, focus group discussion with market participants, market mapping, and market observations.

The assessment findings indicates that rural households earn income from diverse allocations of their natural, physical, financial and human capital assets among various income generation activities. They adopted the traditional occupational activities: livestock and livestock products, crop production, trading (including commodity trading, natural products sales, and small services sector), and labour markets. In each of these livelihood activities, the households undertook a combination of income generation activities (IGAs), which were determined by the household's gender, level of education, experience of the household and its assets, access to credit and remittances, geographic location, and level of influence and power among other factors. For instance, women were more likely to engage as producer sellers of products such as milk and grains or as market vendors of essential commodities, as they needed more time to do other family activities. It was noted the IGAs that engaged the food insecure households (estimated to compose of about 25 – 35% of the population) were casual labourers, producer traders, service providers, and in few cases market vendors or petty traders. These households were the most vulnerable, as they had limited access to remittance, kinship ties and credit given their weak inclusion into social and economic networks.

The five value chains including: livestock related value chain (livestock and milk), agriculture related (crop), commodity, fisheries and nature-based (wood fuel) were identified as priority value chains for income generation. The livelihoods baseline survey indicated that 76 - 88% and 100% of the poor, and middle and better off households respectively, derived their incomes from livestock. The key informants met indicated that livestock sale was the largest single source of household income for pastoralists and some agro-pastoralists. It was important for meeting household expenses, settling the cost of social obligations and purchasing food items. In the markets considerable number of urban poor, especially pastoral dropouts were engaged in brokerage, trading activities and labour provision in herding, trekking and associated services. It was observed that the livestock markets supported a host of small businesses such as petty trade, food kiosks, teashops, *miraa* (khat) sales, fodder sales and other businesses.

Milk and related enterprises are significant economic activity, with the rising commercialization of milk production in the region. Consequently, in addition to pastoral producers, even urban poor and pastoral dropouts are keeping some few milking goats in the peri-urban areas. It was reported that herders were becoming more strategic about the seasonal grazing areas, aligning them with milk collection routes so that they can deliver milk to markets. The producers collected milk in 3 – 5 litre jerry cans depending on the season; transported them on foot or on donkeys to markets or to collection points after which it was transported by trucks to urban markets such as Kismayo, Afmadhow and Doble where it was sold in bulk or in small quantities. The collection, distribution and sales of milk and milk products provided opportunities for IGAs, especially for women. It was also observed that the transportation and collection points attracted other business such as commodity and 'bush' markets for shoats.

Engaging agro-pastoralists and riverine communities, agriculture (rain-fed and irrigated) production was an important livelihood activity in Lower Juba. The contribution of crop agriculture to income and employment

went beyond direct production, and included other groups involved in the commodity trade chain who depend on agriculture, such as those in inputs, marketing, transport and processing. With most production meant for household consumption, maize, sorghum, cowpeas and sesame were among the important commodities grown locally. In addition vegetable and sesame were purposely grown for markets. The households were engaged directly in primary production activities, agricultural labor, in IGAs engaged in the collection and aggregation, transportation, wholesaling, retailing and distribution of product, and in casual labor opportunities associated with the IGAs. It must be noted that the value chain was particularly important as sources of employment, as poor and marginalized households were engaged in agricultural labor.

Commodity trading is the most common type of value chain that traders in rural areas are engaged in as the distribution and retailing of essential commodities has ease of entry for returnee entrepreneurs, both in rural and urban areas. Starting with provision of support services (such as loading and unloading, warehousing, and transportation) at the ports, distribution, and retailing, the value chain engages casual workers, traders, middlemen, transporters and retailers among others. Functional retail shops exist in the most remote areas of the region, retailing the essential foodstuffs and other commodities. Finally, fishing is a growing component of the local IGAs, generating cash for fisher folks during the fishing season. It engaged people as fishermen, ancillary workers (e.g. processors), boat owners, boat crews, suppliers of fishing products and repairmen of boats and nets, traders, brokers, and transporters among others. The fish market system is largely informal and subsistence based transaction, with the simplest marketing involving selling fish soon after landing.

The economic and livelihood activities of the households in the region was largely subsistence based and sensitive to climatic vagaries. Across the value chains similar constraints existed including failure of supply to meet demand (due to seasonality, lack of storage, poor transport infrastructure and a weak enabling environment) and market access constraints that had a direct impact on the IGAs, the IGAs had their own constraints and critical gaps in growth. Key among these constraints were: the vulnerability of the IGAs to hazards, inadequacy of infrastructure and credit required for growth of IGAs, inadequacy of marketing systems and skills, and limited diversification and value addition of existing IGAs due to lack of technical guidance, information and finance. Supporting functions - the services, inputs, and infrastructure for efficient market operations for all value chains were weak or non-existent. Access to extension, skills and technology is non-existent and producers are dependent on informal sources of information for markets. They are dependent on traditional methodologies for production and marketing. The market linkages are weak due to weak access to market information, transport and logistic facilities to deliver products to the market. Finally, this informal enterprise is small-scale, has a small profit margin, and is faced with restricted growth due to the low business acumen of owners, risky environment they operated in and limited capital investments.

Findings indicate that potential for growth exists across these value chains. For instance, traders interviewed, livestock sector growth was driven by domestic consumption of meat as well as exports to Kenya - estimated 60% of cattle sold in Garissa market were from region. Thus, the region has competitive advantage due to its proximity to domestic and cross border markets. Similarly, the demand for milk was said to be rising faster than even meat. Milk consumption is a long-term habit among Somalis and they have higher preference for fresh milk compared to the imported powder milk. In addition, milk represented the traditional staple food of the Somalis and a nutritional supplement for the increasing urban population. The demand for agricultural produce was high considering that all households in Lower Juba (including subsistence agriculturalists) depended on markets (supplied by both local and imported products) for food. It was expected that the demand would continue to grow considering the population increase and urbanization. Based on key informants, the trends in agriculture was good, with larger number of households in Doble taking up rainfed cereals and fruits and vegetable production in the last 3 years. Commodity market networks were the backbone of local economy activity, allowing a number of households to earn incomes in the distribution and retailing of essential products. Kismayo, Afmadhow and Doble are among the most important markets for these commodities, serving the most of the rural villages with food supply. Similarly, with better development of the fisheries value chain – increasing primary processing through sorting and freezing or chilling, increasing secondary processing by filleting and freezing, and improving the distribution networks of fisheries

to export markets, other districts in Lower Juba and Bay and Bakool region, opportunities exist for increasing incomes and employment opportunities.

The increasing demand within these value chains provides a scope for improving opportunities for income generation within them. For example, as livestock production becomes more commercialized, opportunities will arise in the sale and distribution of livestock inputs such as veterinary inputs, feeds and fodder, technical services, and water; and of livestock and livestock products and services e.g. distributing outputs produced in wholesale markets and aggregation points such as processing, transport, brokerage and marketing and promotion. In milk, opportunities existed in input supply, milk production, raw milk transportation, bulking and cooling, processing, transporting processed milk and milk products and retailing it to the final consumer. The key informants highlighted that increasing agricultural production and marketing had the potential to not only improve the sustainability of farming operations but also contributing to job creation, reduction of poverty and unemployment. Furthermore, Somalia was dependent on food imports and increasing local production and marketing provided an avenue for meeting the existing demand. A unique opportunity exists for young entrepreneurs to increase aggregate availability of commodities and services in remote markets. For example, by setting up partnerships with manufacturers, distributors, micro-franchises and financial services providers, youth entrepreneurship can facilitate penetration of new products and financial services in rural markets. In the fisheries sector, opportunities for improving the sector lie in improving fishing-related infrastructure and services — including fish processing, cold storage, and drying and canning of processed products.

Our recommendation below seeks to address the 1) constraints facing the value chains engaging the poor in Lower Juba 2) addressing the bottlenecks for income generation activities in which the target population were engaged in. The STREAM consortium will need to continue to support IGAs, as they are essential for households' incomes and food security, and contribute to the prevention of malnutrition. The provision of regular cash transfers to households, as it will increase the capacity of the households to grow incomes and opportunities, and that market to absorb new commodities and services. As we build partnerships with the target households and groups, there will be need to ensure adequate market feasibility and sufficient time is invested in the identification, mobilization and training of the community to improve IGAs ownership and sustainability and allow for maturation of the various businesses. It is recommended that program facilitates access to skills and advisory services e.g. starting small businesses, growing the small business, financial and business management etc. for the nascent IGAs, profit management, marketing, and group and conflict managements. As for the value chains, there will be need to facilitate the actors to meet the quantity and quality of products demanded in the markets through improved access to inputs, extension services and production practices, and access to finance for investments. Furthermore, smallholder's access to markets needs to be improved through aggregation services and processing of products. Finally, traders' capacities to address market inefficiencies, inadequate infrastructure, transaction costs, and capacities of market actors need to be addressed. More detailed recommendations are provided at the tail end of the report.

SECTION 1: BACKGROUND TO THE ASSESSMENT

INTRODUCTION

A consortium of the African Development Solutions (Adeso) and Agency for Technical Cooperation and Development (ACTED) is strengthening the household and community-level resilience of those chronically affected by food insecurity and humanitarian crises in Lower Juba (mainly rural pastoral and riverine communities). Through the Somalia Resilience Action Consortium (STREAM), Adeso/Acted aims to provide a sustainable opportunity for resilience building for these households. The STREAM program intervention is a long term, predictable, market-based intervention that has the potential to help households manage their own coping mechanisms and livelihood opportunities, minimizing the negative impacts of shock events. It includes regular and predictable cash transfers, livelihood support, improved access to early warning systems, disaster risk reduction, scale-up of cash transfers in the event of a shock or disaster and undertake research on social safety net programming. The program aims to reach 5,000 households with regular cash transfers and livelihood support, and the overall communities - an estimated 15,000 households, will benefit from improved access to early warning messaging, disaster risk reduction and a scale-up of cash transfers in the event of a shock or disaster event. In addition, it will support a body of research on social safety net programming, enabling service providers to continue to deliver better-designed safety net interventions into the future.

In order to refine the design of this new project and help build household and community level resilience to drought and other hazards, the Consortium undertook a rapid value chain and community livelihoods assessment in Lower Juba region. Actors interested in designing value chain interventions, will need to first of all understand what choices households make in particular context before funneling down to specific sectors and value chains amongst them that have the potential for generating livelihoods and incomes.

DEMOGRAPHICS AND GROUPS IN LOWER JUBA

Lower Juba region of South Somalia is composed of the districts of Kismayo, Afmadhow and Badaadhe Districts. The population estimates in the region are variable. For instance, the UNFPA, Population Estimates in the 18 Pre-war Region of Somalia 2014, put the population of the region at 489,307. However, according to a more recent estimate provided by the Ministry for Planning, Jubaland State, the region has a total population of 510,679, of which Kismayo had 344,544 while Afmadhow and Dobley had 79,829 and 36,517, respectively (Table 1). This population was spread through the three main livelihood zones of Southern Inland Pastoral, Juba Pastoral, and Kismayo Urban as identified by the livelihoods baseline assessment conducted by the project in 2016.¹ Lower Juba Households Economic Analysis (HEA) 2016 as shown in Figure 1. Unfortunately, most of the households across the region were considered historically “high risk” for food and nutrition insecurity. For instance, at the time of the assessment, an estimated 168,000 people are acutely food insecure, with 1,000 of them in emergency.²

Table 1: Estimated populations in Lower Juba

| Districts | Pastoralists | Agro-pastoralists | Urban | Fisheries | IDPs | Returnees | Total |
|--------------|----------------|-------------------|----------------|---------------|---------------|---------------|----------------|
| Kismayo | 73,513 | 78,764 | 110,270 | 15,753 | 42,000 | 24,244 | 344,544 |
| Afmadhow | 57,806 | 3,854 | 15,415 | 0 | 1,920 | 834 | 79,829 |
| Dobley | 25,065 | 0 | 8,355 | 0 | 1,820 | 1,277 | 36,517 |
| Badaadhe | 34,537 | 3,099 | 8,856 | 1,328 | 1,240 | 729 | 49,789 |
| Total | 190,921 | 85,717 | 142,896 | 17,081 | 46,980 | 27,084 | 510,679 |

Source: Ministry of Planning, Jubaland State of the Federal Republic of Somalia, 2016

¹ Livelihood Baseline Assessment for Building Resilience through Social Safety Nets in Lower Juba Region, Somalia

² FSNAU – FEWNET, Technical Release, September 2016.

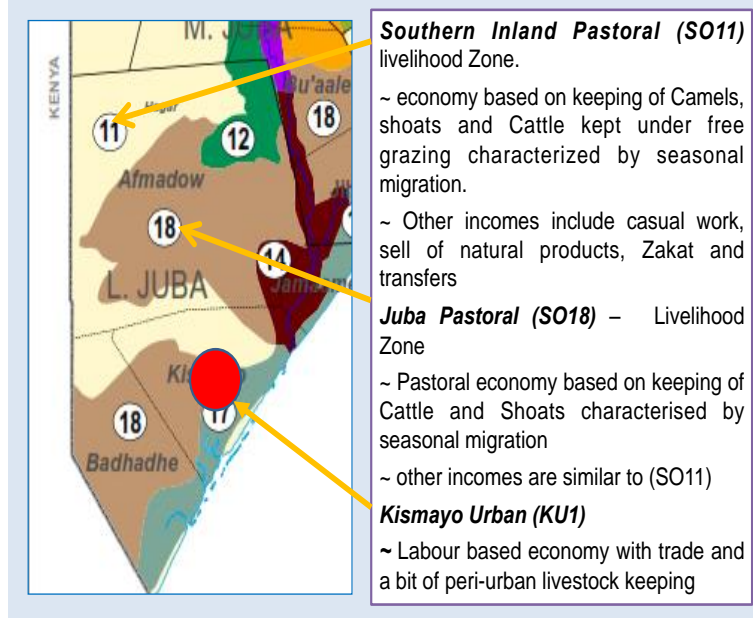
LIVELIHOODS AND VULNERABILITIES IN LOWER JUBA

In the baseline assessment, six major livelihood groups were identified: pastoralists, agro-pastoralists, riverine, urban population (including IDPs and returnees), and fisher folks. The pastoral households formed a central element of the economy of Lower Juba, especially in the inland areas of Afmadhow and Doble. The agro-pastoralists were more commonly in Afmadhow, Badaadhe and more recently in few pockets around Doble (along *Lag Deera* belt). They were mainly dependent on cattle, shoats and maize for their livelihoods, with maize being the main crop. As with agro-pastoralists, the riverine communities lived along the Juba River depending on domestic crop production and did not have any livestock holdings. They were involved in cereal production, mainly subsistence grain production. Sorghum and maize was the main staple crops produced, though other crops were also grown. In addition, to these groups, the main towns of Kismayo, Afmadhow and Doble were hosting the urban population and a large population of IDPs and returnees, estimated at 7,073 IDPs and 3,161 returnee households, as at October 2016.³ These IDPs and returnees numbers and their situation was likely to change with prolonged dry season, conflicts, and the closure of the refugee camps of Dadaab in the next six months from November 2016.

The economic and livelihood activities of the households in the region was largely subsistence based and sensitive to climatic vagaries. Typically the most food insecure households were either urban poor, IDPs or recent returnees. They were composed of larger number of members, displayed lower number of income sources or employment, and education. Given their weak inclusion into social and economic networks, they were the most vulnerable, as they had limited access to remittance, kinship ties and credit. These households were estimated to compose about 25 – 35% of the population. Food insecurity was also more prominent in households with elderly or handicapped household head or those that were taking care of elderly, handicapped or terminally sick members. Most of these households worked as irregular casual labourers, were dependent on social support or were engaged in low income earning activities – such as collection of firewood, charcoal and local building materials. Though rural and urban poor, IDPs and returnees dominated the food insecure households, the economic and food security situation was precarious for most of the households in the region.

In terms of vulnerabilities, for pastoralists, the shrinking of grazing resources over the years (due to settlements and insecurity), depletion of livestock assets (due to droughts, diseases and conflicts), and inadequate access to infrastructure, services and inputs were the major factors undermining their livelihoods. As for the agro-pastoralists and riverine communities, vagaries of climate (droughts and flooding), physical isolation from markets and services (due to poor infrastructure, insecurity and capacity limitations), and inadequate access to inputs, skills and services hindered their productivity. With limited access to employment and income earning opportunities, urban poor, IDPs and returnees were severely constrained in their food security. Though not directly dependent on agriculture and livestock, were relying on the associated markets for casual labour opportunities and petty trade. Nevertheless, some IDPs in Kismayo sporadically returned to their agricultural lands to engage in crop production whilst continuing to reside in the city for safety and security.

Figure 1: Lower Juba Region Livelihood Systems



³ Jubaland Refugees and IDPs Affairs Commission (JRIA) 2016

SECTION 2: METHODOLOGY FOR THE ASSESSMENT

PURPOSE OF THE ASSESSMENT

The assessment goal was to allow the consortium refine the design of the new project to help build household and community level resilience to drought and other hazards. By identifying and assessing potential value chains and linkages in the pastoral, riverine, agricultural and agro-based sector of the Lower Juba economy, the assessment was to determine which income generating activities (IGAs) best suited to substitute negative coping mechanisms.

STUDY APPROACH AND METHODOLOGY

To determine the IGAs in the different value chains best suited for the target population, a combined livelihood approach and value chain analysis (VCA) was employed. The **livelihood analysis** focused on how households appropriated and deployed resources (defined as natural, financial, human, social and physical capital in Livelihood Framework), and conditions and processes that empowered or constrained people from pursuing the opportunities and achieving successful outcomes. The livelihood analysis was based on detailed review of secondary data (see annex 1 for detailed documents list). The unit of analysis was household and their strategies vis-à-vis the priority value chains and their opportunities and constraints for income generation within them. Some of the key documents reviewed included livelihoods baseline assessment, household economic analysis, security assessment, stakeholder analysis, and disaster risk reduction assessment reports. The livelihood analysis was followed by a detailed **value chain analysis** (VCA) of the important value chains to get the picture of how the locals interacts with the markets and the way in which some the markets influence the workings of actors in other parts of the chain. The analysis identified the most valuable primary activities and support services to bring products and services to markets, in which the target population could generate incomes. The above approach was taken as it allowed to comprehensively outline not only the structure of the important value chains and nodes for IGAs within them, but it also outlined the ways in which these value chains and IGAs interacted with the livelihood strategies of the households in the target area.⁴

To prioritize potential value chains for consideration, an initial list of five important value chains was identified based on document review and stakeholder consultations. The five value chains included: livestock related value chain (livestock and milk), agriculture related (crop), commodity, fisheries and nature-based (wood fuel). Using the ILOs guideline, Value Chain Development for Decent Work⁵ as basis of defining the criteria, the value chains were scored against criteria of 1) relevance of the value chain to target group; 2) opportunities for sector growth; and 3) feasibility to stimulate change in the value chains. The criteria were given weights out of 4, with a weighting of 4 for a high importance criteria and 1 for a comparatively lower importance criteria.⁶ Table 2 shows for each value chain considered in the assessment, their scores for each criterion, their weighting, and then the total weighted score. The range across sectors was 68 – 36 out a potential score of 100. The milk value chain had the highest scores, several points above live livestock, crops and commodity value chains that followed closely. These value chains created most opportunities and had the largest engagements of the poor in Lower Juba, as households were engaged in trading of commodities from these value chains i.e. milk, livestock, crops and household commodities. Fisheries value chain, though important and engaging a poor and marginalized group, they were fewer and were attracting renewed support from NGOs such as America Rescue Committee (ARC) and the federal government. Wood fuel value chain,

⁴ The FEWSNET and Household Economic Analysis conducted in the program area have identified three livelihood zones in Lower Juba: the Southern Inland Pastoral, the Juba Pastoral, and Kismayo Urban livelihood zones.

⁵ ILO, Value Chain Development for Decent Work – How to create employment and improve working conditions in targeted sectors (Second Edition), Geneva, December 2015

⁶ All the criteria remain important though and a very low score in any of them might suggest against the sector even if scores are high for other criteria. The researchers will take this into account in sector selection.

though important had the lowest score by some way, mainly because it was unsustainable and politically risky to engage in at the time of the assessment.

Table 2: Scoring of the important value chains in Lower Juba, Somalia

| | Weighting | Livestock | Weighted | Milk | Weighted | Crops | Weighted | Commodity | Weighted | Fisheries | Weighted | Wood fuel | Weighted |
|---------------------------------------------------------------------|-----------|-----------|-----------|------|-----------|-------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Current presence of target population in the value chain | 2 | 4 | 8 | 4 | 8 | 2 | 4 | 3 | 6 | 3 | 6 | 3 | 6 |
| Nature of their participation in the value chain | 2 | 3 | 6 | 3 | 6 | 2 | 4 | 3 | 6 | 2 | 4 | 2 | 4 |
| Appropriateness of sector for the poor | 3 | 3 | 9 | 3 | 9 | 3 | 9 | 3 | 9 | 2 | 6 | 2 | 6 |
| Likelihood of sector growth | 3 | 4 | 12 | 4 | 12 | 4 | 12 | 4 | 12 | 3 | 9 | 2 | 6 |
| Scope for improving the target group's income generation activities | 3 | 3 | 9 | 3 | 9 | 3 | 9 | 2 | 6 | 3 | 9 | 1 | 3 |
| Willing and able market actors | 4 | 3 | 12 | 3 | 12 | 3 | 12 | 3 | 12 | 3 | 12 | 2 | 8 |
| Conduciveness of political economy | 2 | 3 | 6 | 4 | 8 | 2 | 6 | 2 | 4 | 3 | 6 | 1 | 2 |
| Likelihood of distortion | 1 | 3 | 3 | 4 | 4 | 3 | 4 | 3 | 3 | 2 | 2 | 1 | 1 |
| Total | | | 65 | | 68 | | 57 | | 58 | | 54 | | 36 |
| Ranking | | | 2 | | 1 | | 4 | | 3 | | 5 | | 6 |

DATA COLLECTION METHODS

A mixed method design comprising qualitative as well as quantitative methods was adopted. The primary data was collected using structured and semi-structured interviews with sector experts and market actors, focus group discussion with market participants, market mapping, and market observations. Data and information gathered included: the market structure, supply chain for inputs, market conduct, local food availability, market integration, product availability, pricing, traders capacity, and gender and conflict dynamics in the value chains. As for the identification of specific income generation activities, community focus group discussions, and in-depth interviews were held with the key actors to identify existing nodes of IGAs and strategic changes that could benefit the poor. These changes included opportunities for upgrading production or organizing collectively, opportunities for moving them up the value chain, removing the barriers for entry, and expanding the whole chain or pro-poor segments. Table 3 provides an overview of the main actors interviewed during the assessment:

Table 3: Main actors interviewed during the assessment

| Tool | Type of respondent | Number of respondents |
|--------------------------|--------------------------------------------------------|--------------------------|
| Key informant interviews | Primary producers | 8 |
| | Livestock product traders – Milk and meat | 6 |
| | Importers, wholesalers and commodity traders | 4 |
| | Livestock traders | 3 |
| | Government officials | 9 |
| | Chairman – Doble Farmers Association | 1 |
| | Jubaland Chamber of Commerce, Industry and Agriculture | 3 |
| | Financial Institutions | 1 |
| | NGOs | 6 |
| | CAHWs, SOWELPA and others | 5 |
| Focus group discussions | Groups – women, farmers and fisheries | 3 FGDs (23 participants) |
| | FGDs with IDPs and returnees | 2 FGDs (8 participants) |
| | Charcoal producers | 1 FGD (4 persons) |
| Total | 46 informants and 6 FGDs | |

We may need to note that unlike typical survey, value chain analysis was exploratory in nature. It involved interaction with all types of stakeholders in an open mind, requiring further triangulation and also to simultaneously generate pointers for intervention. Hence, once a key informant was purposively selected on their knowledge and importance in the value chain, and interviewed, we snowballed to identify other important chain actors. Nevertheless, deliberate efforts were made to triangulate all the data collected. In addition, while the study was conducted in Kismayo, Afmadhow and Doble, some of the value chains extended deeper into rural markets and forward to terminal markets in Kenya, and into some areas that were inaccessible for security reasons. Due to time limitation and security concerns, it was difficult to therefore reach all the market actors involved directly or indirectly in the value chains. However, the study team endeavoured to triangulate the information collected and supplement the information with studies carried out in the area and phone interviews where possible.

SECTION 3: UNDERSTANDING LIVELIHOOD AND VALUE CHAINS THAT WERE IMPORTANT FOR INCOME GENERATION

This section analyses the existing and potential opportunities for livelihoods and income generation activities in Lower Juba. It provides background that is relevant when dealing with livelihoods and income generation in the region. Following an analysis of the livelihood activities, we look at the value chains important for income generation. The engagement of the target population in production and value addition processes is also discussed.

UNDERSTANDING LIVELIHOODS AND INCOMES IN LOWER JUBA

Rural households earn income from diverse allocations of their natural, physical, financial and human capital assets among various income generation activities. The chosen combination of assets and activities is often referred to as the household's "livelihood strategy".⁷ Therefore, the amount of income earned and even the type of activity undertaken by a household is a function of the assets it controls. Hence, households with similar bundles of assets might be limited to similar livelihood strategies.

Below we look at how households in the region utilize their livelihoods and community assets for IGAs, the types and characteristics of IGAs in the region, and how STREAM implementation will impact on the livelihoods, markets and incomes of target households.

HOW HOUSEHOLDS UTILIZE THEIR LIVELIHOODS AND COMMUNITY ASSETS FOR IGAS

The market analysis confirms that livelihood strategies adopted by households in the region were the traditional occupational activities: livestock and livestock products, crop production, trading (including commodity trading, natural products sales, and small services sector), and labour markets. However, it must be noted that households depended on diverse portfolio of activities and incomes, so households were of mixed types. The level of access to different livelihoods and community assets, capacities and activities (or 'capitals') determined the strategies adopted by the households. Therefore, certain activities may be beyond the reach of households without access to the required financial, natural, physical, human or social capital. For instance, households with fewer assets were engaged on lower return activities. For example, as shown in Table 4, important income sources of households in the region depended on their wealth group, which in turn was determined by their livestock ownership (number and types of species), and the amount of land cultivated and crops grown. It was also noted that the ability of households to diversify their incomes to cope with unexpected shocks or to minimize risks was important, more so in urban areas where markets provided increased opportunities.

In terms of barriers to entry of households into the different livelihoods, it was noted during the interviews that the experience of the household and its assets determined what type of activity the household pursued. Other important factors noted included the access to credit and remittances, as households with higher financial liquidity were said to engage in higher return livelihood activities such as commodity and livestock trading, in comparison to poorer households that engaged in lower return livelihood strategies such as casual labour and firewood/charcoal sales. Geographical specificity of the household was also important, as nature and scale of economic activities varied between location in Lower Juba – for example larger towns such as Doble, Afmadhow and Kismayo attracted more labour opportunities compared to rural areas. Labour was the most important asset for poor people, and was closely linked to human capital (the skills, knowledge and ability - also physical - to work). Human capital such as education and health services, which were generally limited in the region were also critical. Another characteristic that was important was the level of influence, and power of the household, as Somalia is characterized by unequal power and resources and the benefits of

⁷ A livelihood strategy encompasses not only activities that generate income, but many other kinds of choices, including cultural and social choices, that come together to make up the primary occupation of a household.

economic growth in Somalia is unevenly distributed with attempts to alleviate economic situation of the poorer and marginalized households depending on the contact and consent of those in power.

Table 4: Description of wealth categories and income sources in Lower Juba Region, Somalia

| Wealth category | Description | Important income sources |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Poor | Consisting of 25 – 35% of the households in the two pastoral livelihood zones (Southern Inland Pastoral and Juba pastoral zones), they owned few livestock and were engaged in unstable, infrequent work with low earnings. Their income sources were around livestock, casual labour and exploitation of natural resources (firewood and poles) and debt in-kind. In the urban Kismayo, the poor consisted of 10 -30% of the households and in addition to the unskilled casual labour, they were engaged in fish sales and construction works. The bulk of their income was spent on food and other essentials. Some of the supplemental income sources of this group included begging and cash transfers for some few. | <ul style="list-style-type: none"> ▪ Casual labour ▪ Livestock product sales ▪ Subsistence crop production ▪ Fisheries in Kismayo ▪ Natural products such as charcoal, firewood |
| The Middle | Making up 45 -55% of the households in the two zones, they were engaged in unskilled and casual labour, livestock product sales (milk), and natural products sales. In the urban Kismayo, the middle-income group was disaggregated into lower income (25 – 30% of the households engaged in similar income generation activities as the poor) and upper middle (comprising 15 -20% of the households and with relatively better incomes – small business, some employment and with remittance support). The group had minimal savings and they too easily bore the brunt of shocks | <ul style="list-style-type: none"> ▪ Livestock products ▪ Crop production (both rain-fed and irrigated cereals, fruits and vegetables, and sesame) ▪ Commodity trading |
| The Better off | They comprised 15 – 20% of the households in pastoral livelihood zones and 5 – 15% in the urban Kismayo zone. They relatively had better and stable incomes, mainly from business, employment, and incomes from livestock and livestock products (milk and ghee). In urban areas, some of this group were responsible for larger business, import of foodstuffs, construction materials, and agricultural products. | <ul style="list-style-type: none"> ▪ Livestock (mainly cattle and shoats, and milk) ▪ Commercial crop production ▪ Larger-scale commodity trading |

The contribution of incomes from each of the above activities varied across the livelihood and wealth groups in the region, and the gender of the breadwinner. For instance, as was shown in Livelihood Baseline Assessment 2016, labour markets and natural products (charcoal, firewood and building materials) were most important income source for urban poor, IDPs and returnees, whereas for the middle and better off households trading (commodity, livestock and crops and products) were dominant income activities. For the poorer agro-pastoralists, they earned about 30 – 40% of their annual income from livestock and livestock products, followed by employment such as farm labour, herding, animal watering, bush products and charcoal sales. As for the riverine communities, crops, nature based products such as wood fuel, and agricultural labour wages were major source of income.

INCOME GENERATION ACTIVITIES IN THE REGION

In each of the livelihoods indicated above and within the associated value chains households undertook a combination of income generation activities (IGAs)⁸ as categorized in Table 5. The categories were defined by the activities and/or services the households performed within the important value chains in Lower Juba. The gender, level of education, non-income related benefits such as flexibility to engage in other activities, social factors, access to entry into service or access to commodity, and access to capital for start ups were reported as some of the factors considered when engaging in specific category of IGAs. For instance, women were more likely to engage as producer sellers of products such as milk and grains or as market vendors of essential commodities, as they needed more time to do other family activities. Furthermore, they had less capital for business compared to cross border livestock trade that required large capital input and more travel

⁸ Income generation activities (IGAs) were defined as all those activities that provided households with income on regular basis.

to primary markets in rural areas or to the main Garissa market. It was noted the IGAs that engaged the food insecure households⁹ (estimated to compose of about 25 – 35% of the population) were casual labourers, producer traders, service providers, and in few cases market vendors or petty traders. These households were the most vulnerable, as they had limited access to remittance, kinship ties and credit given their weak inclusion into social and economic networks.

Table 5: Types and characteristics of IGAs in Lower Juba

| Categories of IGAs | Examples of actors | Characteristics |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Producer sellers | Livestock keepers, farmers, charcoal/firewood producers, bee keepers, fishermen | Categorized as large and small scale, with small-scale producers mainly engaging in subsistence production. As a result most of the subsistence sellers were price takers, as they needed to meet immediate household need. However, larger-scale producers had better price negotiation capacity, as they were engaged in production as a commercial activity. |
| Vendors/petty traders | Vegetable sellers, market stall commodity traders, water vendors, charcoal, firewood sellers, food shops and tea kiosks | Mainly women engaged in retailing and distribution of small stocks. With stocks of about USD 100 or less, they sold whatever commodity households needed, usually in small quantities and targeting the poorest households. These vendors had accumulated small capital to start their business, with some surviving, but others giving up after a while because they were unable to compete or they moved to a new business. Even those that survived experienced limited growth. In addition, they were slow to respond to demand, were relatively small, had informal structures, were flexible and had low capital needs. |
| Shops or small business owners: | Rural shops, rural livestock traders | Operating in both rural and major settlements, they had stocks larger than vendors; they were involved in sourcing commodities and selling them at higher volumes in shops. As with vendors, they distributed and retailed most important commodities demanded by households ranging from sugar to veterinary medicines. The shop owners provided credit to households and got paid from sales of crop, livestock or livestock products after rains or harvest. |
| Large-scale traders | Wholesalers, cross border livestock traders, contract farmers, distributors | These traders purchased larger volumes of commodities, livestock or grains and then sold them to lower traders within the market. These traders had linkages and sometimes agents in the source markets and terminal markets. |
| Service providers | Herders, brokers, trekkers aggregators and transporters | They provided valuable linkages among producers, sellers, traders and consumers. |
| Casual labourers | Construction workers, masons, carpenters, loaders, farm labourers | From herding labour, agricultural labour, and construction labour, provision of casual labour played a very important role in access to incomes for households in Lower Juba. Earning between USD 10 – 15 per day for skilled jobs and USD 5 – 8 per day for unskilled jobs. |

INCOME GENERATION ACTIVITIES AND STREAM INTERVENTIONS

The STREAM interventions include regular and predictable cash transfers, livelihood support, improved access to early warning systems, disaster risk reduction, scale-up of cash transfers in the event of a shock or disaster and undertake research on social safety net programming. Given that credit is difficult to obtain in the region, the regular cash transfers constitute a simpler and more effective way of purchasing a wider range of goods. In addition, it will prevent offsetting or distracting the households from their main income generating activities. Finally, the cash transfers will be essential for increasing the capacity of market to absorb new commodities and services.

It was observed that increasing number of women were engaged in IGAs – since the conflict, the percentage of female headed households have increased and women had to augment their traditional roles with being a breadwinner. It was noted that more women than ever before were contributing to family income through

⁹ Typically, such households were described either as urban poor, IDPs or recent returnees, they were composed of larger number of members, displayed lower number of income sources or employment, and education, and were taking care of elderly, handicapped or terminally sick members.

petty trading and casual labour. However, it was seen that women were engaged in IGAs for subsistence or IGAs in feminine spaces' i.e. women engaged in IGAs that do not necessarily have huge profit, but rather in those that allowed them flexible schedule, extra food and opportunity to plan and work with dependents at home. Therefore, their business expenditure was dedicated to food for the family and acquisition of assets and business growth only occurred after subsistence needs were met. Women rarely engaged in business that involved travels for too long from family or made riskier investments. It must be noted that this limited the opportunity for them to network or create business linkage for growth.

In transitioning from their traditional roles to income generation, women reported that they faced a number of challenges. They were unable to access sufficient capital for business, as they did not own any assets or formal credit.¹⁰ Further, with commitment at household level and social barriers, they said they were less likely to seek some labour markets and entrepreneurial opportunities. With limited education or skills to become an entrepreneur, majority of them were engaged in selling essential wares in rural markets.

IMPORTANT VALUE CHAINS IN LOWER JUBA SOMALIA

A detailed value chain analysis was conducted on the important value chains against the selected criteria. Within the assessment, existing nodes of IGAs and strategic changes that could benefit the poor were identified. Common for most of the value chains was that the households' generated income as producer sellers, traders, retailers, transporters, middlemen, casual labourers, and petty traders. They were also engaged in support services such as inputs supply, equipment and other services. While there were similar constraints in the value chains such as failure of supply to meet demand (due to seasonality, lack of storage, poor transport infrastructure and a weak enabling environment) and market access constraints that had a direct impact on the IGAs, the IGAs had their own constraints and critical gaps in growth. Key among these constraints were: the vulnerability of the IGAs to hazards, inadequacy of infrastructure and credit required for growth of IGAs, inadequacy of marketing systems and skills, and limited diversification and value addition of existing IGAs due to lack of technical guidance, information and finance.

THE LIVESTOCK RELATED VALUE CHAINS

Two main livestock related value chains were considered for analysis. These were: livestock and milk value chains

LIVESTOCK VALUE CHAIN

Relevance of the livestock value chain for the target group

Current presence of target population in the value chain

Livestock – consisting of cattle, shoats, camels, and donkeys, dominated the local economy, especially for pastoralists and agro-pastoralists. The livelihoods baseline survey indicated that 76 - 88% and 100% of the poor, and middle and better off households respectively, derived their incomes from livestock.¹¹ The key informants met indicated that livestock sale was the largest single source of household income for pastoralists and some agro-pastoralists. It was important for meeting household expenses, settling the cost of social obligations and purchasing food items. In the markets considerable number of urban poor, especially pastoral dropouts were engaged in brokerage, trading activities and labour provision in herding, trekking and associated services. It was observed that the livestock markets supported a host of small businesses such as petty trade, food kiosks, teashops, *miraa* (khat) sales, fodder sales and other businesses.

¹⁰ Though during the FGDs, women indicated that they were members of a merry –go-round (Ayutta) group, which was more social support group, access to financial services for women, was limited. Further, women rarely had excess capital for business start up, as most of their cash was used in supporting their households' access food.

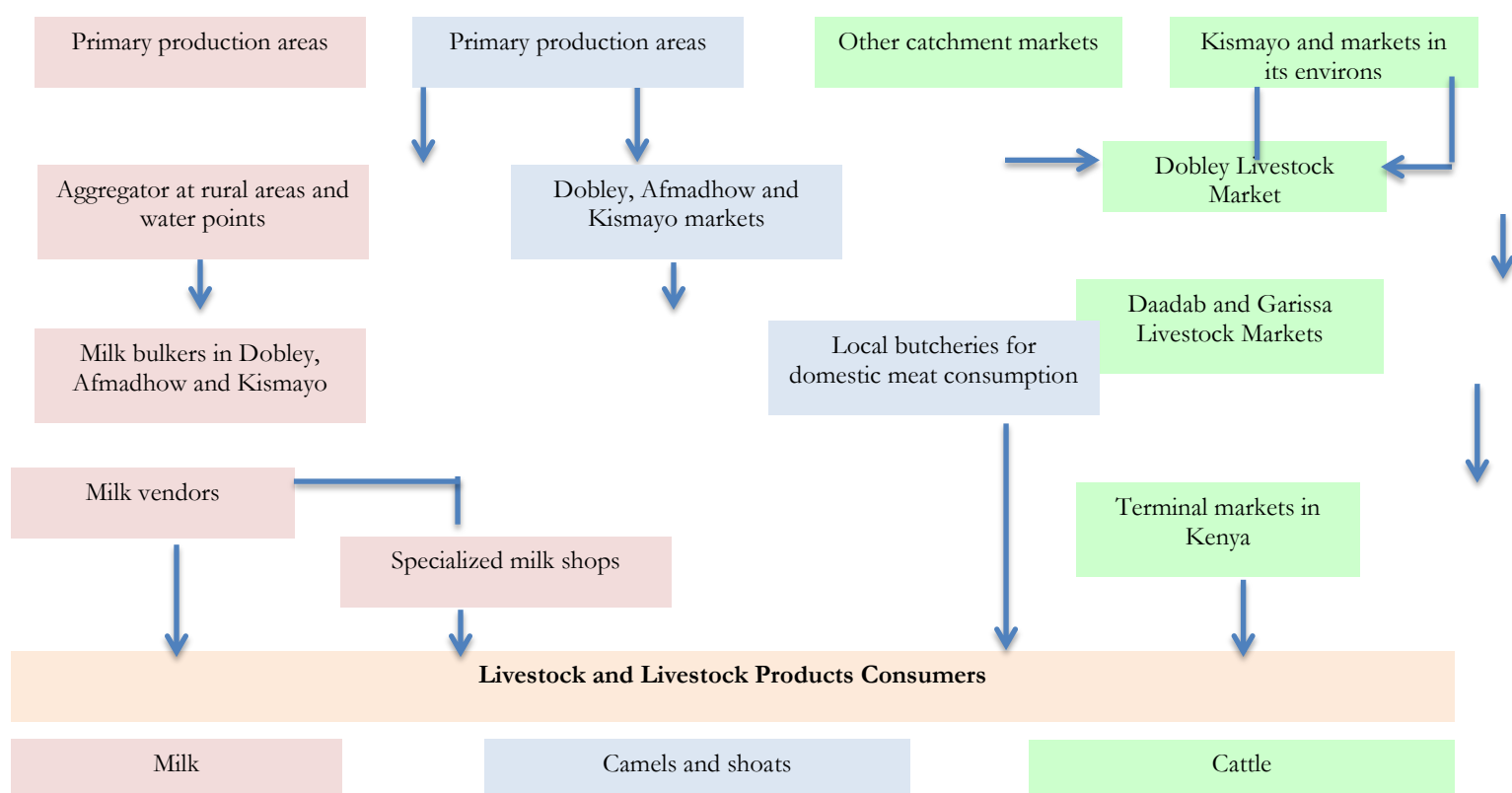
¹¹ ADESO 2016, Livelihood Baseline Assessment for Building Resilience through Social Safety Nets in Lower Juba Region, Somalia

Nature of their participation in the value chain

Livestock marketing was more important in the Doble and Afmadhow, where livestock markets were more established. Furthermore, households in this area derived most of their incomes and food from livestock. For instance, though off take rates in the region was not available, the producers interviewed indicated that they sold up 5 – 6 shoats during the 3 – 4 months dry season to meet dietary needs when there was need to supplement the household diets with cereals, as livestock productivity dropped. However, it was highlighted that livestock keeping was a subsistence enterprise and sales occurred to meet specific need, rather than maximizing of returns. Other than producer sellers, commercial livestock traders operated within the local markets and in the cross border markets of Doble and Garissa. Shoats (sheep and goats) were the most important commodity traded in the livestock markets, followed by cattle, which was exported to Kenya.

Market system: The livestock marketing followed a multiple tier system, in which different actors were involved in the buying and selling of livestock. From primary markets within the region and from market across Southern Somalia e.g. Baidoa and Afgoye, cattle was moved on hoof to Doble, aggregated and then moved to Garissa for onward sale in the Kenyan terminal markets. Camels and shoats were traded for local consumption, though some traders moved camels to Mogadishu. Few traders operated between the three markets moving animals and making small margins on them. The price of livestock was said to be good, though varying slightly from one village to another. The prices ranged between USD 30 - 45 for shoats, USD 205 to 210 for cattle, and USD 390 to 400 for camels.

Figure 2: Livestock and livestock products flow to the markets in Lower Juba



The income generation activities in the value chain: Livestock and livestock products trade involved an intricate network of market actors and support service providers. It was characterized by multiple transactions

between actors of different sizes allowing a large number of them to earn incomes along the chain as producer sellers, traders (small and large-scale), trekkers, transporters, animal handlers, brokers (*dalaals*), butchers, and meat retailers (Table 6).

Table 6: The IGAs in livestock value chain and actors dominating them

| Type of IGA | Dominating group | Characteristics |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Producer sellers | Mainly pastoralists and agro-pastoralist and mostly men, though women participated in which animal was sold | They sold animals on need basis, thus their market participation was limited, as they did not supply the market regularly. Even where their participation was good, the scale was small and the transactions were carried out on a one-off basis. |
| Livestock traders (small and large-scale): | Mainly men, though some small-scale females traders were present in shoats markets | Three categories of traders existed. Bush traders operated in production areas, buying one or two animals from the producers and moving the animals to the markets. In primary markets, small-scale traders bought animals from producers or brokers and sold them to butchers or to larger scale traders in secondary markets, who re-sell them in the same markets or export them to Kenya. |
| Brokers | Men only – previously engaged in livestock with most being pastoral dropouts | Most were not traders, but facilitated the exchange between traders or between traders and other market actors. In addition to connecting buyers with sellers and acting as payment guarantors, they provided information on volumes, quality and price of livestock: both the available supplies and the demand expressed by buyers. |
| Service providers | Men – usually pastoral dropouts | The services provided along the chain included animal health, brokering, trekking, herding and transportation services. |
| Livestock market – related petty trade | Mainly women | They included milk sellers, tea kiosks or goods kiosks that operated from the livestock markets. They depended on traders, trekkers, herders and producer sellers who were trading in the market. |
| Butcheries and meat vendors | Butchers were mainly men while women dominated meat trade | They bought the animals directly from producers in the market or from brokers or traders, and slaughtered them in the open. The meat was then sold ‘hot’ from small stall by meat vendors, mainly women. |

The supporting functions in the market: supporting functions - the services, inputs, and infrastructure for efficient market operations - were weak or non-existent. At production level, livestock producers and traders considered animal health services and disease control most critical, second to access to water and pastures, which, was limited. Mainstream services/inputs were only available from rural shops selling drugs and few community animal health workers (CAHWs) who rarely had any drugs. The main source of inputs was imports by companies such as Walaalaha Trading Company through Kismayo, some from Mogadishu and informal imports from Kenya. During the interview, the Chairman of SOWELPA indicated that FAO Somalia supported vaccinations against PPR, sheep and goat pox, and CCPP twice a year, reaching over 3 million animals in Gedo and Lower Juba.¹² Access to financial services and communication was limited and most depended on local networks for access to information. As for transportation, trekking was the preferred means of moving livestock to markets with costs varying with distances to market. For instance, to trek animals from Doble to Garissa, livestock traders paid KES 5,000 – 6,000 per trekker per trip.

Appropriateness of sector for the poor

Households were willing to invest in livestock considering that most households used any savings to purchase livestock. However, though livestock provided employment opportunities e.g. in herding, it was less preferable, as it was characterized by low productivity and low pay – KES 5,000 – 6,000 per month. Nevertheless, opportunities in markets such as trekking and brokering were preferred, as it allow the actors to build networks and capital and graduate to a trader. When asked about the ease of entry into the IGAs in the value chains, actors reported that entry was more difficult for women and that clan networks was important, though pastoral dropouts had easier entry compared to other groups. It was noted that though skills such as

¹² Interview with SOWELPA Chairman

brokering were learnable in the markets, there were no training institutions for new entrants into the value chain. As for the involvement of marginalized groups, the poorer households were engaged in the support services such as herding and trekking rather than the trading. It was observed that men dominated the livestock markets, except in shoats market and market-related petty trade where few women were present. Men were the key players in livestock production and the principal beneficiaries in terms of control over the income generated from the sale of livestock. As for the urban poor and minority groups such as Somali Bantus, they were engaged in services sector (brokering and animal handling), and provision of casual labour to the market-related petty traders, respectively.

Opportunities for sector growth

Likelihood for sector growth

As reported by the traders interviewed, the sector growth was driven by domestic consumption of meat as well as exports to Kenya - estimated 60% of cattle sold in Garissa market were from region. Thus, the region has competitive advantage due to its proximity to domestic and cross border markets. Furthermore, the region has potential to attract livestock from other regions, as price differential between markets favoured the cross border markets along the Kenya – Somalia border. As the Kenyan and Somalia populations increased, urbanized, and incomes improve, the demand for meat and other livestock products will rise significantly. Other opportunities highlighted by the Jubaland Chamber of Commerce, Industry and Agriculture (JCCIA) was the establishment of livestock export facility in Kismayo. Though still in its infancy, it was expected that such a facility would have tremendous impact on improving the potential of the sectors in terms of incomes and employment creation. They also highlighted that with the improvements in the security situation, there were hope of revitalizing the Kismayo livestock markets and an attempt to export from the Port of Kismayo. In addition, there was a lot of expectation that the region will attract investment in productive sectors with improved security. However, livestock value chain was constrained by high feed cost, poor quality and low availability of feed resources, inadequate veterinary services, weak extension services as well as good management practices and proper policy support for livestock development.

Scope for improving the target group's income generation activities

Engagement in the livestock value chain was recognized as potential profitable enterprise. The significant demand for livestock products is expected to create significant numbers of jobs and small business opportunities. Further, as livestock production becomes more commercialized, opportunities for IGAs will arise in the sale and distribution of livestock inputs such as veterinary inputs, feeds and fodder, technical services, and water; and of livestock and livestock products and services e.g. distributing outputs produced in wholesale markets and aggregation points such as processing, transport, brokerage and marketing and promotion. However, in order for the smaller IGAs to take advantage of the above opportunities, there will be need to enhance pro-poor market access and financial services, and facilitate access to information and business development services. For the producers, facilitating their capacity to meet the quantity and quality of animals demanded in the markets is a priority – through improved access to feed inputs, animal health, extension services and agronomic practices, and access to finance for investments in the same. Furthermore, smallholder's access to markets needs to be improved through aggregation services and processing of livestock products. Finally, traders' capacities to address market inefficiencies, inadequate infrastructure, transaction costs, and capacities of market actors need to be addressed.

Feasibility to stimulate change

Willing and able market actors

Since the collapse of the Somali government, the major actors in livestock value chain was the private sector including livestock producers, input suppliers, traders, and support service providers. The livestock value chain that links to Kenya supported livelihoods of households in Lower Juba. Despite the turbulence in Somalia and cross border restrictions, the value chain has continued to flourish. The trading networks have remained resilient to the access and cross border constraints adapting to any change in the environment. Furthermore, the cross-border clan relationships have underpinned the cross border trade. The nascent

Federal State had no much input into the value chain, except in taxation, though in the interviews with the tax official in the markets, he indicated that though they taxed livestock, new business could be exempted from such taxes so long as negotiations were conducted with the local authorities. The local administration reported ensuring order and security in the markets. It was observed that there were no institutions that mediated the establishment of IGAs in livestock value chain.

Conduciveness of political economy

The Jubaland State through the JCCIA was interested in improving economic sectors including livestock in its quest to generate revenue, income and employment. The linkages with Kenyan markets, existence of Port of Kismayo for potential export, and the establishment of proposed export facility in Kismayo were said to provide favorable environment for the sector. The key informants identified animal inputs such as veterinary drugs and feeds as an investment area for IGAs. In addition, the seasonal nature of supply and demand for livestock represents an opportunity for both aggregation services and on focussing on short term fattening of livestock to meet specific market demands. However, it was noted that the high risks to investments in livestock value chain were recurrent droughts, insecurity, chronic shortage in animal health services, and seasonal livestock export bans due to diseases. Hence, the need for risk-mitigating or coping mechanisms such as the index based livestock insurance (IBLI) as used in Northern Kenya.

Likelihood of distortion

There was limited number of actors involved in the livestock value chain in Lower Juba. FAO Somalia supported SOWELPA in conducting irregular vaccination and trained some community animal health workers. During interviews with the traders and market actors, they highlighted that there were currently no organizations that were active in supporting the sector. Hence, the risks of distortion by other actors were limited.

THE MILK VALUE CHAIN

Relevance of the value chain for the target group

Current presence of target population in the value chain

As indicated earlier, livestock is an important income and food source for households in Lower Juba. Milk and related enterprises are significant economic activity, with the rising commercialization of milk production in the region. Consequently, in addition to pastoral producers, even urban poor and pastoral dropouts are keeping some few milking goats in the peri-urban areas. It was reported that herders were becoming more strategic about the seasonal grazing areas, aligning them with milk collection routes so that they can deliver milk to markets. The producers collected milk in 3 – 5 litre jerry cans depending on the season; transported them on foot or on donkeys to markets or to collection point after which it was transported by trucks to urban markets such as Kismayo, Afmadhow and Doble where it was sold in bulk or in small quantities. The collection, distribution and sales of milk and milk products provided opportunities for IGAs, especially for women. It was also observed that the transportation and collection points attracted other business such as commodity and 'bush' markets for shoats.

Nature of their participation in the value chain

The milk market system involved a complex network of agents, interest and relationships with a well-established milk transport and transaction system built upon trust with no any written agreement. Producer sellers acted at the production, selling milk surplus from household level, while the bulkers/aggregators assembled the produce at rural level and then transported to market centres, where retailers and milk vendor were involved in direct sales to consumers. Other participants in the value chain were transporters and other milk associated business such as commodity trading, "bush" trading in shoats and the sale of animal health products at milk collection points.

Market system: As shown in Figure 2 above, the milk passed through various channels until it reached the final consumer within the Doble, Afmadhow and Kismayo markets. The producer sellers either brought them directly to markets in Doble, Afmadhow and Kismayo or sold them to milk aggregators who then

transported the milk to town to sell to milk bulkers, milk vendors and few specialized milk shops that had some refrigeration facilities. The specialized milk shops such as the Caano Gel Shop in Doblely specialized in refrigerated milk and sold them to specific customers. Products found in the market included fresh camel, cow and goat milk and fermented camel milk (*Susac*), with camel milk being the dominant milk sold in the market. The only processed product found in the market was ghee traditionally processed is goat or cow milk. The main selling unit is 300ml cup with retail sale prices ranging from Sosh 8,000 – 12,000 across the three towns depending on the season.

The income generation activities in the value chain: the key actors involved in the milk market chain are producer sellers, traders and consumer, mostly dominated by women. Though milk value chain was of high economic importance, it was not well organized. The roles and functions of all the actors in the value chain were not sufficiently differentiated and the market linkages were weak between the actors. As shown in Table 7, the IGAs opportunities included producer sellers, milk aggregators, transporters, milk vendors, and specialized milk shops.

Table 7: The IGAs in milk value chain

| Type of IGA | Dominating group | Characteristics |
|--------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Producer sellers | Mainly women | The producers delivered unprocessed milk directly to consumers or to the milk aggregators who bulked the milk on business transaction or kinship basis. The quantities delivered to market varied with season, but on average each household sold 3 – 5 litres per day |
| Rural collectors | Mainly women | Collected milk directly from producer sellers and brought them to aggregators/bulkers when the quantities reached volumes that were economically viable to transport to market |
| Milk bulkers/aggregators | Mainly women | Mainly involved in aggregating or bulking milk from different collectors and sometimes producer sellers and transport to the markets. During the rainy they handled up 30 – 40 litres per day. |
| Transporters | Mainly men | Collected and delivered the milk to traders – retailers and vendors in the major markets. |
| Milk retailers/vendors | Women – usually pastoral dropouts and urban poor | The milk vendors make payments on the spot or give an equivalent value of the milk in essential foodstuffs. |
| Specialized milk shops | Mainly women | Operated retail outlets that cooled and refrigerated milk sourced from milk bulkers/aggregators or producer sellers and sold them directly to consumers at a slightly higher premium price. |

Supporting functions in the market: while access to animal health services and feed, and milking management were most critical function required for production of adequate quantities and quality milk, transportation, quality assurance and milk marketing were important support functions required for the value chain to be effective. Animal health services and inputs are limited. There was inconsistency in the quality and quantity of milk supplied to the market, as the availability of milk is highly dependent on pasture and water availability which in turn dependent on rainfall. The underdeveloped infrastructure (roads, transport, market buildings) is a big impediment to milk marketing, especially in the absence of cooling systems. There are no storage facilities and a large quantity of milk is spoilt in the rainy season while it was scarce in dry season. Because milk was transported on poorly conditioned vehicles on poor roads in un-conducive hot days (with passengers and animals in the same truck), a great percentage of the milk was lost through spoilage. Opportunities for milk processing are also limited, as it required more capital, skills and reliable electricity, all which were unreliable or inadequate in the region. Finally, milk and milk products are highly perishable and require a high level of technical know-how to meet hygiene and food safety standards. Unfortunately, there are no institutions where know-how can be learnt, neither are there extension services to support access to the information institutions, nor institutions to enforce the quality standards.

Appropriateness of sector for the poor

Milk value chain was one of the common IGAs that women invested in, as the ease of investment in the value chain was high. It required low capital, though clan networks and business relationships were important

in the value chain. It was highlighted in the FGDs, that milk marketing was one of the business with easy entry for poor women. As for the appropriateness of the sectors for the marginalized groups, the supply of milk to markets in Lower Juba was, to a large extent, done by groups of producer sellers, working with informal collection centres managed by women, though the transportation of milk by trucks from rural areas to major markets was by men. The majority of producer sellers were middle and better-off wealth households. This was so considering that very poor and poor households had no milk to sell. Poor pastoralist households kept few shoats and did not produce any surplus milk, as the little they produced was mostly used for their own consumption.

Pastoral, rural and urban women predominated the producer sellers. At production women were said to have major access and control of milk, as they were responsible for managing the milking and allocation of milk to different uses at household level – for household use, child support and surplus for sale. Furthermore, management of these products at home was an exclusive responsibility of women giving them greater access and control of incomes from milk marketing. Women are also involved in the aggregation of milk from different sources, after which men who dominate the transport sector deliver it to the markets. In the market, milk again is the preserve of women, as they are the bulk milk sellers, retailers and milk vendors. For example, IDPs women retailed milk within the camps, making small margins of SoSh 2,000 – 3,000 per litre of milk. However, it was observed in Doble, few men such as the Caano Gel Shop were specializing in operating milk bar, when milk from production areas was cooled, refrigerated and sold as higher value product. Such shops charged premium prices – for example, while milk retailed at SoSh 10,000 – 12,000 (USD 0.45 – USD 0.54) in the main markets, the milk cooling shop sold it at Sosh 8,000 – 10,000 per litre (USD 0.36 - USD 0.45).

Opportunities for sector growth

Likelihood for sector growth

During the interviews, milk retailers felt that as a result of poverty the per capita consumption of milk was still low in the region. Most households were buying about 1 litre per day for making milk tea and for consumption of children. Nevertheless, the demand for milk was said to be rising faster than even meat. Milk consumption is a long-term habit among Somalis and they have higher preference for fresh milk compared to the imported powder milk. In addition, milk represented the traditional staple food of the Somalis and a nutritional supplement for the increasing urban population. Fresh milk is the most popular and widely consumed end product of the milk value chain. Nevertheless, other products such as fermented milk and processed ghee are also demanded, though the supply is inadequate. At production level, actors indicated that there was great potential for improving milk production in Lower Juba. With improved breeding, animal husbandry, health and natural resource management, pastoral herds have the potential for achieving higher levels of milk productivity.¹³ Moreover, pastoralists keep breeds that are suited for the climatic conditions and have better resistance to diseases and pests prevalent in the region.

It was also observed during the market visits that the demand for milk did not correspond to the supply. The markets were having low supply while at the same time the producer sellers complained of lack of markets for milk. This was due to the poor quality and quantity of milk produced and delays in delivering the milk to the markets due to poor infrastructure and market organization. Multiple factors that start from milking, affect the quantity and quality of milk delivered to the market. Poor milk handling practices at production exposed milk to contamination. The containers used for milk storage and transportation were plastic jerry cans, which though widely available, inexpensive and practical for collecting milk, were difficult to wash and sanitize and provided no insulation for milk en route to markets. Consumers also complained that milk adulteration was a common practice – the most common practices been the mixing of milk from different species, mixing of evening and morning milk and boiling of milk multiple times before delivering to the consumer. Further, in the absence of cooling facilities, there was frequent spoilage of the product, which was an economic loss to the traders and reduced consumer confidence due to health risks. The specialized milk shops that cooled the

¹³ Raziq A et al (2008), camel-A Potential Dairy animal in Difficult Environments, *Pak. J. Agri. Sci.*, Vol. 45(2),2008

milk and sold them fresh, without multiple boiling that was common with the other actors was one initiative to address this need.

Scope for improving the target group's income generation activities

As indicated above, it was common for consumers to complain about lack of adequate quality milk when producer sellers and other milk traders said that market for milk was poor. This presents for IGAs in milk value chain to ensure milk reached the markets, and guarantee that the market requirements for milk by consumers was met by addressing seasonality, transport and quality concerns. Addressing milk marketing constraints by improving the business skills of milk value chain actors, improving transportation, handling and quality assurance practices, and improving access to capital for investments in cooling and storage facilities as well as transportation and infrastructure at marketing sites will improve the quantity and quality of product available in the market, its shelf life and market conditions for the actors.

Feasibility to stimulate change

Willing and able market actors

The chain involved several activities from production to final consumer. These activities included input supply, milk production, raw milk transportation, bulking and cooling, processing, transporting processed milk and milk products and retailing it to the final consumer. The private sector actors in the milk value chain - producer sellers, milk aggregators, transporters, milk vendors, and specialized milk shops – were weak and inconsistent. The main feature of all the above value chains was the presence of a large number of small traders operating at different levels of the marketing chain, each handling small quantities of product. Further, the level of interaction and coordination among these actors was observed to be extremely weak and ill coordinated. There is therefore the need to bring together these actors and strategize the intervention to transform the value chain and address constraints such as weak institutional capacity, poor managerial skill, and lack of market linkage. In addition, there will be need to address marketing challenges including poor market orientation of the producer sellers (pastoralists), low entrepreneurial skill among the market chain actors, weak institutional capacity of the market itself, seasonality of the marketing due seasonality in supply, low accessibility to market due to poor road conditions and loss of products due to poor handling and storage. It was also observed that as business was mostly through informal practices, the inadequacy of business communication and management skill, lack of technological facilities, lack of financial services and weak integration with big actors contributed to the seasonality of the markets.

Conduciveness of political economy

Due to the scale of operation, milk value chain had not attracted any intervention by government – no taxes were levied and no facilities were provided in the markets. However, milk marketing has always interested development actors due its role in regards to household incomes for both producers and poor who trade in it and due to the predominance of women, who were getting increasing involved in IGAs. Since the conflict, the percentage of female-headed households has increased and women had to augment their traditional roles with being a breadwinner. It was noted that more women than ever before are contributing to family income through petty trading and casual labour. However, it is seen that women are engaged in 'IGAs for subsistence or IGAs in feminine spaces' i.e. women engaged in IGAs that do not necessary have huge profit, but rather in those that allow them flexible schedule, extra food and opportunity to plan and work with dependents at home. Therefore, their business expenditure was dedicated to food for the family and acquisition of assets and business growth only occurred after subsistence needs were met. Women rarely engage in businesses that involve travels for too long from family or making riskier investments. It must be noted that this limits the opportunity for them to network or create business linkage for growth.

Likelihood of distortion

As with the livestock value chain, there were no government and NGOs in milk marketing in Lower Juba, thus limiting the risks of distortion were any institution/organization to implement any interventions in the value chain. It was noted that Adeso has been involved in supporting women business in the area and a number of NGOs were interested in providing some grants to women, though not necessarily targeting milk

value. Hence, due consideration should be made in the design of financial support – there will be need to invest more in business support and facilitation of groups before financial investments are made.

AGRICULTURE RELATED (CROP) VALUE CHAINS

Relevance of the agricultural value chain for the target group

Current presence of target population in the value chain

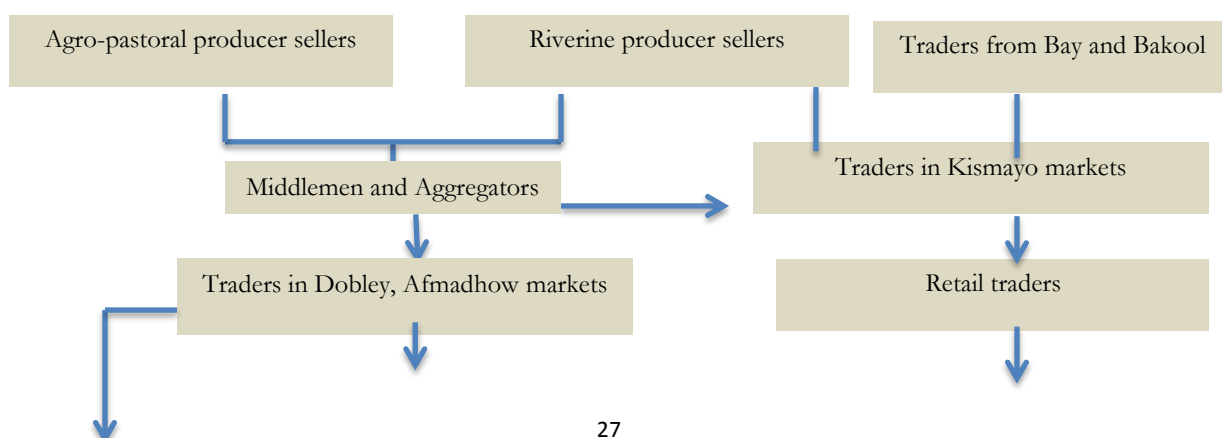
Engaging agro-pastoralists and riverine communities, agriculture (rain-fed and irrigated) production was an important livelihood activity in Lower Juba. However, it must be noted that even in a good year, agro-pastoralists in the Southern Agro-pastoral Livelihood Zone earn 80% of their income from livestock. Nevertheless, the contribution of crop agriculture to income and employment went beyond direct production, and included other groups involved in the commodity trade chain who depend on agriculture, such as those in inputs, marketing, transport and processing. With most production meant for household consumption, maize, sorghum, cowpeas and sesame were among the important commodities grown locally. In addition vegetable and sesame were purposely grown for markets. In this assessment, we concentrate on two major agricultural commodities: cereals including sesame production, and fruits and vegetables.

Nature of their participation in the value chain

The households were engaged directly in primary production activities, agricultural labor, in IGAs engaged in the collection and aggregation, transportation, wholesaling, retailing and distribution of product, and in casual labor opportunities associated with the IGAs. It must be noted that the value chain was particularly important as sources of employment, as poor and marginalized households were engaged in agricultural labor.

Market system: From the production areas, the produce was sold directly within the rural market to rural traders or to middlemen or transported directly to urban markets such as Kismayo, Afmadhow and Doble. It was more common for producers to sell directly to middlemen when the harvest was high, but when produce was low, they usually transport directly to the market to take advantage of the higher prices. However, without adequate networks beyond the closest markets and since they do not have adequate storage facilities, middlemen/aggregators provided the main avenue for disposing larger quantities of produce at lower prices in the face of post-harvest spoilage. Though Kismayo is the main markets, which receive some cereals from the neighboring Bay and Barolo region, the riverine (*Gash* farming area) is the major source for Doble and Afmadhow markets, which are also supplied by agro-pastoral farmers around them. In contrast to other produce, sesame once harvested is mostly sent to Kismayo for processing, where the oil is extracted and sold into the market. However, some of the farmers who harvest small quantities sell it directly to aggregators. It is also a common way to process sesame by roasting sesame seeds, mixing with honey and sugar, and then rolled into balls or pellets to be eaten as a snack.

Figure 3: Value chain for agricultural produce in Lower Juba





Income

generation activities along the agricultural value chain: In addition to producer sellers, the crop production and marketing spurred great amounts of activity in brokering, transport and marketing. In addition, there were both formal cooperative and informal associations for farmers. For instance, in Doble an umbrella farmer cooperative (Waamo Farmers Cooperative) exists and is mainly involved in managing a communally owned tractor. Table 8 provides the major actors involved in IGAs along the value chain.

Table 8: Actors involved in IGAs along the agriculture value chain

| Type of IGA | Dominating group | Characteristics |
|-----------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input importers and sellers | Mainly men | Engaged in the distribution and retailing of main agricultural inputs including fuel for irrigation, seeds, fertilizers, tractor services, and pesticides. In addition to imports from Kenya through Doble and from Gulf States through Port of Kismayo, some additional inputs are sourced from Mogadishu. |
| Producers sellers | Production involve men and women, but men have control of produce sales | There are subsistence and commercial producer sellers. For instance, most of the producer seller grew cereals such maize for subsistence and sold the surplus, but they also grow some fruits and vegetables such as tomatoes and bananas, and sesame for the market. Smallholder farmers are confined to economic participation within the informal sector, focusing on primary agriculture and excluding agro-processing activities. |
| Middlemen | Mainly men | By travelling between production areas, the middlemen aggregated the surplus produce, which they then delivered to the market. As they have better trading networks across market within and outside the region, they are able to facilitate trade. They do not undertake any post-collection processing, but sell the product as they bought it. There are two types of middlemen: 1) local shopkeepers who collect harvest, as payment for debt accrued by farmers during agricultural off-season 2) middlemen from outside the villages who only visit the areas during the harvest season. |
| Wholesalers | Mainly men | They are established traders with capacity to handle volumes and good trading networks and access to transport. They buy the produce directly from the producer seller or middlemen and they sell to the retailers. Compared to the other actors, they have some storage facility and trade links with other markets in the region. To transport the product to other markets, they use the services of transport middlemen to secure transport. |
| Farmers associations | Dominated by men | In the riverine areas, informal associations are involved in the management of the communal primary canals. The membership of these associations is from local community. It is also observed that farmers are engaged in collective activities such as land preparation and harvesting and other social support. |
| Support services providers | Men | The services provided along the chain including brokering, aggregation and transportation services. |
| Agricultural casual labour | Men – dominated by Somali Bantu | Major income source for poor riverine households, especially during the hunger season |

Support services/functions in the market: The important support functions in agriculture include: access to finance, as crop production requires substantial investments in land preparation, inputs, harvesting and marketing; inputs supply (fuel, seeds, tractor services and pesticides); access to extension, information, technology and skills; and access to post-harvest technologies, storage and marketing. During the discussions, producers indicated that they depended on credit from rural retailers for supporting their households during agricultural off-season and to finance other costs such as land preparation. These traders were paid from the harvest. Access to inputs, especially seeds was limited with farmers depending on previous season's seeds or

an emergency seed distribution from NGOs. For instance, Adeso and ICRC had supported the rainfed farmers in Doble and Afmadhow with seeds. The inability to access fuel was one of the main reasons given for the failure to put land under cultivation. Consequently, it was common to do sharecropping in the land the farmer was unable to cultivate. Tractor services are limited, as they are few and majority of the households could not afford them. As indicated earlier, it was only in Doble where a communally owned, cooperative-managed tractor was available to farmers at USD 20 per hour.

Access to extension, skills and technology is non-existent and producers are dependent on informal sources of information for markets. They are dependent on traditional methodologies for crop husbandry. After harvesting there is limited value addition, processing, grading or sorting, and packaging. The market linkages are weak due to weak access to market information, transport and logistic facilities to deliver produce to the market even in good season. Consequently, households have to contend with problems accessing commodity markets – as smallholders they are unable to realize sufficient economies of scale. There is therefore need for improving access to information, skills, technologies and information to raise the standards of production and marketing.

Appropriateness of sector for the poor

Crop production is a traditional practice in riverine areas and many households in the target areas have learnt traditional farming approaches for crops and fruits and vegetables across seasons on their parents' farms. The land under cultivation varies under different production system and from area to area – for example, the average area cultivated per households land productivity and harvest varied across the region, season, and production system - estimated at 1 – 3 ha and 0.5 – 0.7 MT/ha, respectively. It was also noted that though riverine and agro-pastoral farmers came from all income groups, the majority of them are low to medium income earners, who grew food crops for self-consumption or supplementary income, often on small land, with little if any support or protection. In terms of gender access and control of crop and fruits and vegetables value chain, it was observed that men are generally the key players in crop production. They were also the principal beneficiaries in terms of control over income generated from sale of those commodities. Nevertheless, as women constitute the largest population engaged in agriculture, there are areas that employed women, especially in trading of the produce. Men have better access to technology, credit and training, mainly due to their strong position as head of the household and greater access to off-farm mobility. This hinders women from taking on leadership roles.

Opportunities for sector growth

Likelihood for sector growth

The demand for agricultural produce was high considering that all households in Lower Juba (including subsistence agriculturalists) depended on markets (supplied by both local and imported products) for food. It was expected that the demand would continue to grow considering the population increase and urbanization. Based on key informants, the trends in agriculture was good, with larger number of households in Doble taking up rainfed cereals and fruits and vegetable production in the last 3 years. Interviewees consistently highlighted the large and growing market demand for horticultural products, noting price increases for fruit and vegetables. That said this varied significantly between places and products. For example, in terms of pricing, the margins for the traders increased as the commodities moved along the value chain. The producer seller got the least price, followed by wholesalers and then retailers. There was USD 1.5 – 2.0 margin between the prices received by wholesalers for most of the commodities within the same market. During the interviews, the traders indicated that business was on the upward trend since the establishment of the Jubaland State, as the population and economic activities have improved, and NGOs were supporting the IDPs and returnees with cash, increasing their market activity. A few, especially the retailers and petty traders, felt that business was constant. However, generally trade in agricultural commodities was reported to be profitable. Producer sellers and traders highlighted opportunities such as the ease of increasing production, if inputs and other factors of production were availed and the increasing demand for agricultural production locally and nationally. However, several weaknesses affecting trade and marketing of agricultural commodities were also identified.

Unfortunately, as a result of limited capital investments, inadequate technology, lack of agricultural extension services and infrastructure, inadequate processing, limited market access and instability, the production levels have been low. The access for NGOs to riverine areas was limited as the primary production areas were still under Al Shabaab, and there has been increased fighting in the areas. The farming methods used were simple and had not changed much over the years - most of the labour was from the households, though it was observed that some farmers used additional labour during land preparation and harvesting. It was highlighted that better skills in crop and horticulture production required further skills development, which was not possible to get. It was observed during the field visits that poorer households engaged in crop production and fruits and vegetable had a low asset base, limited resource endowments, low farming technology, fragile and unstable market relationships and low access to services, finance and information. Without producer marketing groups, the farmers were unable to aggregate their produce and market collectively or sell it the Kismayo, Afmadhow and Doble markets, where they would have stood to gain higher returns by selling to urban wholesalers as compared to middlemen/rural shop keepers/aggregators.

Scope for improving the target group's income generation activities

The key informants highlighted that increasing agricultural production and marketing had the potential to not only improving the sustainability of farming operations but also contributing to job creation, reduction of poverty and unemployment. Furthermore, Somalia was dependent on food imports and increasing local production and marketing provided an avenue for meeting the existing demand. For example, export of semi and processed foods from Ethiopia cost Somalia USD 300 million.¹⁴ From our observation, we agree with the key informants who indicated that the value chain has great potential for creating IGAs and employment opportunities for households in the region. This was corroborated by the interviews with government stakeholders and other actors. However, they indicated that a number of challenges to crop production at farm levels existed including: lack of equipment for land preparation, which led to late planting; crop losses from pests and diseases, which reduced yields; and non-availability of seed and other inputs. The marketing problems included the inability of the existing markets to absorb all the produce, low prices of produce in the markets, large number of middlemen and lack of producer marketing institutions. Because smallholders produce small amounts, their bargaining power was weak. Collective marketing would allow farmers to bargain for better prices or sell directly at regional markets where the returns were higher.

Feasibility to stimulate change

Willing and able market actors

There were many small enterprises and few large enterprises with numerous categories of traders involved in produce marketing. In addition, the sector provided opportunities for services providers such as casual labourers who were engaged in harvesting, loading and unloading, brokers, and transporters. Supply of inputs such as fuel, seeds, tractor services and pesticides was also a business associated with crop farming in the region. The producers were significantly limited in access to markets because of poor infrastructure and security issues. Consequently, most farmers sold their produce to middlemen and the aggregator-collector function in the marketing system of rural agriculture was much more significant. As a result of limited capital investments, inadequate technology, lack of agricultural extension services and infrastructure, inadequate processing, limited market access and instability, the production levels have been low. The primary production areas were still under Al Shabab, and there had been increased fighting in the areas. After harvesting there was limited value addition, processing, grading or sorting, and packaging. The market linkages were weak due to weak access to market information, transport and logistic facilities to deliver produce to the market even in good season. Consequently, households had to contend with problems accessing commodity markets – as smallholders they are unable to realise sufficient economies of scale. The produce is then sold directly in the rural market to traders or to middlemen who visit the production areas.

¹⁴ Olivier Poujade (2015): Ethiopia: Modern Agro-Processing, a Development Priority

Conduciveness of political economy

With the establishment of Jubaland State and formation of the JCCIA, there were renewed interest in investment in the region, particularly in livestock, agriculture and fisheries. Further, FAO Somalia has been supporting agriculture-focused interventions. As agriculture remained subsistence and it has not yielded adequate surpluses leading fragmentation of supply and small quantities per producer. Farmers do not have access to information on improved production practices, market intelligence, value addition, better post-harvest handling and demands on quality and standards in different markets. In addition, there will be need for long-term intervention in supply chain intervention such as development of irrigation infrastructure, support in access to finance for growth, access to technical skills and inputs, access to improved technology, and market access.

Likelihood of distortion

There seemed to be little donor activity specifically in riverine areas of Lower Juba, due to access limitation for humanitarian actors. Though it was difficult to confirm a number of Somali based organization reported funding some infrastructure rehabilitation especially irrigation canals, river embankments and feeder roads clearance. Adeso and ICRC have supported rainfed farmers in Dobley with emergency inputs such as seeds. ICRC had provided a tractor to rainfed farmer cooperative in Dobley with a tractor.

COMMODITY TRADING

Relevance of the agricultural value chain for the target group

Current presence of target population in the value chain

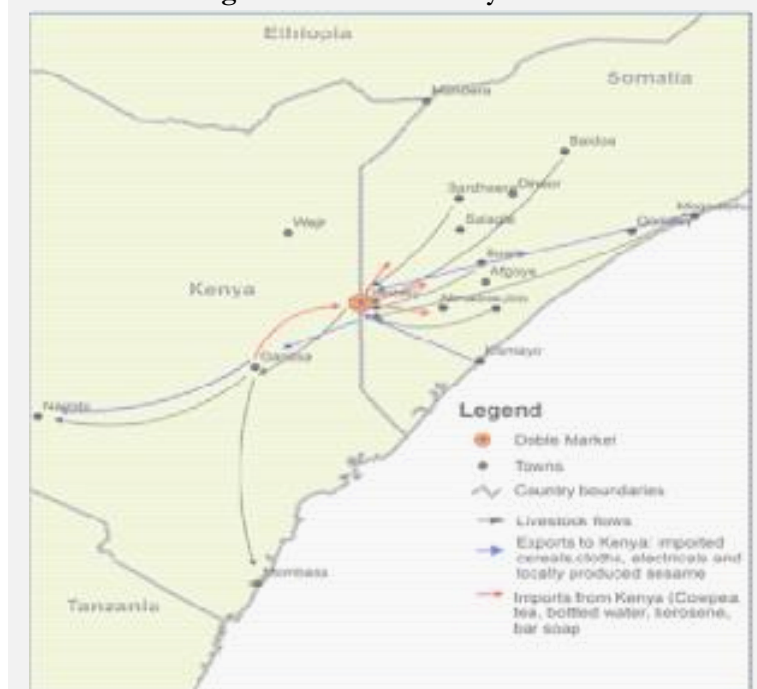
This is the most common type of value chain that traders in rural areas are engaged in as the distribution and retailing of essential commodities has ease of entry for returnee entrepreneurs, both in rural and urban areas. However, this informal enterprise is small-scale, has a small profit margin, and is faced with restricted growth due to the low business acumen of owners, risky environment they operated in and limited capital investments.

Nature of their participation in the value chain

Starting with provision of support services (such as loading and unloading, warehousing, and transportation) at the ports, distribution, and retailing, the value chain engages casual workers, traders, middlemen, transporters and retailers among others. Functional retail shops exist in the most remote areas of the region, retailing the essential foodstuffs and other commodities. For example, a market assessment in the region reported that there were over 100 shops in Dobley, in addition to providing a good market for sale of livestock and livestock products, and construction materials. These markets in the Dobley and Afmadhow are reliant on Kismayo and Garissa for supplies. The seasonal conditions of the road and costs of roadblocks were major determinants of businesses. For example, while a ten tonne truck from Kismayo charged USD 1,000 to deliver commodities to Dobley, the traders incurred up to USD 300 on informal charges and taxation along the route. There are two main roads connecting Kismayo to Garissa in Kenya. The first takes a northern route from the coast via Bilis Qooqaani and then on to Garissa. The second route is more direct, following a southern path from Kismayo to Garissa.

The demand for both locally produced and imported commodities within both rural and growing populations in settlements drove the commodity trade. This gave opportunity to market

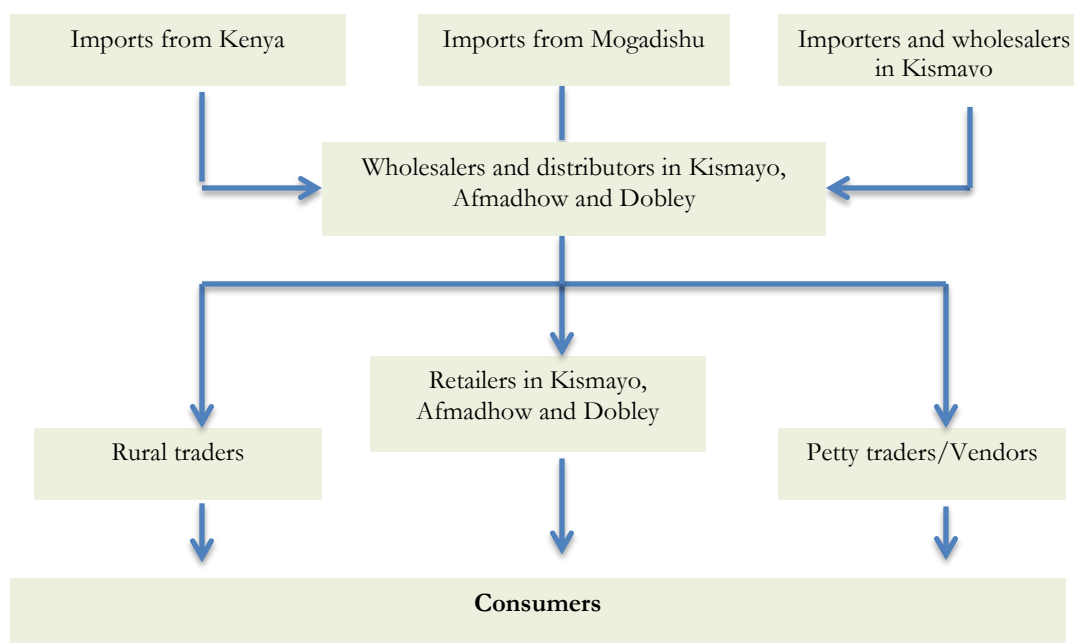
Figure 4: Market flow dynamics



actors with varying capacities (as large wholesalers, retailers and petty traders) to engage in business activities within rural and urban areas. Across markets in the three districts surveyed, small traders sold household commodities (foodstuffs and essentials) in small shops and market stall/tables. Similarly, the increasing demand for fuel for cooking and local construction for shelters drove the demand for charcoal, firewood and local building materials, allowing the urban and rural poor to collect, aggregate and deliver these products to markets. The increasing population and urbanization was also a major source for other labour and service opportunities that engaged a good proportion of the urban poor.

Market system: From the Port of Kismayo, Mogadishu and from Kenya, importers who also doubled as wholesaler moved their commodities to outlets in Kismayo, Afmadhow and Doblely for onward distribution to retailers and petty traders who sold the goods to consumers (Figure 4). While commodities such as fuel, rice, wheat flour, oil, sugar, soap, tea and powder milk were imported through the Port of Kismayo or Mogadishu, tea leaves, maize flour, biscuits, and kerosene were imported from Kenya. Most of the grains were sourced from riverine areas, and the agro-pastoral areas, while some were imported from Kenya. There were three types of transactional arrangements: 1) importers selling through their own network of wholesalers and traders; 2) through selected wholesalers based on prior arrangements; and 3) where importers sold directly to other traders on a first-come-first-serve basis.

Figure 5: Commodity trade flow into and out of the markets in Lower Juba



Income generation activities along the agricultural value chain: Starting with provision of support services (such as loading and unloading, warehousing, and transportation) at the ports and warehouses, the distribution, and retailing, the value chain engaged casual workers, traders, middlemen, petty traders, transporters and transport brokers, and retailers among others. The actors in commodity trading provided the much-demanded low – cost goods and services. They included:

1. **Importers and wholesalers:** mainly operated in Kismayo and in Doblely and Afmadhow importing products through Port of Kismayo and from Kenya. In addition, some of the traded commodities were brought from Mogadishu.
2. **Retailers and rural traders:** these were small traders who sold commodities directly to the consumer, making a small profit margin. They sold all types of products that households required including foodstuffs, human and veterinary medicines, clothes and other household items. For example, there were

over 100 shops in Doble alone all selling essential foodstuffs and other commodities. The seasonal conditions of the road and costs of roadblocks were major determinants of businesses. As indicated with other traders, they are also faced with restricted growth due to the low business acumen of owners, risky environment they operate in and limited capital investments.

3. **Petty traders and vendors:** They were small-scale, had small profit margins and depended on households as their main customers. They were faced with restricted growth due to the low business acumen of owners, risky environment they operated in and limited capital investments. As a result, they had minimal opportunities for creating employment (other than household labour) in their current capacities.
4. **Transporters and transport brokers:** to facilitate the distribution of the commodities to rural areas, traders engage the services of transport brokers who charge from USD 100 for large and small trucks, depending on the distances and the weight of the commodities, to secure transport. The transporters charged depending on the distance, tonnage and the number of checkpoints they have to negotiate access. It was noted the costs of the checkpoints are borne by the transporter and varied between different routes. For instance, while a ten tonne truck from Kismayo charged USD 1,000 to deliver commodities to Doble, the traders incurred up to USD 300 on informal charges and taxation along the route.

Supporting functions for the commodity value chain: High transport costs, lack of good roads, lack of access to credit, insecurity and lack of storage were the most important constraints for traders to increase supplies. Further, the rural markets had low population density with low incomes and served by few retail outlets, thus relatively uncompetitive and inefficient. As a result, rural populations are characterized by unmet needs (access to basic health care, education, water, financial services and essential products).

Appropriateness of sector for the poor

Commodity market networks were the backbone of local economy activity, allowing a number of households to earn incomes in the distribution and retailing of essential products. Kismayo, Afmadhow and Doble are among the most important markets for these commodities, serving the most of the rural villages with food supply. Wholesaling, retailing, petty trading, transportation, loading and brokering are the main income earning opportunities. It is the most common type of value chain in which the traders in rural areas are engaged in. Finally, IGAs in the value chain had better ease of entry for entrepreneurs, both in rural and urban areas. In addition to local trade in commodities, traders in Doble were engaged in informal cross border trade across the Kenya – Somalia border. This was a resilient income generating activity that thrived even when the border was closed. Focus group discussions indicated that households mostly purchased maize flour, rice, and beans for consumption, while goats and cattle were traded for cash income. Other household items regularly purchased included oil, sugar, soap, tea and milk.

Opportunities for sector growth

Likelihood for sector growth

The demand for both locally produced and imported commodities within both rural and growing populations in settlements drove the commodity trade. This gave opportunity to market actors with varying capacities (as large wholesalers, retailers and petty traders) to engage in business activities within rural and urban areas. Key informants highlighted that the region is dependent on both locally produced and imported food commodities. While most of the grains were sourced from riverine areas, and the agro-pastoral areas, some are imported from Kenya. Kismayo, Afmadhow and Doble were among the most important markets for these commodities, serving the most of the rural villages with food supply. The level of integration of these markets, influenced by security and rains, had direct bearing on the food security situation of the region, as households were majorly dependent on market purchases for their food. For example, increased taxation at roadblocks and armed clashes along transport corridors have hindered population and trade movements and shrink humanitarian access. It was reported that commodity traders had ways of negotiating movement of goods along routes held by government and Al Shabaab, though they complained of high informal fees and

taxes levied on them. For example, commodity traders paid up to USD 1,950 for a trailer carrying 450 sacks (each 50Kg) of sugar to informal checkpoints and USD 150 - 200 in government taxation.¹⁵ In addition, as a result of the poor road infrastructure between these markets and to rural settlements, which were inaccessible during rainy season and in conflicts, prices of commodities increased during such periods.

A unique opportunity exists for young entrepreneurs to increase aggregate availability of commodities and services in remote markets. The success of these business ventures will be largely dependent on entrepreneurial skills of the business operators. The sector performance can be improved by increasing the product lines. Opportunities exist in supporting these enterprises by working with local authorities to provide enabling environment (appropriate business locations and infrastructure), addressing information gaps, and facilitating ways of tackling multiple constraints that hamper growths either, by building a range of skills (technical, business, and behavioral skills) or by combining skills with capital.

The value chain, especially the number of actors and business, has seen improvements as the security situation in Kismayo improves. For instance, Kismayo, the capital of the Jubaland State of Somalia (JSS) has had rapid development since the departure of Al Shabaab and establishment of the JSS. The port of Kismayo has resumed its activities and was under rehabilitation by a Turkish company. With minimal regulation, there were limited hurdles to business development. The business stakeholders interviewed in the study shared their optimism with recent economic developments and noted the rise of new entrepreneurs.

Scope for improving the target group's income generation activities

The gap between households' requirement and distribution of commodities and services provides a unique opportunity for young entrepreneurs to increase aggregate availability of commodities and services in remote markets. For example, by setting up partnerships with manufacturers, distributors, micro-franchises and financial services providers, youth entrepreneurship can facilitate penetration of new products and financial services in rural markets. In addition, they can provide labour, salesmanship, brokerage, and aggregation/transportation services. The success of these business ventures will be largely dependent on entrepreneurial skills of the business operators. The inadequacy in business planning, poor management (due to lack of business and management expertise in areas such as finance, purchase and selling, production, and hiring and managing employees), low technologies, poor market access insufficient operating funds and unrealistic revenue and income expectations, and high pricing of commodities were the main reasons for the failure of these small enterprises. The sector performance can be improved by increasing the product lines. Opportunities exist in supporting these enterprises by working with local authorities to provide enabling environment (appropriate business locations and infrastructure), addressing information gaps, and facilitating ways of tackling multiple constraints that hamper growths either, by building a range of skills (technical, business, and behavioral skills) or by combining skills with capital.

Feasibility to stimulate change

Willing and able market actors

The main actors in the commodity markets included importers, wholesalers, shopkeepers and open-air retailers. Commodity trading is well established in Kismayo, Afmadhow and Doble, with large traders securing supplies for Kismayo and Mogadishu dealing with movement restrictions along the trade routes through their networks and ensuring the supplies reach the wholesalers, retailers and petty traders in rural and urban markets in the region. The main feature of the commodity value chain was the presence of a large number of small traders operating at different levels of the marketing chain, each handling small quantities of product. The traders were often single businesses, trading in more than one product and to maximize profits, they had a rapid turnover, and engaged in limited storage. As majority of these enterprises relied on households as customers, they were small-scale and had small profit margin. They were faced with restricted growth due to the low business acumen of owners, risky environment they operated in and limited capital investments.

¹⁵ It was also reported that traders had to pay an additional USD 40 – 50 to government-affiliated militia who mounted checkpoints in villages between Kismayo and Doble.

Conduciveness of political economy

The IGAs in the commodity value chain were well established as livelihood in Somalia. While larger traders had good communication, transport and storage facilities, for most of the smaller traders and business, the three fundamental challenges were low volumes of marketed production (with small and dispersed consignments, high transport costs for product from source and to other markets) and informational problems for rural traders. It was observed that some of the importers were also engaged in wholesale and retail activities to increase the turnover. High transport costs, lack of good roads, lack of access to credit, insecurity and lack of storage were the most important constraints for traders to increase supplies. Further, the rural markets had low population density with low incomes and served by few retail outlets, thus relatively uncompetitive and inefficient. The security along stock routes was a serious problem constraining trade within the region. Parts of all the trade routes from Kismayo to Doble, Afmadhow and Badaadhe were all under the Al Shabaab. There were between 4 – 6 checkpoints under the control of Al Shabaab who charged fees equivalent to import tax (up to USD 1,950 for 40 tonne vehicles). These checkpoints not only affected imported commodities, but also cereals produced in the riverine areas. The movement restrictions increased the cost of doing business in the area.

Likelihood of distortion

Except for support for few women groups that were engaged in petty trade, there were no support to market actors in the value chain. Adeso, Danish Refugee Council and American Rescue Committee have all supported some groups. As indicated earlier, due consideration should be made in the design of financial support – there will be need to invest more in business support and facilitation of groups before financial investments are made.

FISHERIES RELATED VALUE CHAINS

Relevance of the agricultural value chain for the target group

Current presence of target population in the value chain

Though fishing was a small-scale activity, with stabilization and increasing population in Kismayo, fishing is a growing component of the local IGAs, generating cash for fisher folks during the fishing season, though constrained by poor processing and poor ice making facilities. The activity was important in Kismayo, Kuda, Burgabo and Ras Kamboni, where an estimated 30% of the population was dependent on fisheries. It was estimated that there were over 250 boats in operation along the Kismayo coastline (including villages such as Kuda, Burgabo, Ras Kamboni, Mathowa and Fuma), most of which were traditional sailing boats (*Shiraa*) and few motorized boats (Saxiimad, faraboad or Volvo).

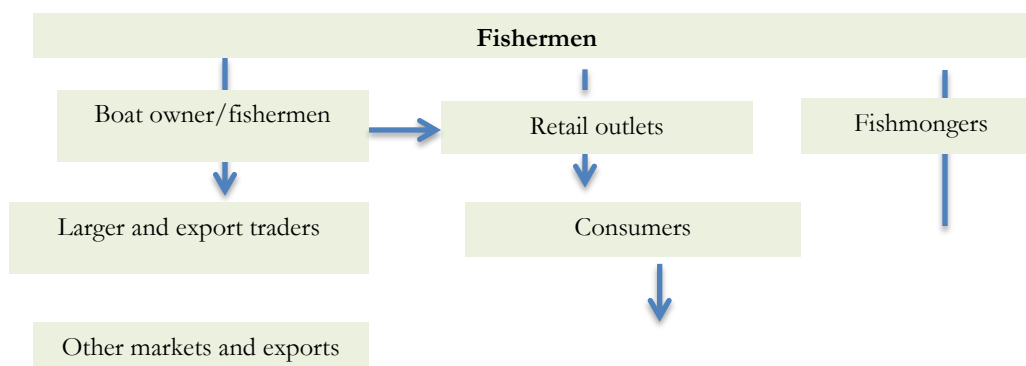
Nature of their participation in the value chain

It is difficult to ascertain the number of people involved in the value chain, but it was noted to include fishermen, ancillary workers (e.g. processors), boat owners, boat crews, suppliers of fishing products and repairmen of boats and nets, traders, brokers, and transporters among others. The fish market system is largely informal and subsistence based transaction, with the simplest marketing involving selling fish soon after landing. The main practice is that fishermen work as a group, and they share the catches among themselves and with the boat owner. The main problems in the value chains refer to lack of capital to invest in procurement, production and marketing activities. The exploitation of the fishing sector has been extremely low due to poor markets, limited infrastructure. Where fish cannot reach the market sufficiently early, spoilage is a key challenge, as handling and processing and storage conditions are unhygienic and poor, and infrastructure in the markets is poor. Finally, the lack of central authorities has led to illegal fishing off the Somali coast by international offshore companies and the sector has suffered from lack of investments and processing facilities.

Market system: The fish market system is largely informal and subsistence based transaction, with the simplest marketing involving selling fish soon after landing, with minimal intermediaries. Furthermore, due to quality and hygiene concerns most customers; especially restaurants preferred dealing directly with the fishermen. The fish landings may be sold directly by fresh fish sellers within Kismayo town, processed into

dried or salt-dried product for other neighbouring markets, or packed in ice to sent for export to Kenya and other markets (Figure 5). However, commonly the catch was sold directly to fish vendors and fishmongers who in turn sold it to final consumers. Hence, fish produced locally was primarily consumed in Kismayo and surrounding villages, though the catch from the islands was exported to Mombasa.

Figure 6: The Fisheries products market chain



The price of fish depended on the size of the catch and the season. For example, during the low fishing season, the price of fish was SoSh 50,000 – 600,000 (USD 2.5 – USD 3) per Kg, while in the high season, fish retailed at SoSh 90,000 – 100,000 (USD 4 – USD 5) per Kg. In addition to the operation costs, the fishermen were also reported to pay taxes and informal fees ranging from 40,000 – 500,000 (USD 2 – USD 3) per catch. In the absence of basic infrastructure, there was no value addition or processing of fish. Hence, fish was sold and consumed fresh with the exception of small quantity of fish that was salted and dried.

Income generation activities along the fisheries value chain: Fishing is based on artisanal fishing in small vessels both inshore and offshore. It is difficult to ascertain the number of people involved in the value chain, but it was noted to include fishermen, ancillary workers (e.g. processors), boat owners, boat crews, suppliers of fishing products and repairmen of boats and nets, traders, brokers, and transporters among others.

1. **Fishermen:** The main practice was that fishermen work as a group, and they share the catches among themselves and/or with the boat owner if they do not have their own boat - though some of the fishermen owned their own boats, some were in catch-sharing agreement with the boat owners. There was seasonality in the fish catches with seasonal peaks being November – December and April – May, which coincided with period of high fish stocks arriving at the tail end of the southwest monsoon. Consequently, the interviewed fishermen indicated that they earned between 1 – 5 USD per day in the low season and up to USD 45 – 50 per day during the fishing season. During off seasons, fishermen were also engaged in casual labour and petty trading. In addition to the lack of adequate boats and equipment, fishermen had limited bargaining power, as fish would spoil fast without any preservation and storage facilities. Thus they got paid lower prices. They were isolated from the markets due to physical isolation, especially in the rural coastal villages, and due to their dependence on boat owners for sale of the catch.
2. **Boat owners:** boat owners worked with embarked fishermen and were paid on the basis of 50% of the total earnings generated through the sale of the catch per fishing trip after deducting the variable cost of the operation. They also supplied fishing gear (nets and hooks) and other equipment. They were also responsible for the sale of the landing beach and sharing out the proceeds among the crewmembers and the boat.
3. **Fish exporters, traders and retailers:** the fish exporters were interested in shark products, which they bought directly from the fishermen or boat owners. The larger traders also sold fishing gear and other inputs – it was common for fishermen to obtain the equipment on credit, which was then deducted from their sale. Some of the fish products were moved to Afmadhow and Doble and some exported to

Mombasa. The fish market was in debilitated state, without electricity, water, ice, or shelter and traders operated more or less in the open.

4. **Fishmongers:** Women from the IDPs camps eked living by selling fish in the camps. They bought fish from the fishermen and sold them fresh or fried to their customers at a small profit to support their families. The condition of fish handling was very poor and in unhygienic condition, thus limiting the number of customers they could attract.
5. **Casual labourers:** During the fishing season, few casual labour opportunities arise in activities such as degutting, salting and drying of fish, unloading fish and in loading of the catches on trucks that transport them to Doble and Afmadhow.
6. **Support services providers:** they were engaged mainly in the supply of fuel, spare parts, repair of nets and other equipment. In addition, the fishermen interviewed indicated that their fishing cooperative in which they were members, whose role was mainly to work with NGOs and government, especially in distributing any support given to them among the fishermen. There were over forty such small cooperative in and around Kismayo coastal villages, though four main

Supporting functions for fisheries value chain: As fish is a delicate product, which spoils quickly unless properly handled, frozen, processed and stored, the trading in fisheries products was fraught with a lot risks for both fishermen and businessmen. The support functions were mainly lacking in the sectors, as it suffered a lack of capital investments in procurement, production and marketing activities. The exploitation of the fishing sector has been extremely low due to poor markets, limited infrastructure. There was no well-established, well managed ice production facility in the entire Lower Juba region, including the city of Kismayo, though the constraints are being addressed by American Rescue Committee which implemented a Somalia Stability Fund supported project: *Strengthening Fishery Sector for Improved Livelihoods and community development in Kismayo*. The American Rescue Committee constructed two fish markets in the residential areas while UNHCR supported a boat maintenance workshop (under the support to returnees from Dadaab and Mogadishu).

Where fish cannot reach market sufficiently early, spoilage was a key challenge. Handling and processing and storage conditions are unhygienic and poor, and infrastructure in the markets was poor. The fishing villages lacked ice and are dependent on Kismayo for market. Furthermore, the sector was suffering from the lack of skilled people in fisheries and support activities such as boat making, cold chain system and electricians, as the fisheries was in itself a looked down upon profession among the predominantly pastoral population. For instance, it was noted during the assessment that there was no fisheries specialized technician for boat repair and electricians or for the maintenance of cold chain facilities. They had to depend on the local mechanics who had some understanding of tractor and vehicle engines. Finally, the lack of central authorities had led to illegal fishing off the Somali coast by international offshore companies.

Appropriateness of sector for the poor

With a coastline covering 3,300 kilometres, fisheries value chain holds important position in the region, especially Kismayo. It was estimated that 30% of the coastal communities in Lower Juba, especially in Kismayo, Kamboni and Kuda derive their livelihoods from fisheries. Key informants indicated that small ventures related to fisheries were profitable. With better methods and simple processing facilities, the fisheries value chain could greatly improve the profitability of their businesses.

Opportunities for sector growth

Likelihood for sector growth

As noted by Kulmiye 2010, Somalia has one of the lowest per capita fish consumption: a mere 1.6Kg/person/year compared to global and African consumption of 15 and 17Kg/person/year.¹⁶ However,

¹⁶ Kulmiye A.J: Assessment of the Status of the Artisanal Fisheries in Puntland through Value Chain Analysis (2010): VSF Suisse and UNDP Somalia.

considering that Somalia has rich fishing grounds and the longest coastline in Africa, the sector can provide opportunities for income generation and employment. It must be noted that with better development of the fisheries value chain – increasing primary processing through sorting and freezing or chilling, increasing secondary processing by filleting and freezing, and improving the distribution networks of fisheries to export markets, other districts in Lower Juba and Bay and Bakool region, opportunities exist for increasing incomes and employment opportunities. However, such development would require investments in fisheries-related infrastructure and services — including fish processing, cold storage, and drying and canning of processed products. Support would be required in accessing of boats and nets, technical training, and investment in transport infrastructure, storage facilities, and the rehabilitation of fishing ports.

Scope for improving the target group's income generation activities

Opportunities for improving the sector lie in improving fishing-related infrastructure and services — including fish processing, cold storage, and drying and canning of processed products. Support could be given through the provision of boats and nets, technical training, and investment in transport infrastructure, storage facilities, and the rehabilitation of fishing ports. The sector had suffered from lack of investments and processing facilities. For example, it was reported that even when large boats that exported fish to Mombasa (about 10 – 12 of them) anchored in the coastal villages to buy fish, they had to wait for days as fishermen brought their catch. This was associated with the lack of adequate fishing boats and nets. Furthermore, without adequate cold chain facilities, they were unable to meet the quantity and quality fisheries products demanded in the markets. Such large boats were therefore forced to work with intermediaries who facilitated access to adequate quantity of catch and managed the administrative relationships between the fishermen and the export boats. Finally, traders indicated that poor roads and a lack of processing facilities were currently hindering distribution to the interior of the region.

It must be noted that though the fisheries value was engaging few women mainly as fish vendors, the sector engaged some of the poorest and most marginalized members of Somali society. Opportunities exist for improving the role of women by engaging them in post-harvest of fisheries – salting, spicing, packaging and sale of fish. Other opportunities include skills development of boat repairers, electricians and maintenance of cold chain facilities. However, the current marketing opportunities were very marginal due to the constraints facing the sector.

Feasibility to stimulate change

Willing and able market actors

Kismayo is located by the expansive Indian Ocean where there is abundance of fish bearing in mind the resource is largely untapped in the area. Artisan fishing - using gillnets, hooks for large fish and shark, hand-lines, and to a lesser extent, traps and seine nets - was one of the predominant types of fishing in the region. However, it was highlighted that less than 30% of the population was engaged in the fisheries value chain.

The actors in fisheries value chain included fishermen, ancillary workers (e.g. processors), boat owners, boat crews, suppliers of fishing products and repairmen of boats and nets, traders, brokers, and transporters among others. Though each of these actors was running IGAs along the value, they were constrained by the lack of infrastructure facilities and proper storage to service hinterland markets. The establishment of such infrastructures could facilitate and help develop and expand the sector significantly. Other stakeholders in the market chain were the Ministry of Fisheries and Marine Resource, Ministry of Trade and Industry, and the Jubaland Chamber of Commerce, Industry and Agriculture. While the Ministry was tasked with the general administration, safeguarding and development of marine resources, JCCIA was dedicated to promoting a business-friendly environment in Jubaland State.

Conduciveness of political economy

There was little in terms of fishing infrastructure in Kismayo - fisheries-related infrastructure and services — including fish processing, cold storage, and drying and canning of processed products were lacking. Institutional knowledge and fishery expertise were also lost as many Somalis fled the country during the civil

war. Hence, in addition to infrastructure development, there will be need to build capacity of fishermen on basic information on effective fishing methods or techniques to prevent spoilage

Likelihood of distortion

The Jubaland State through the JCCIA was interested in improving fisheries value chain by attracting potential entrepreneurs who are familiar with both markets (Juba Land and Mombasa (Kenya) and willing to take advantage of the opportunity in spite of the perceived high risk of doing business in the region. The ARC was implementing a fisheries project aimed at improving infrastructure for fisheries including cold storage, boats and fishing equipment. The project targeted Kismayo, Kuda and Burgabo. Finally, it was observed that fishermen had limited capacity and seemed to be heavily reliant on non-fishing incomes such as casual labour and humanitarian support.

NATURE BASED VALUE CHAINS

As opportunities for other nature based value chains such as honey was limited to few pockets such as in Waraq in Badaadhe district and frankincense was limited too, we concentrated on the wood fuel value chain composed of charcoal and firewood.

Relevance of the value chain for the target group

Current presence of target population in the value chain

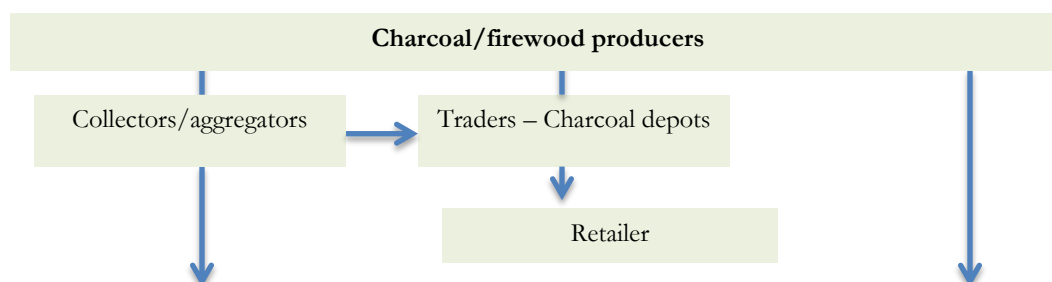
The value chain employed a significant workforce, generally providing a regular income to significant proportion of the population in Lower Juba. A large number of traders are generally involved in buying, transporting, and re-selling of charcoal and firewood. With nearly all households depending on wood fuel and large proportion among riverine and agro-pastoral poor engaged in its production and sale, the value chain was driven by both supply and demand factors. It was an important provider of income and employment with minimal initial investments required. During interviews with women charcoal traders, it was clear that they understood of the negative environmental impacts of the value chain, but they also highlighted the lack of both alternative livelihood sources for value chain actors, and access to alternative energy source.

Nature of their participation in the value chain

The riverine zone around Kismayo was one of the areas where majority of Southern Somalia's charcoal was produced. Because fuel wood is heavy and bulky, and thus difficult and costly to transport over longer distances, it was often converted into charcoal if it was to be used some distance from the forest where it was harvested. Those basing their livelihood on the sector tended to be members of the poorer households (who work as small-scale producers/collectors, traders, transporters, or retailers) who often had limited alternatives for earning cash income.

Market system: The value chain consisted of a multitude of “small” actors with limited power over the entire chain. The value chain begins with charcoal producers who obtain access to trees and producing the charcoal. Charcoal producers have several different options for selling their produce: they deliver directly to the market selling to the consumers; in rural areas intermediaries collect the charcoal until they had enough to fill a truck, arranging a trader to pick up their produce. While trucks are used for transporting charcoal to Kismayo, for the other two markets of Doble and Afmadhow, donkey and donkey carts was the common transport. The product was then sold to traders or depot owners who in turn sold it to retailers or to consumers who could buy a sack of charcoal. The retailers sold it in urban markets directly to consumers.

Figure 7: The charcoal and firewood market chain





Consumers

Income generation activities along the wood fuel value chain: The value chain involved producers, collectors/aggregators, traders who owned charcoal depots and retailers. Table 9 provides the characteristics of the different actors engaged in IGAs along the value chain.

Table 9: The characteristics of actors engaged in IGAs along the charcoal value chain

| Type of IGA | Dominating group | Characteristics |
|---------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Producer sellers | Mainly men – most poorer riverine, agro-pastoral and pastoral households | Working mostly as groups, they produce charcoal and sell it to aggregators if quantities are small or directly to traders who own charcoal depots in Kismayo |
| Collectors/aggregators | Mainly men | These rural intermediaries collect charcoal and firewood until the volumes are adequate to fill a truck. Sometimes a number of intermediaries share a truck to deliver the product to the market |
| Transporters | Mainly men | Owning very old trucks, they provide transportation services to producers and intermediates. |
| Traders – charcoal depot owners | Mainly men | They in turn sold the charcoal to smaller-scale retailers or those consumers who are able to buy entire bags of charcoal at once. |
| Small-scale retailers | Mainly women | The small-scale retailers then resell the charcoal in urban markets or street corners, where consumers purchase charcoal on a daily basis. |

Supporting functions for the value chain: The value chain is riddled with a number of challenges. Charcoal was produced mostly using traditional techniques, with low transformation efficiencies. Further, there is no formal policy framework for sustainable management of wood sources and extraction of wood fuel. Generally, the transportation services to production areas is cumbersome, due to the poor roads, high taxation and the fact that most of the production areas in Lower Juba are still under Al Shabaab. Access to transport is also a major challenge, forcing producers to harvest trees closer to the markets to maximize profits and thus increasing degradation around the settlements. Key informants interviewed indicated that poverty and limitation in access to alternative energy sources are the drivers of the wood fuel value chain.

Appropriateness of sector for the poor

Income from production and sale of charcoal, firewood and building materials complement other households income sources in Lower Juba, helping increase households' resilience to external stress e.g. in buffering seasonal poor crop harvests. However, there are sustainability and health issues about the value chain. However, it was noted that the informal nature of the value chain was the biggest barrier to sustainable development of the sector. Because of the informal nature and political economy surrounding the value, it was difficult for actors to intervene in the sector. The formulation of a Jubaland wood fuel policy may help streamline the sector. Further, diversifying the supply side of the value chain will be necessary, as the value chain currently relies on natural trees, which would be unsustainable in the long run. While it will be necessary to help value chain actors maximize potential harvests by managing wastes, it will be necessary to increase the sustainability of supply through planting of trees/agroforestry.

Opportunities for sector growth

Likelihood for sector growth

Over 98 percent of urban households in Somalia use traditional charcoal stoves, while most of the rural and nomadic population uses firewood and inefficient biomass stoves. The demand for wood fuel continues to increase, more so now due to increasing population and urbanization in Lower Juba. Because charcoal production provided a means of earning money with relatively few up-front investments (compared with

agriculture), it has become an increasingly popular profession. During the agricultural off-season, riverine farmers trying to earn extra cash join charcoal producers. The market for wood fuel includes urban areas in Lower Juba including Kismayo, Doble and Afmadhow, and other urban centres in Central Somalia including Mogadishu. In addition, though charcoal exports were banned, reports indicate that the practice continues. The stakeholders met indicated that the pressure of this demand was causing deforestation in Lower Juba. It was noted that charcoal consumption was expected to remain high based on prospect of population growth, returning IDPs and returnees, increased urbanization, and the prices of alternative energy sources. It was highlighted that considering the high poverty level, the poor will continue seeking charcoal both as income and energy source. However, with stabilization of the region and income improvements, consumers would move from firewood to charcoal and then to other energy sources.

Scope for improving the target group's income generation activities

This value chain target both exports and local consumption, as charcoal is the main form of fuel used for cooking both by rural and urban households in Somalia. In addition, the value chain is driven by exports. However, there is limited scope of developing the sector considering the environmental impacts. For instance, every year, a staggering quarter of a million tonnes of charcoal is exported from Somalia to Gulf countries. To produce this amount, 4.4 million trees are cut down, and 72,900 hectares of land cleared.¹⁷ Further, wood extraction from charcoal and firewood production is said to be the single most threat to the *Dheshbek*, where pastoralists moved their animals in the dry season. Due to land degradation, the resilience and coping mechanisms of communities and their livestock have been reduced to a level where even a low-intensity drought cycle forces them to face huge losses and depend on external assistance.

Feasibility to stimulate change

Willing and able market actors

The producers, collectors/aggregators, traders who own charcoal depots and retailers are the main actors in the value chain. In addition, there is the role of the government, though there is no formal policy framework for sustainable management of wood sources and extraction of wood fuel in the region. It was observed that other than the politics surrounding exports of charcoal, the value chain has not attracted any technical attention from the government arms managing energy, as it was generally considered traditional. Thus there is higher interest in extractives and fuel imports than the impacts of the wood fuel energy.

Conduciveness of political economy

Though use of wood fuel may not be a direct cause of environmental degradation, the large-scale extraction of wood as was evident in Lower Juba would have a tremendous impact on the environment. The production is environmentally unfriendly and charcoal labourers suffer, as they have to contend with environmental consequences, including forest depletion and environmental health issues. In as early as 2002, UNDP noted that 68% of Somali households considered charcoal burning as an environmental problem, second to mosquitoes and flies.¹⁸ Further, acacia the main source of raw material for charcoal production is also source of livestock fodder and as riverbanks are cleared for charcoal production, it causes erosion of nutrient-rich soils and adversely affects the river courses. In addition, charcoal has become the most sought after commodity to fuel the conflict economy, with militia groups generating revenue in excess of USD15 million per annum from illegal exports, according to a 2011 UN Security Council Report.¹⁹ In addition to the environmental impacts of charcoal and firewood, the air pollution arising from indoor use of the product constitutes a threat to people's health, especially women who traditionally are in charge of cooking. There are links between the use of solid fuels and preventable diseases such as child pneumonia and other discomforts for women such as cough, headache, stinging eyes, and backache. Therefore, while it will be necessary to introduce alternative energy sources and help actors find alternative livelihoods, in the short term, the

¹⁷ Breaking the cycle of charcoal production in Somalia

¹⁸ World Bank and United Nations Development Program, 2003. *Socio-economic survey 2002 Somalia*. Washington, D.C.

¹⁹ Breaking the cycle of charcoal production in Somalia

problem of air pollution from use of charcoal can be reduced by changes in behavior to reduce exposure to smoke, improved ventilation, improved cook stoves, or cleaner fuels.

Likelihood of distortion

A number of actors including UNEP, UNDP and FAO are supporting the Somalia Government in enhancing regional cooperation, establishing regulatory instruments and enforcement mechanisms, introducing alternative sources of energy, and most importantly, help charcoal value chain beneficiaries to find alternative livelihoods. The political and distortion risks of the value chain were said to be high.

SECTION 4: CONCLUSIONS AND RECOMMENDATIONS

The assessment showed that the poorer households in Lower Juba were involved in IGAs in the lower end of most of the value chains. It is clear from the assessment that complex factors work against the households in engaging in sustainable IGAs in Lower Juba. In addition to traditional sociocultural factors and national issues such as insecurity, displacements, declining terms of trade and environmental issues, the access to finance and infrastructure, limitation in capacities, and lack of public sector support result in a vicious cycle in which these factors depress incomes trapping the IGAs in low volumes and outputs. It was also observed that the value chains engaging the poor households were themselves constrained by a number of production, marketing and policy constraints. At production, the value chains were hampered by inadequacy of producers' skills and knowledge of production and product management affects the supply; institutional factors related to the provision of improved production technologies including supply of relevant varieties (drought resistant and early maturing), agronomic practices and improved product management techniques; and inadequacy of infrastructure, communication, technology and market information for efficient flow of goods and services. Marketing constraints were related to prices and demand for the products, market information, communication, storage and perishability of the products. Moreover, the lack of standards and norms governing sorting of products and weight of the products was another important constraint of products value chains in the region. Restrictions arising from movement to markets, the absence of any formal policy framework for most of the value chains, and even any capacity by government institutions to enforce any policy instruments, especially in relation to quality standard assurance of inputs and outputs were hindering any market development for the products.

Our recommendation below seeks to address the 1) constraints facing the value chains engaging the poor in Lower Juba 2) addressing the bottlenecks for income generation activities in which the target population were engaged in. An improvement in the security and governance situation in the region will no doubt attract investments in sectors important for income generation. The value chains, especially the number of actors and business, has seen improvements as the security situation in Kismayo improves. For instance, Kismayo, the capital of the Jubaland State of Somalia (JSS) has had rapid development since the departure of Al Shabaab and establishment of the JSS. With minimal regulation, there were limited hurdles to business development.

RECOMMENDATIONS ADDRESSING THE CHALLENGES FACING IGAS IN LOWER JUBA

It was clear during the assessment that households in Lower Juba were able, willing and continued to engage in IGAs despite the existence of contextual issues such as the limited infrastructure, low education and instability in the region. It is therefore important that the STREAM consortium continues to support IGAs, as they are essential for households' incomes and food security, and contributes to the prevention of malnutrition. The provision of regular cash transfers to households, as it will increase the capacity of the households to grow incomes and opportunities, and that market to absorb new commodities and services.

As the organization builds partnerships with the target households and groups, there will be need to ensure adequate market feasibility and sufficient time is invested in the identification, mobilization and training of the community members to improve IGAs ownership and sustainability and allow for maturation of the various businesses. It must be noted that though offering advice and providing direct services, training and credit are all valuable ways in which interveners can help many kinds of income generation initiatives, it is also necessary for interveners to understand the community profiles and needs of the markets before initiating and/or supporting IGAs. It is recommended that program facilitates access to skills and advisory services e.g. starting small businesses, growing the small business, financial and business management etc. for the nascent IGAs, profit management, marketing, and group and conflict management. Developing new services providers, working with extension service providers or direct provision by the NGOs, can support the development of service providers in skills and advisory services. Table 10 provides more detailed recommendations for addressing the constraints facing the different IGAs in Lower Juba.

Table 10: Recommendations for addressing constraints facing the IGAs

| Type of IGAs | Key constraints | Recommended interventions |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Producer sellers | Limited commercial orientation of the producer sellers | <ul style="list-style-type: none"> ▪ Providing business planning and market services support to producer sellers– leading to changes in marketing behaviour and selling practices; ▪ Improve bulking services by supporting market linkages, access to finance, and facilitating exposures visits to working market systems |
| | Limited production capacities due to limitation of access to skills, inputs, financial services, and capacity to manage risks to productivity | <ul style="list-style-type: none"> ▪ Working with the private sectors in improving access to skills, credit and inputs services; ▪ Improving skills for business management and awareness of products markets requirements; ▪ Facilitating access to skills and capacities for managing risks such as access to early warning systems and training in disaster risk reduction strategies, and use of financial and risks services |
| | Limited marketing and linkages | <ul style="list-style-type: none"> ▪ Facilitating dialogue and business linkages between producers sellers and other market actors; ▪ Improving access to market information and skills for interpretation and use for price setting; |
| | Limited access to storage, processing and value addition services and skills, and facilities in markets | <ul style="list-style-type: none"> ▪ Facilitating access to skills and capacities for storage, processing and value addition; ▪ Infrastructure development to ease movement of produce to the markets |
| Vendors/petty traders | Restricted growth due to the vulnerability of the IGAs to hazards, low business acumen of owners, risky environment they operate in and limited capital investments. | <ul style="list-style-type: none"> ▪ Supporting informal small businesses by availing of financial and physical resources, and information that help small business actors recognize opportunities and turn them into business ventures; entrepreneurship education - generating motivation, attitudes, and competencies for entrepreneurship; providing a helping hand in business start-ups and addressing market systems failures in provision of credit and financing; and supporting increase in financial inclusion and encouraging the use of technology among new and existing informal enterprises ▪ Working with existing enterprises to expand their business by identifying new menu of products (e.g. production of new products), investing in innovative marketing for reaching the last mile and financing, and skills development and technology transfer |
| Shops or small business owners | Constraints similar to those listed for vendors and petty traders | Recommendation as those listed as above |
| Large-scale traders | Limited growth, informality of business, access to finances, poor marketing and marketing linkages | <ul style="list-style-type: none"> ▪ Supporting skills and capacities in market research and investment planning, and access to access to skills, credit and inputs services ▪ Facilitating dialogue and business linkages between producers sellers and other market actors; ▪ Facilitating access to skills and capacities for managing risks such as access to early warning systems and training in disaster risk reduction strategies, and use of financial and risks services |
| Service providers | Limited business growth due to access limitation to finance and skills | <ul style="list-style-type: none"> ▪ Facilitating market access, investment promotion and building voice of the informal enterprises; ▪ Facilitating the access to entrepreneurial training, support, and start-up capital; technical and vocational training geared to specific labour market needs; and the regulatory frameworks that promote entrepreneurship will provide the target households with tools to succeed in the current economy. |
| Casual labourers | Limited skills and opportunities for earning incomes due to low labour absorptive capacity | <ul style="list-style-type: none"> ▪ Investing in entrepreneurship and skills development appear as the most viable intervention ▪ Increase awareness of opportunities and pathways to self employment, especially for young women |

RECOMMENDATIONS FOR ADDRESSING THE UNDERLYING VALUE CHAIN CONSTRAINTS

The recommendations below are given, to address the underlying constraints that affect the capacity of value chains to generate incomes for target populations in Lower Juba.

LIVESTOCK RELATED VALUE CHAINS (LIVE LIVESTOCK AND MILK VALUE CHAINS)

For the livestock producers, facilitating their capacity to meet the quantity and quality of animals demanded in the markets is a priority – through improved access to feed inputs, animal health, extension services and agronomic practices, and access to finance for investments in the same. Furthermore, smallholder's access to markets needs to be improved through aggregation services and processing of livestock products. Finally, traders' capacities to address market inefficiencies, inadequate infrastructure, transaction costs, and capacities of market actors need to be addressed. Milk marketing constraints can be addressed by improving the business skills of milk value chain actors, improving transportation, handling and quality assurance practices, and improving access to capital for investments in cooling and storage facilities as well as transportation and infrastructure at marketing sites will improve the quantity and quality of product available in the market, its shelf life and market conditions for the actors.

Other key recommendations include:

- Improvement in basic production as it could have significant implication in enhancing competitiveness. These may be undertaken through the provision of quality veterinary services and promotion of better production practices, and producers awareness and education on the business sense of increased productivity and commercialization of production – converting their production into profitable enterprise;
- Improving access to markets through improved productivity and market orientation by establishing or supporting stronger farmer organizations, improving access information, market linkages and credit services;
- Supporting the development of a vibrant support services sector for livestock and livestock products marketing such as animal health and extension, value chain financing, and risk mitigation services;
- Supporting investments in market infrastructure and workspaces for IGAs in the sector through direct investments by NGOs or working with willing actors that can develop the market institutions through agreed partnership structure;
- Assuring the quality and safety of livestock products marketed by developing capacities, awareness and infrastructure for quality handling and management, credit for investment in infrastructure, and training of local producers in quality and their business and marketing skills for continuous improvement; and
- Building capacity for local value addition of products, processing and packaging, and products diversification and value addition practices.

AGRICULTURE RELATED (CROP) VALUE CHAINS

The main recommendations in the agricultural sector includes:

- Improving the production of value chain commodities and existing production systems by facilitating access to inputs and technologies to improve productivity such as crop extension, irrigation infrastructure, and markets; and upgrading the knowledge, skills and experience of key market actors including producers, traders, and cooperatives to increase production and productivity.
- Improving marketing of products through forming some partnerships among the market actors along the value chains – organizing traders and building trade relationships and linkages at regional level, improvement of market information delivery system and linkages between producers and other market actors, and building the capacity of local market actor institutions such as the farmer associations, and the government extension services

- Creating enabling environment for the important value chains by facilitating the development of business development services and facilitating their linkages with the market actors, and facilitating financial services providers and support their linkages with the market actors.

COMMODITY VALUE CHAIN

The success of value chain actors in the commodity trading will be largely dependent on entrepreneurial skills of the business operators. They face restricted growth due to the vulnerability of the IGAs to hazards, low business acumen of owners, risky environment they operate in and limited capital investments. It is therefore, recommended that investments be channeled into helping the IGAs expand their business by identifying new menu of products, investing in innovative marketing for reaching the last mile and financing, and skills development and technology transfer. Other recommendations includes:

- Opportunity creation: availing of financial and physical resources, and information that help youths recognize opportunities and turn them into business ventures;
- Entrepreneurship education: generating motivation, attitudes, and competencies for entrepreneurship;
- Start up support: providing a helping hand in business start-ups and addressing market systems failures in provision of credit and financing.
- Supporting increase in financial inclusion and encouraging the use of technology among new and existing informal enterprises
- Facilitate improvements in management practices, linkages and technology upgrading in all the enterprises

FISHERIES VALUE CHAIN

Some of the constraints identified in the fisheries sectors can be addressed through the government's intervention e.g. in the better organization of the stakeholders in the sector, development of policies and regulations for the sectors, and in generating data on fisheries potential in the region. To increase the opportunities for income generation in the sector, some of the key recommendations include:

- Improving access to credit and investments: fishermen need credit for three purposes: for redeeming their debts with the traders, for acquiring productive assets such as nets, iceboxes and engines for fisheries, and – during lean periods – for consumption purposes. In addition, fishermen needed credit for fishing operations, for food and fuel during long fishing trips. Regular cash transfers or loans (for debt redemption and production related costs) to poor fishermen will protect them from entering into relationship with traders that would impact on their production activities and incomes. However, there is also need to develop a longer-term mechanism for accessing saving and credit to cover their different needs.
- Improving production systems through 1) improved access to basic needs such as ice and cold chain facilities, and 2) enhancing the skills of fishermen.
- Reducing losses in fisheries operation by addressing challenges of non-functional boats that reduce the productivity of fishing operations, fishing days and overall incomes. Training fishermen/youths from fishing communities in simple boat engine maintenance and repairs will help fill in the need gap and help engines run longer and better. As for the handling and processing of fish, it is possible to improve the systems and reduce losses with limited upgrading of skills and technology. Similarly, it is also possible – through optimization of use of ice and salt and other materials used in processing, or developing stronger tools of trade – to reduce production costs.
- Support in improving infrastructure at landing and markets, as the capacity of local communities to maintain hygiene is contingent on certain facilities e.g. for waste disposal at landing centres. For sustainability, it will be necessary to develop a user fee mechanism for the infrastructure.

REFERENCES

1. ADESO and Acted 2015, Technical proposal for Building Resilience through Social Safety Nets in Lower Juba Region, Somalia;
2. IOM Somalia, 2016. Youth, Employment and Migration in Mogadishu, Kismayo and Baidoa. Report prepared by Altai Consulting for IOM Somalia, February 2016.
3. ADESO 2016, Livelihood Baseline Assessment for Building Resilience through Social Safety Nets in Lower Juba Region, Somalia;
4. ADESO 2016, Stakeholder Analysis and Disaster Risk Reduction Assessment for Building Resilience through Social Safety Nets in Lower Juba Region, Somalia;
5. ADESO 2016, Somalia Livelihood Profiles
6. Jubaland Refugees and IDPs Affairs Commission (JRIA) 2016
7. FSNAU – FEWNET, Technical Release, September 2016.
8. ILO, Value Chain Development for Decent Work – How to create employment and improve working conditions in targeted sectors (Second Edition), Geneva, December 2015
9. Raziq A et al (2008), camel-A Potential Dairy animal in Difficult Environments, *Pak. J. Agri. Sci.*, Vol. 45(2),2008
10. Kulmiye A.J: Assessment of the Status of the Artisanal Fisheries in Puntland through Value Chain Analysis (2010): VSF Suisse and UNDP Somalia.