# UNHCR - FAO COLLABORATION FRAMEWORK:

## Agriculture and Livestock Sector Development in Refugee hosting areas of Ethiopia

# VALUE CHAINS SELECTION REPORT

**April 2020**

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# EXECUTIVE SUMMARY

FAO and UNHCR in Ethiopia are collaborating on a joint project to generate evidence through analysis of the food security, agricultural and livestock livelihoods situations and the needs of refugees and their host communities in the three main refugee hosting areas of Ethiopia (Benishangul Gumuz/Gambella, Tigray/Afar, and Somali). To do this, joint assessments are currently being conducted to generate evidence to support the design of economic inclusion programs.

During the initial phase of this work, FAO deployed experts in the three main refugee hosting areas of Benishangul Gumuz/Gambella, Tigray/Afar and Somali during February and March 2020. A participatory agricultural and livestock value chain selection exercise was conducted to narrow down three value chains per refugee hosting area.

Inputs were collected in two ways: through Focus Group Discussions (FGD) with refugee and host communities, and through Key Informant Interviews (KII) with development experts from the regional government and other development organizations operating in the refugee hosting area.

In the Tigray and Afar cluster, a total of 24 FGDs were conducted in the two regions with a total of 105 people participating in the discussions. For the KIIs, a total of 42 experts were asked to identify the top five value chains in their area and rank them according to their potential value in improving the livelihoods of refugees and the host communities.

Similarly, 21 FGDs were conducted in the two regions of Gambella and Benishangul-Gumuz, with a total of 298 people participating in the discussions. Despite the original plan to conduct a total of 24 FGDs, three FGDs with host community groups couldn't be conducted due to logistical issues. 10 experts were also consulted for the KIIs.

In the Somali region, a total of 6 FGDs were conducted in the Dollo ado area with a total of 110 people participating in the discussions. For the KIIs, a total of 10 experts were interviewed.

Comparative ranking and scoring of short-listed value chains was done across five major dimensions and related sub-dimensions. The dimension with the highest weighting was the economic dimension (45 percent), which assessed the potential of the VC to increase income and create jobs for refugees and the host community; the market demand for the commodity; and the potential to increase production and productivity. The institutional and social inclusion dimensions both had weightings of 20 percent. The Institutional dimension covered aspects such as alignment with government policy and ongoing development projects, and the potential for private sector involvement; and the social dimension evaluated the chains against their potential to create jobs for women and youth, and to encourage collaborative activities between refugee and host communities. The environmental dimension accounted for 10 percent and assessed the potential of the commodity to build climate resilience and resource efficiency among refugees and host communities. The remaining 5 percent was allocated to an assessment of the chains' ability to deliver food security and nutrition to refugees and host communities in terms of both availability and affordability of the commodity for the target community members.

A total of 9 value chains (three per cluster) were identified during the selection exercise. With the exception of the Somali region, the clusters were composed of two regions sharing three value chains. As a result, in each cluster one region was targeted for the selection of two value chains while the other region selected one. The rationale for selecting two value chains for some regions (Tigray and Gambella) and one value chain for the others (Afar and Benishangul-Gumuz) was mainly based on the presence of a higher refugee population (i.e. in the region with more refugees, two value chains were selected).

Two value chains for Tigray Regional State and one value chain for Afar Regional State were identified. Cattle fattening and shoat (sheep and goat) production were selected for Tigray region while goat production was ranked number one for Afar region.

Comparably, in the Gambella/Benishangul-Gumuz cluster, vegetables and maize production were selected in Gambella region while soybean prevailed in Benishangul-Gumuz.

Finally, in the Somali region, the value chain selection exercise was reduced to one commodity (i.e. rather than three), as according to the Melkadida UNHCR mission, two out of three value chains had already been identified and prioritized by other ongoing activities/development projects in the region without the need for conducting a further selection exercise. The two pre-selected value chains were dairy and frankincense/gum. In the Dollo Ado area of Somali Region, onion was selected as the most relevant crop value chain as a result of the participatory ranking exercise conducted by FAO.

The assessment also identified a range of livelihood options available in each region from off-farm and non-farm economic activities and micro enterprise developments.

*Value Chains selected for the three refugee-hosting areas*

| Region | Value Chain selected | Total Score | Max. Possible Score |
|---|---|---|---|
| **Tigray** | Cattle Fattening | 175 | 222 |
| | Shoat Production | 171 | 222 |
| **Afar** | Goat Production | 109 | 174 |
| **Gambella** | Maize Production | 38.6 | 96 |
| | Vegetables Production | 38.4 | 96 |
| **Benishangul-Gumuz** | Soybean production | 50 | 108 |
| **Somali (Dollo Ado)** | Onion | 75 | 96 |
| | Dairy | - | - |
| | Frankincense & Gum | - | - |

In the **Tigray region**, shoat and cattle fattening value chains received high scores in the economic dimension by achieving 82 percent and 86 percent respectively. This result is unsurprising given that both the refugee hosting communities in north western Tigray zone and the refugees in Shimelba (Kunama tribes) currently depend on livestock rearing as a main livelihood, and refugees in Shimelba and May Ayni Camp also practice cattle fattening and sheep and goat production, like the host communities in Tahtay Adiabo and Tselemti woredas. A high score in the institutional dimension was also attained as both value chains are prioritized by the regional government and NGOs working around the refugee hosting areas.

In the **Afar region**, results of the FGD and KII clearly showed goat production is a priority commodity for both refugee and host communities. From the maximum score of 72 points, goat production achieved 61. It scored well in the economic and institutional dimension as well as the food security and nutrition dimensions as the communities depend on animal products (milk and meat) for their protein intake. Refugee hosting communities in the Berahle woreda are pastoralists who keep only goats and camel, and refugees found in Berahle and Asihaita camp are Afar tribes migrated from the Eritrean side. Both the refugees and the hosting community have the same culture and livestock rearing practice, and therefore the selection of the goat VC appears to be a sound choice for future collaboration.

In the **Gambella region** the results from the FGDs and the KIIs differed. FGD participants ranked vegetables first and maize second. The vegetables (tomato and okra) value chain achieved a relatively high score across three key dimensions: economic, food security & nutrition, and social inclusion. Maize scored the highest in the food security and nutrition dimension as it could be available year-round, is a staple food for both refugee and host communities and is considered affordable. For the KII ranking exercise, dairy and fish were identified as the most important value chains for project intervention, although the maize value chain was included by KIIs in the top-3. This can be explained by the broader experience and exposure that the KIIs have to the entire territory, when compared to the findings from the FDGs held in only two villages and two camps where dairy was not deemed relevant by the communities. When combined, the aggregate score from the FGDs and KIIs showed that vegetable production (tomato and okre) was ranked as number one while maize was ranked second. Both of these chains strongly reflect the interests of the refugee and host communities who will be the ultimate beneficiaries of any future livelihood interventions.

In the **Benishangul-Gumuz region**, again the results from the FGDs and the KIIs differed. Shoat was ranked highest by the refugee and host communities, yet soybean prevailed for the KIIs. Shoat scored the highest across the economic, food security and nutrition, and environment dimensions, yet was not considered to be a strong option for engaging youth and women, nor for enhancing integration and collaboration between the host and refugee community. When combined, the aggregate score from the FGDs and KIIs revealed that soybean attained the highest score for Benishangul-Gumuz region. Overall it delivers strong potential across all five key dimensions and there is already some evidence that supports the potential for future collaboration by refugee and host communities in the region through existing livelihood activities involving lease-farming and hire of refugee labour to support farm activities.

Finally, in the **Somali region**, the two pre-selected value chains were dairy and frankincense/gum, and onion was selected by both FGDs and KIIs as the most relevant crop value chain for the Dollo Ado area. The onion value chain was given high scores across the economic, institutional and social dimensions. It is as an important cash crop for refugee and host communities, and the Dollo area has a comparative economic advantage based on the potential to produce off-season. It is also on the priority list of the local government and has been prioritized by several development organizations. It was found to be a suitable crop for engaging women and youth in production and marketing and was considered as an important crop to foster economic integration as there are already cases of joint production by members of the refugee and host communities through share cropping arrangements.

Across all three regions KII and FGD participants were asked to suggest business ideas outside of the agricultural value chains, that could be suitable to engage both host and refugee communities. A range of

ideas were suggested across the regions with some cross-cutting suggestions emerging including: small scale retailing and services (cafes, hairdressing, shoe-shining, tailoring, carpentry and pottery), transport services, agricultural labour, briquette making; as well as some region-specific ideas such as salt mining (Afar region), and other activities where refugee communities already had specific skills (e.g. soap making in Dollo Ado area, Somali Region).

The next phase of this project will focus on analyzing in more depth the specific value chains selected in the three refugee-hosting clusters in Ethiopia, with a view to ultimately developing regional value chain assessment and investment reports to support the design of agriculture and livestock livelihood development programs. An analysis of all actors along the value chains will take place and efforts will be made to identify key intervention points where upgrading activities could be initiated or further strengthened to benefit both refugee populations and host communities to achieve improved livelihood outcomes.

# 1. INTRODUCTION

FAO and UNHCR in Ethiopia are collaborating on a joint project to generate evidence through analysis of the food security, agricultural and livestock livelihoods situations and the needs of the refugee and returnee populations, as well as their host communities in the three main refugee hosting areas of Ethiopia (Benishangul Gumuz/Gambella, Tigray/Afar, Somali). In this light, joint assessments are currently being conducted to generate sufficient evidence to support the design of economic inclusion programs. It is envisaged that the outcomes of these assessments and analysis will substantially contribute to the overall joint effort that is aimed at creating opportunities for self and wage employment for refugees and their host communities.

Specifically, FAO was mandated to generate analysis related to agriculture, livestock, rural value chains, energy, forestry, land suitability and tenure, food security and resilience to inform evidence-based programming, advocacy and decision-making.

During the initial phase of this work FAO deployed experts in the three main refugee hosting areas of BenishangulGumuz/Gambella, Tigray/Afar and Somali during February and March 2020. A participatory agricultural and livestock value chain selection exercise was conducted that narrowed down three value chains per refugee hosting area. Consultations with relevant regional Government agencies (such as the Ministry of Agriculture and Livestock and others) were also conducted to ensure that regional development priorities were taken into account when selecting value chains.

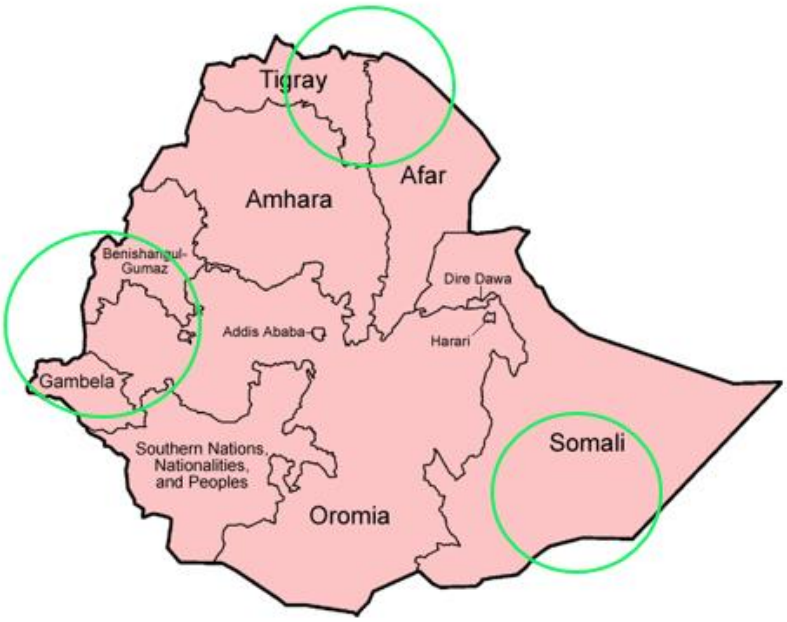
A methodology for identifying and evaluating livelihood options and selection of agricultural value chains was developed by FAO. The following section explains how this methodology was used for collecting and processing data to determine the overall value chain selection for the three refugee hosting clusters.

# 2. METHODOLOGY

## 2.1 Scope and Sampling

The agricultural value chains selection assessment covered the five Ethiopian Regional States of Tigray, Afar, Gambella, Benishangul Gumuz and Somali, which were grouped into three clusters: (i) Tigray/Afar, (ii) Gambella/Beneshangul Gumuz, and (iii) Somali.

***Figure 1:*** *Geographical scope of the assessment*




The objective of the exercise was to gather inputs from major stakeholders in order to select, through a participatory approach, the most relevant agricultural commodities to be assessed. Against this background, FAO deployed three experts (one per cluster) to conduct the selection exercise. The main outcome of the assessment was to identify the top three commodities per cluster according to the inputs provided from stakeholders.

Inputs for value chain selection were collected through two specifically designed tools. A Focus Group Discussion (FGD) approach was used to collect data from the refugee and host communities, while Key Informant Interviews (KKI) were used to elicit information from development experts from the regional government and other development organizations operating in the refugee hosting area.

The FGD approach was selected because it is an effective way to gather together people from similar backgrounds or experiences to discuss a specific topic of interest. The group of participants was guided by the FAO expert who introduced topics for discussion, posed questions and helped the group to participate in a lively and natural discussion amongst themselves.

Four refugee camps were selected in the Tigray/Afar cluster as well as four camps in the Gambella/Benishangul cluster. The Somali case was treated differently as discussed below. Refugee dwellers and host communities living in the *kebeles* surrounding the camp were targeted as informants for the discussions. The selection of camps was made based on the population size of the camps and representation of different livelihood zones across clusters and regions.

The FGDs were conducted with three different demographic categories: (i) Adult Women (above 29 years of age), (ii) Adult Men (above 29 years of age) and a mixed group of youth (iii) young women and men (between 15 and 29 years of age). Each group was composed of 10 to 15 persons. Three FGDs were conducted in each refugee camp (one per demographics) and the same exercise was carried out outside the refugee camps with the host community.

***Table 1:*** *FGDs conducted in the three Clusters*

| Region | Area | No of FGDs with Refugees | No of FGDs with Host Community |
|---|---|---|---|
| **Gambella** | Phugnido | 3 | 2 |
| | Jewi | 3 | 2 |
| **Benishangul Gumuz** | Bambasi | 3 | 3 |
| | Sherkole | 3 | 2 |
| Cluster Total | | **12** | **9** |
| **Afar** | Berahle | 3 | 3 |
| | Asihayta | 3 | 3 |
| **Tigray** | Tahtay Adiabo – Shimelba | 3 | 3 |
| | Tselemti - Mai Ayni and Medhanialem | 3 | 3 |
| Cluster Total | | **12** | **12** |
| **Somali** | Melkedida | 1 | 1 |
| | Boklomayo | 1 | 1 |
| | Hilewoyen | 1 | 1 |
| Cluster Total | | **3** | **3** |

The KII tool was used when the FAO consultants interviewed the experts in person. The target participants for the KIIs were experts working for regional government, UN agencies, NGOs, development partners and other stakeholders depending on the local context. Accordingly, experts were asked to identify the top five value chains in their area and rank them according to their potential value in improving the livelihoods of refugees and the host communities.

The selection of experts for the Key Informant Interview (KII) was made purposely in consultation with stakeholders in the different refugee-hosting areas.

The complete list of the experts involved in the ranking process is included in **Annex I**.

**The Somali Region case**

As alluded, some adjustments had to be made with regards to the Somali Region case. Initially, the selection exercise in Somali region was meant to cover two specific areas of the region: the Jigjiga area (north of Somali) and the Dollo Ado area (south of Somali). However, following discussions with the UNHCR team, an agreement was reached to focus the agricultural value chain selection assessment on the Dollo Ado refugee settlement areas only.

The value chain selection exercise was also reduced to one commodity (i.e. rather than three), as according to the Melkadida UNHCR mission, two out of three value chains had already been identified and prioritized by other ongoing activities/development projects in the region without the need for conducting a further selection exercise. The two pre-selected value chains were dairy and frankincense/gum.

The FAO team was therefore encouraged to exercise flexibility in applying the original methodology for selecting specific commodities. Adjustments were made both in terms of the geographical focus and the number of commodities to be selected, thus reducing the ultimate number of FDGs to be conducted.

The outcome of this adjustment was as follows:

- FAO agreed to select one crop value chain in the Dollo ado area. The three value chains are: (i) onion (selected through FAO's methodology), (ii) Dairy, (iii) incense and gum.
- FAO's assessment in the Somali Region would focus on Melkadida, while the Jigjiga area assessment would be postponed subject to further discussion.
- The methodology was lightened as the value chain selection process considered only one FGD per refugee camp and one FGD per host community. Three refugee camps were targeted in the area. The Demographics of the FGDs were mixed. Attention was paid to the amount of women and youth that participated to the FGDs.

## 2.2 Data collection Tools

The value chain selection process was guided by the assessment tools developed by the FAO team of consultants. For systematic collection of data, the contents were structured by dimension and sub-dimension. The KII/FGD tool had five major dimensions, which covered the macro-categories that hold particular relevance for the selection exercise. Under each dimension a number of sub-dimensions were identified, each with a specific weight to be taken into account. Finally, each sub-dimension has one or more questions that were posed to the interviewees or to the groups in the field.

The main dimensions used for evaluating each value chain are briefly explained as follows:

1. **Economic Dimension (45 percent):** This dimension sought to explore the potential of a particular value chain to improve the livelihood status of the host and refugee communities. The primary objective of the project is to bring sustainable development by improving the livelihoods of the

communities, therefore, the economic assessment of each value chain is given the highest weighting (45 percent). Under this dimension, specific sub-dimensions were defined and weights assigned to each of these.

- **Potential of the Value Chain to increase income for the refugee and host community (10 percent):** This sub-dimension explores the extent to which the value chain is likely to create jobs and better income. It also considers the potential for private investment from value chain actors to create job opportunities for the host and refugee communities.
- **Potential for increasing market opportunities (15 percent):** The existing market potential and the possibility of expanding the demand at local, regional, national, and cross boarder markets are considered. The presence of organized actors in input and output markets are also used to evaluate the commodities. The potential for local value addition (processing) was also considered.
- **Need for resource allocation/commitment (5 percent)**: Sustainable development requires active participation of beneficiaries in committing or contributing some of the resources required. Under this sub-dimension, the KII and FDG participants were asked to consider the capacity and interest of the target host and refugee community members in matching resources required for the production and/or marketing activities of the commodity. These resources could be several, such as land, water, labor, and finance.
- **Potential for increasing productivity and production (15 percent):** This sub-dimension explores the possibility of increasing production by scaling-up existing activities and/or by improving productivity. It also assesses the potential to reduce losses through improved post-harvest handling/storage, and the technical production and management skills required vis-à-vis the existing available knowledge and skill base.

2. **Food Security & Nutrition Dimension (5 percent):** This dimension assesses the availability of the commodity throughout the year in terms of production and availability for purchase for the target community members. Additionally, affordability of the commodity was also included as an evaluation criterion. The main purpose of this dimension is to highlight commodities which are a necessity for the most vulnerable groups in terms of food security. The weighting given is intentionally low (5 percent), given the main purpose of the project is the creation of income opportunities. However, the FAO team deemed it necessary to include food security and nutrition as a criterion since refugees and host communities are among the most fragile and food-insecure segments of the population.

3. **Institutional Dimension (20 percent):** The institutional dimension looks at the existing institutional structures available both within and around the value chains. A number of sub-dimensions were also defined that were used to assess the presence and level of engagement of the following groups:
   - **Private sector and community/local groups (8 percent)**: This sub-dimension explored the presence of formal and informal organizations or groups which are supporting or could support the value chain and community. This could be in the form of cooperatives, community savings groups, women's and youth associations, and policy dialogue platforms. Additionally, the presence and the possibility of engaging private sector actors in the ongoing development of the

value chain was considered, including small and medium enterprises, processors, financial service providers, and extension service providers.

- **Development actors (4 percent)**: This sub-dimension was used to analyze donor-funded projects and NGOs that are engaged in activities to support the development of the value chains. The intention of this dimension is to look at the possibility of coordination with similar projects to maximize the potential for positive impact.
- **Government agencies and priorities (5 percent):** The engagement of Government agencies is essential to facilitate proper implementation and ensure sustainability of project outcomes. Accordingly, the FGDs and – especially – KII participants were asked to evaluate the value chains in relation to the level of engagement of government agencies in supporting these chains and the alignment with existing government priorities.
- **Infrastructure (3 percent):** Value chains cannot operate effectively without adequate supporting infrastructure. The availability of, and need for both basic infrastructure (e.g. electricity, water, good roads, telecommunications) and value chain-specific infrastructure such as facilities for cooling, storage and irrigation were considered when assessing the value chains for selection.

4. **Social Inclusion (20 percent):** This dimension assesses the level of inclusion of specific segments of society such as women and youth. It also explores the potential for social and economic integration between host communities and refugees. The following sub-dimensions were considered.
   - **Potential to engage youth and women in refugee and host community (8 percent):** assessment is based on the level of involvement of women and youth in the existing value chains and potential for expanding future engagement.
   - **Potential to increase integration and collaboration between host and refugee community (7 percent):** Participants were asked if there are any existing activities that involve both host and refugee communities working together, and if there is potential to upscale these in the context of the value chain under evaluation.
   - **Potential for scale up and replication (5 percent):** This section analyzes the possibility of replicating the good practices in other areas or contexts. In particular, it seeks to assess if the technology used in the production and marketing of the commodity can be easily adopted by others, and if the chain has the potential to attract new actors and investment through the involvement of micro, small and medium enterprises (MSMEs).

5. **Environment (10 percent):** The potential to build climate resilience and resource-utilization efficiency among refugees and host communities were considered in the selection process. In this regard, the potential of the commodity to survive through harsh climate conditions such as drought, disease, and pests was assessed. A higher score was given to commodities which are expected to be less vulnerable to climate changes. Additionally, the negative impact of the commodity on the environment was examined, considering levels of waste and potential markets for by-products.

The detailed assessment questions are included in **Annex II**.

## 2.3 Data collection process

When utilizing the FGD/KII tools, the data collection process followed three main steps: (i) long listing of all value chains/livelihood options, (ii) selecting the top five value chains out of the ones previously listed and (iii) ranking the five selected value chains each time a question is posed.

1. **Long listing of all value chains:** At the beginning of the KII/FGD, participants were asked to list all possible agricultural value chains or livelihood options which are currently operating in their local context. The listing was clustered by sub-sectors such as livestock, cereals, pulses, oilseeds, cash crops, vegetables and fruits. In addition, participants were asked to list off-farm and non-farm economic activities which they deemed relevant to improve livelihood options.

2. **Selecting the top five value chains:** The FGD/KII participants were then asked to select the top five value chains/commodities from the long list, giving preference to those chains that they believed had the greatest chance of improving the livelihood of the host and refugee communities. Given the number of FGDs and KII interviews held, the top five VCs selected by each group/interviewee were not always the same, therefore the tables presented in Section 3 provide a consolidated summary of the complete list of "top-five" VCs identified across all the FGDs and KIIs.

3. **Ranking**: Once the top five commodities were selected, the KII/FGD participants were requested to rank the five commodities from 1 to 5 (least relevant to most relevant) when the interviewer posed a question. Therefore, for every question, one commodity received 5 points, one 4 points, and so on, based on the relevance given to the question.

***Table 2:*** *Example of ranking*

| | Banana | Tomato | Pumpkin | Poultry | Barley |
|---|---|---|---|---|---|
| Does the value chain have potential to create jobs and increase income? | 4 | 3 | 5 | 1 | 2 |

In the above example, pumpkin is the commodity that, according to the respondent(s), has the greatest potential to generate jobs and income, while poultry is the least relevant.

## 2.4 Data processing and analysis

Collected data was subsequently analysed and processed following the below steps:

2. **Calculating the weighted score**: The weight for the major dimensions and sub-dimensions was set before the field exercise. As mentioned above, the economic dimension accounts for 45 percent,

food security and nutrition - 5 percent, the institutional dimension and social inclusion both account for - 20 percent each, and, finally, the environment dimension accounts for 10 percent. Dimensions were further divided into sub-dimensions with specific weights given. Once the ranking exercise is completed, the scores from 1 to 5 are multiplied by the weight given to each sub- dimension. This procedure provides a sub-total that will subsequently be multiplied by the total weight of the macro-dimension. The calculation process follows these steps:

a. **Rank given to each commodity converted into score**. As explained earlier, if one value chain is ranked as most relevant, the score assigned to it by respondents is 5.
b. **Multiplying the score with specific weights:** if the value chain is ranked first based on its potential for increasing income of refugee and host community (10 percent), the weighted score will be 0.5 (0.1 times 5).
c. **Aggregating weighted score by macro dimension:** The weighted score calculated for each sub-dimension is added together to get the total score of the value chain per dimension and per respondent. If one value chain is ranked first on all economic sub-dimensions, the total score it could get under the economic dimension would be 2.25, which is the result of total weight (45 percent) assigned to the macro-dimension and score (5).
d. **Aggregating score of all macro-dimensions per respondent and groups:** The weighted score calculated under each macro-dimension was added together to give the total weighted score that the VC received from one respondent or group. The maximum weighted score that a VC could get from one respondent will be 5 (0.45x5+ 0.05x5 + 0.2x5 +0.2x5 + 0.1x5).
e. **Total weighted score from all respondents/groups:** The weighted score calculated per respondent will be added so that the total weighted score given to each individual value chain from all respondents is known.

3. **Frequency (repetition) of VCs listed as top five VC by groups and Experts:** In order to give a fair chance to value chains which were mentioned by groups and experts more frequently than others, the number of times (frequency) that each value chain appeared in the top-five ranking exercise was taken into consideration. Repetition of the same value chains identified by different groups should help to select relatively fewer value chains that can have a better chance in improving the livelihoods of communities in different areas. This consequently would allow the project implementers to focus their resources on fewer value chains for better impact. Hence, the number of times (the frequency) that each VC was mentioned by FGD and KII participants was counted and given one point.

4. **Grand Total score and rank of the VCs:** The grand total score is the sum of the total weighted score obtained from all respondents/groups and the frequency that a value chain has been mentioned as one of the top five value chains. For instance, if total weighted score of all respondents and groups is found to be 42; and if the value chain was listed as one of the top five value chains on 18 occasions (during the KII and FGD), the grand total score will be 60. The same calculation is applied to all value chains. Then based on the total score, the final ranking of the VCs is made.

# 3. VALUE CHAIN SELECTION

## 3.1 TIGRAY AND AFAR CLUSTER

As mentioned in the background section, the objective of this assessment was to select three value chains per cluster. In order to ensure regional representation, the value chain selection exercise was made for each region (Tigray and Afar) separately. Accordingly, **three value chains were selected for the Tigray - Afar cluster**. The data collection, source of information and data processing were the same for both regions. Two value chains for Tigray Regional State and one value chain for Afar Regional State were selected. The rationale for selecting two value chains for Tigray and one value chain for Afar was mainly based on the target refugee population which is higher in Tigray than Afar region.

As presented in the following table, cattle fattening and shoat (sheep and goat) production are selected for Tigray region while goat production was ranked number one for Afar region.

***Table 3:*** *Value Chains selected for Tigray and Afar regions*

| Region | Value Chain selected | Total Score | Max. Possible Score[1] |
|---|---|---|---|
| **Tigray** | 1. Cattle Fattening | 175 | 222 |
| | 2. Shoat Production | 171 | 222 |
| **Afar** | Goat Production | 109 | 174 |

The assessment also looked at the livelihood options available from off-farm and non-farm economic activities and micro enterprise developments. A range of business ideas were suggested by KII and FGD participants.

### 3.1.1. Value Chains selected for Tigray Region

In Tigray region, mainly in the north western zone, mixed crop and livestock production is spread across the Tahtay Adiabo and Tselemti districts where the refugee camps of Shimelba and May Ayni are located. Extensive cattle and small ruminant farming systems are dominant in the zone. The area has considerable cattle and small ruminant resources for milk and meat production which can be sold to the local

[1] The maximum possible score indicates the highest possible score that could be achieved if the VC would have been identified *and* evaluated by *all participants* (FDGs and experts) to rank as *number one* in each interview exercise.

community and neighboring markets. The main cattle and small ruminant breeds reared are Begait breeds. The sheep and goats are known for their prolific reproductive performance and fast growth rate. Begait cattle are known for their top dairy breeds among the indigenous cattle breeds in Ethiopia. They produce 8 – 12 liters per day under extensive management practices. Both the refugee hosting communities in north western Tigray zone and the refugees in Shimelba (Kunama tribes) are agro-pasturalists who depend on livestock rearing along the Tekeze River Valley grazing area. Refugees in Shimelba and May Ayni Camp practiced cattle fattening and sheep and goat production, like the host communities in Tahtay Adiabo and Tselemti woredas. Results of the FGD and KII from Tigray region clearly showed that cattle fattening and sheep and goats production are the top commodities selected both by host communities and the refugees.

### Scoring results from the Focus Group Discussions

As presented in the ensuing tables, a total of eleven (11) value chains were short-listed and evaluated against the predefined criteria by members of the host and refugee communities. **Table 4** below depicts the result of the FGDs. 12 FGDs were conducted across different camps and the host communities in Tigray region. From the total eleven value chains, the results show that shoat production and cattle fattening were ranked first and second with a total score of 58 and 51, respectively, from the maximum possible score of 72. Both shoat and cattle fattening value chains received high scores in the economic dimension by achieving 82 percent and 86 percent respectively. This result is unsurprising given that both the refugee hosting communities in north western Tigray zone and the refugees in Shimelba (Kunama tribes) currently depend on in livestock rearing as a main livelihood, and refugees in Shimelba and May Ayni Camp also practice cattle fattening and sheep and goat production, like the host communities in Tahtay Adiabo and Tselemti woredas. Regarding food security and nutrition, shoat production was given 95 percent of the highest possible score while cattle fattening received 56 percent of the total score. Evidently, this shows that shoat production was considered more available and affordable to the communities than cattle fattening.

Both cattle fattening and shoat production attained a high score in the institutional dimension since both value chains are prioritized by the regional government and NGOs working around refugee hosting areas. The regional government development plan categorized Tahtay Adiabo and adjacent districts as Livestock Production Cluster Areas since Begait cattle, sheep and goats are found particularly in the two zones of Tigray and animal feed is available in the Tekeze Valley. The Tigray regional Government, NGOs and research institutions are particularly focused on modernizing the livestock production systems in north and western Tigray, also in view of the presence of the Baeker Integrated Agro-Industrial Park, where meat and dairy are prioritized commodity for agro-processing.

Both value chains were also found relevant for social inclusion as they were considered very instrumental for the engagement of the kunama tribes who are traditionally pastoralists. Cattle fattening was also suggested as an important value chain to engage landless and job-seeking youth.

Additionally, the result from the FGDs scoring shows that cattle fattening and shoat production have attained a positive ranking on the environment dimension. Participants explained that rainfalls are

adequate and animal feed is available. Communities are well aware of the animal feed potential and the future livestock marketing opportunities around agro-industries and exportations. The livestock breeds found in the area utilize the rangeland resources in the Tekeze Valley. Wolkait Sugar Industry represents another opportunity for animal feed supply for the two zones as sugar cane tops and agro-industrial wastes can be processed into fodder.

The third value chain in the FGD ranking was vegetables with a total score of 42. It was in the list of all FGDs (12) though the total score was less than that of given to shoat production and cattle fattening. Vegetables received low scores for the economic and environment dimensions by achieving only 47 percent and 43 percent of the total possible scores. The vegetables value chain was ranked lower in the economic dimension due to a lack of local markets and market volatility. Vegetables production may also require intensive application of agro-chemicals (mainly pesticides and fungicides), and for this reason it was ranked low against environmental dimensions. However, the vegetables value chain was regarded as important for improving food security and nutrition by achieving 92 percent of the total possible score.

With regards to poultry (4th ranked value chain), some participants in the FGDs mentioned that NGOs had distributed chicken breeds to the target areas recently. Unfortunately, the introduced chicken breeds were not able to survive in the hot climate and, therefore, poultry was given a lower score in the environment dimension. Indigenous chickens are bought by the host community and refugees from local markets only during holyday periods. To date there is no trend of buying chicken meat from butchers in towns and therefore the market would need to be further developed to make the expansion of poultry production a viable option for refugees and host communities.

***Table 4:*** *Result of Focus Group Discussion on ranking the "top-five" VCs - Tigray region*

| Rank | Value Chains | Weighted score by dimensions | | | | | | Frequency | Total | Max point |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Economic | F/S & N[2] | Institutional | Social | Environment | Total | | | |
| 1 | Shoat Production | 20.19 | 2.61 | 10.01 | 10.06 | 4.40 | 47.27 | 11 | 58.27 | 72 |
| 2 | Cattle Fattening | 19.30 | 1.41 | 7.86 | 7.89 | 4.13 | 40.59 | 10 | 50.59 | 72 |
| 3 | Vegetables | 12.76 | 2.76 | 6.24 | 5.59 | 2.57 | 29.91 | 12 | 41.91 | 72 |
| 4 | Poultry | 12.70 | 2.28 | 5.57 | 6.13 | 2.73 | 29.41 | 10 | 39.41 | 72 |
| 5 | Dairy | 9.85 | 1.11 | 4.31 | 4.77 | 2.17 | 22.20 | 8 | 30.20 | 72 |
| 6 | Sesame | 2.23 | 0.36 | 1.17 | 0.60 | 0.47 | 4.82 | 2 | 6.82 | 72 |
| 7 | Maize | 1.65 | 0.33 | 0.82 | 0.82 | 0.63 | 4.25 | 2 | 6.25 | 72 |
| 8 | Fruits | 2.08 | 0.15 | 0.69 | 0.62 | 0.37 | 3.90 | 2 | 5.90 | 72 |
| 9 | Forage | 1.41 | 0.21 | 0.73 | 0.71 | 0.23 | 3.29 | 2 | 5.29 | 72 |
| 10 | Beekeeping | 0.60 | 0.06 | 0.20 | 0.24 | 0.20 | 1.30 | 1 | 2.30 | 72 |
| 11 | Sorghum | 0.45 | 0.06 | 0.28 | 0.20 | 0.10 | 1.09 | 1 | 2.09 | 72 |

[2] Food Security and Nutrition

### Scoring results from the Key Informant Interviews

The same exercise was held with 25 experts working for government and development organizations. As presented in the ensuing tables, a total of ten (10) value chains were mentioned by the experts in the ranking exercise. The ranking exercise revealed that cattle fattening and poultry production are first and second with a total of score of 98 and 87 respectively, from the maximum possible score of 150. Cattle fattening and poultry value chains received high scores in the economic dimension by achieving 74 percent and 65 percent of the total possible score. However, the ranking by the experts confirmed cattle fattening is low in achieving food security and nutrition by scoring only 42 percent. Poultry production, on the other hand, attained 85 percent of the total score in the food security and nutrition dimension. The two value chains, cattle fattening and poultry, were considered as top-five value chains by 22 and 20 experts, respectively. However, poultry production scored low in the environment dimension because chickens are highly susceptible to diseases that might destroy flock population leaving farmers resourceless.

The livestock Production Cluster is a priority plan of the Tigray regional Government for the two above-mentioned zones and the districts. KII experts from Government institutions and NGOs focused both on cattle fattening and poultry extension activities. From the economic dimension, they valued cattle fattening to bring better revenues than poultry as fattening of one cattle for three months provides profits (up to 20 000 ETB) that poultry can only match on a medium-large scale enterprise. In achieving food security and nutrition poultry was valued for the affordability of buying chicken meat and eggs compared to beef from fattened cattle.

24 experts out of the total 25 included vegetables value chain in the ranking, though the score was lower than other value chains in the list including cattle fattening, poultry and dairy production.

***Table 5:*** *KII ranking result "top-five" VCs - Tigray region*

| Rank | Value Chains | Weighted score by dimensions | | | | | | Frequency | Total | Max point |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Economic | F/S & N[3] | Institutional | Social | Environment | Total | | | |
| 1 | Cattle Fattening | 36.76 | 2.33 | 14.34 | 15.59 | 7.17 | 76.17 | 22 | 98.17 | 150 |
| 2 | Poultry | 29.06 | 4.25 | 13.59 | 14.06 | 5.60 | 66.56 | 20 | 86.56 | 150 |
| 3 | Dairy | 27.76 | 3.20 | 12.89 | 12.18 | 5.83 | 61.86 | 23 | 84.86 | 150 |
| 4 | Vegetables | 24.01 | 4.00 | 11.03 | 11.49 | 5.91 | 56.43 | 24 | 80.43 | 150 |
| 5 | Shoat | 27.80 | 2.83 | 11.96 | 12.33 | 6.50 | 61.41 | 17 | 78.41 | 150 |
| 6 | Sesame | 6.75 | 0.43 | 4.51 | 3.20 | 2.03 | 16.92 | 7 | 23.92 | 150 |
| 7 | Beekeeping | 7.33 | 0.53 | 2.96 | 2.79 | 2.20 | 15.79 | 6 | 21.79 | 150 |
| 8 | Sorghum | 4.98 | 0.60 | 1.88 | 1.93 | 0.97 | 10.35 | 4 | 14.35 | 150 |
| 9 | Fruits | 1.39 | 0.18 | 0.45 | 0.37 | 0.20 | 2.58 | 1 | 3.58 | 150 |
| 10 | Maize | 1.03 | 0.15 | 0.40 | 0.36 | 0.13 | 2.06 | 1 | 3.06 | 150 |

[3] Food Security and Nutrition

**Table 6** below presents the aggregate score from the FGDs and KIIs. The aggregate score shows that cattle fattening and shoat production are ranked first and second, respectively, yet poultry and vegetables value chains could also be considered in the pursuit of food security objectives. Poultry combines a good balance of economic potential and food security and nutrition outcomes.

***Table 6:*** *Total scoring result (FGD+KII) - Tigray region*

| Rank | Value Chain | Economic | F/S & N[4] | Institutional | Social | Environment | Total | Frequency | Total | Max Point |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Cattle Fattening | 56.06 | 3.74 | 22.20 | 49.31 | 11.30 | 142.60 | 32 | 174.6 | 222 |
| 2 | Shoat | 47.99 | 5.44 | 21.97 | 56.41 | 10.90 | 142.70 | 28 | 170.7 | 222 |
| 3 | Poultry | 41.76 | 6.53 | 19.16 | 37.20 | 8.33 | 112.98 | 30 | 142.9 | 222 |
| 4 | Vegetables | 36.77 | 6.76 | 17.27 | 35.34 | 8.48 | 104.61 | 36 | 140.6 | 222 |
| 5 | Dairy | 37.61 | 4.31 | 17.20 | 33.32 | 8.00 | 100.44 | 31 | 131.4 | 222 |
| 6 | Sesame | 8.98 | 0.79 | 5.68 | 5.06 | 2.50 | 23.00 | 9 | 32.0 | 222 |
| 7 | Beekeeping | 7.93 | 0.59 | 3.16 | 3.66 | 2.40 | 17.72 | 7 | 24.7 | 222 |
| 8 | Sorghum | 5.43 | 0.66 | 2.15 | 2.76 | 1.07 | 12.06 | 5 | 17.06 | 222 |
| 9 | Fruits | 3.46 | 0.33 | 1.14 | 3.51 | 0.57 | 9.00 | 3 | 12.0 | 222 |
| 10 | Maize | 2.68 | 0.48 | 1.21 | 3.70 | 0.77 | 8.83 | 3 | 11.8 | 222 |
| 11 | Forage | 1.41 | 0.21 | 0.73 | 2.60 | 0.23 | 5.18 | 2 | 7.1 | 222 |

### Other Livelihood Options for Host and Refugee Communities in Tigray Region

KII and FGD participants were asked to suggest business ideas outside of the agricultural value chains, which could be suitable to engage both host and refugee communities. The business ideas are related to engaging off-farm, non-farm and micro businesses. Accordingly, various business ideas have been suggested for the host and refugee communities in Tigray region. The ideas range from providing shoe-shining and repairing, and traditional hair dressing service up to trading construction materials and engaging in transport services. The top business ideas recommend for the host and refugee communities in the Tigray region include the following.

- Running cafeteria and/or restaurant,
- Grain storage and milling service
- Running a retail hop (Fast Moving Consumer Goods),
- Live animal (cattle, goats, poultry) trading
- Agricultural commodities retailing
- Wood and metal work (furniture)
- Recreation (pool, tense billiard) center
- Barbers and hair saloon
- Video, DSTV, Electronics, Mobile center
- Shoe repair and shining
- Tailoring of traditional clothes
- Dairy products trading (butter)

[4] Food Security and Nutrition

### 3.1.2. Value Chains selected for Afar Region

The Afar Region is located in the Northeast of Ethiopia sharing international borders with Eritrea and Djibouti. The northern part of Afar Region where Berahle woreda is found, is largely a degraded landscape and semi-desert with thorny species of shrubs and acacia trees. One of the refugee camps in Afar region is located in this woreda. Refugee hosting communities in the woreda are pastoralists who keep only goats and camel. Refugees found in Berahle and Asihaita camp are Afar tribes migrated from the Eritrean side. Both the refugees and the hosting community have the same culture and livestock rearing practice. Both keep goats, camel and cattle (those in Asihaita woreda). With such background, results of the FGD and KII clearly showed goat production is a priority commodity for both communities in the Afar region. Dairy (milk from goats, came and cattle) was the second commodity ranked from the FGD and KII data collection. The same ranking exercise was done as in Tigray for selecting one top value chain for the Afar region.

**Scoring result from the Focus Group Discussions**

A total of eight (8) value chains were evaluated by the 12 FGDs conducted in the region. As presented in the below **Table 7**, goat production prevailed as the highest-ranking chain. This makes sense as it was uncovered during the FGDs (and reinforced during the KIIs) that refugee and host communities already engage in goat production as a major component of their livelihoods. From FGDs, goat production was mentioned 11 times. From the maximum score of 72 points, goat production has achieved 61 followed by dairy production (50 points).

The third value chain in the FGD ranking is cattle fattening with total score of 31. It was shortlisted six times out of the twelve total FGDs.

Host and refugee communities in the Afar region are composed of pastoralist tribes whose livelihoods depend mainly on livestock rearing. Goats and camels are particularly found in Berahle woreda while goats, camels and cattle are found in Asihayta woreda. Berahle woreda is characterized by a dry and semi-desert landscape where only goats and camels can adapt to survive in such climate, and the livelihoods of the communities depend on these species. Accordingly, it was no surprise that goat production prevailed in the economic as well as in the food security and nutrition dimensions. The communities depend on animal products (milk and meat) for their protein intake.

Similarly, FGDs participants gave a high score to livestock (particularly goats) in the institutional dimension. The selection is justified by the interventions provided by the Afar Regional Bureau of Livestock, Agriculture and Natural Resources (BoLANR) which focus mostly on the potential of the region: livestock and natural resources development such as degraded rangelands.

*Table 7: FGD scoring result "top-five" VCs, Afar Region*

| Rank | Value Chains | Weighted score by dimensions | | | | | | Frequency | Total | Max point |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Economic | F/S & N[5] | Institutional | Social | Environment | Total | | | |
| 1 | Goat production | 22.68 | 2.51 | 9.80 | 9.78 | 4.90 | 50 | 11 | 61 | 72 |
| 2 | Dairy | 16.85 | 2.18 | 7.67 | 8.10 | 3.70 | 38.50 | 11 | 50 | 72 |
| 3 | Cattle Fattening | 11.48 | 0.55 | 5.47 | 5.17 | 2.57 | 25.22 | 6 | 31 | 72 |
| 4 | Beekeeping | 9.00 | 1.00 | 3.80 | 3.80 | 1.90 | 19.50 | 5 | 25 | 72 |
| 5 | Vegetables | 3.71 | 0.81 | 1.61 | 1.67 | 0.67 | 8.46 | 5 | 13 | 72 |
| 6 | Forage | 1.89 | 0.15 | 1.00 | 0.80 | 0.70 | 4.53 | 3 | 8 | 72 |
| 7 | Sesame | 1.38 | 0.10 | 0.75 | 0.56 | 0.20 | 2.99 | 2 | 5 | 72 |
| 8 | Maize | 1.30 | 0.30 | 0.44 | 0.58 | 0.37 | 2.98 | 2 | 5 | 72 |

## Scoring result from the Key Informant Interviews

A total of ten (10) value chains were identified by the 17 experts who participated in the scoring exercise conducted in Afar region. The result of the KII scoring confirmed that goat production is considered to be the top value chain in the region. As presented in **Table 8**, goat production came out on top with a total score of 49, followed by vegetables and dairy production with 42 point, each out of a total maximum score of 102. Among the 17 experts who participated in the ranking exercise, only 9 experts identified and evaluated goat production as one of the top-five chains. However, as most of them ranked goat production high on most of the dimensions, it prevailed as the first value chain recommended by KIIs for the Afar region.

Goat production prevailed as the top value chain for the same reasons mentioned in the above FGDs results section. It prevailed in each dimension except for food security and nutrition where vegetables ranked higher due to the potential for diet diversification and vitamin intake. However, vegetable production in the Afar refugee hosting areas is limited to Asihayta woreda where the Awash River represents a source of irrigation for cereals and horticulture production. Nevertheless, cattle, goats and camel production and animal feed development were mentioned by the experts as livestock is undoubtedly the priority for the region.

[5] Food Security and Nutrition

***Table 8:*** *KII scoring result "top-five" VCs- Afar Region*

| Rank | Value Chains | Weighted score by dimensions | | | | | | Frequency | Total | Max point |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Economic | F/S & N[6] | Institutional | Social | Environment | Total | | | |
| 1 | Goat production | 17.81 | 1.73 | 7.98 | 8.02 | 4.10 | 39.63 | 9 | 49 | 102 |
| 2 | Vegetables | 13.14 | 2.03 | 6.37 | 6.06 | 2.70 | 30.29 | 12 | 42 | 102 |
| 3 | Dairy | 14.44 | 1.45 | 6.69 | 6.96 | 3.17 | 32.70 | 9 | 42 | 102 |
| 4 | Cattle F | 14.63 | 0.73 | 6.25 | 5.95 | 3.03 | 30.57 | 8 | 39 | 102 |
| 5 | Beekeeping | 13.48 | 1.55 | 5.91 | 5.91 | 3.03 | 29.87 | 8 | 38 | 102 |
| 6 | Maize | 6.71 | 1.43 | 2.21 | 2.52 | 1.50 | 14.37 | 8 | 22 | 102 |
| 7 | Camel | 2.70 | 0.30 | 1.20 | 1.20 | 0.60 | 6.00 | 2 | 8 | 102 |
| 8 | Forage | 2.16 | 0.10 | 1.26 | 1.05 | 0.70 | 5.27 | 2 | 7 | 102 |
| 9 | Fruits | 1.35 | 0.15 | 0.60 | 0.60 | 0.30 | 3.00 | 2 | 5 | 102 |
| 10 | Cereals | 1.30 | 0.28 | 0.40 | 0.66 | 0.27 | 2.90 | 2 | 5 | 102 |

The aggregate score from the FGDs and KIIs revealed that goat production is the highest-ranking value chain for Afar region with a score of 109 out of 174 points.

***Table 9:*** *Aggregate scoring Result (KII+FGD) - Afar Region*

| Rank | Value Chain | Economic | F/S & N | Institutional | Social | Environment | Total | Frequency | Total | Max Point |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Goat production | 40.49 | 4.24 | 17.78 | 17.80 | 9.00 | 89.29 | 20 | 109.2 | 174 |
| 2 | Dairy | 31.29 | 3.63 | 14.36 | 15.06 | 6.87 | 71.20 | 20 | 91.2 | 174 |
| 3 | Cattle F | 26.10 | 1.28 | 11.71 | 11.11 | 5.60 | 55.80 | 14 | 69.8 | 174 |
| 4 | Beekeeping | 22.48 | 2.55 | 9.71 | 9.71 | 4.93 | 49.37 | 13 | 62.3 | 174 |
| 5 | Vegetables | 16.85 | 2.84 | 7.98 | 7.72 | 3.37 | 38.75 | 17 | 55.7 | 174 |
| 6 | Maize | 8.01 | 1.73 | 2.65 | 3.10 | 1.87 | 17.35 | 10 | 27.3 | 174 |
| 7 | Forage | 4.05 | 0.25 | 2.26 | 1.85 | 1.40 | 9.81 | 5 | 14.8 | 174 |
| 8 | Camel | 2.70 | 0.30 | 1.20 | 1.20 | 0.60 | 6.00 | 2 | 8.0 | 174 |
| 9 | Sesame | 1.38 | 0.10 | 0.75 | 0.56 | 0.20 | 2.99 | 2 | 4.9 | 174 |
| 10 | Fruits | 1.35 | 0.15 | 0.60 | 0.60 | 0.30 | 3.00 | 2 | 5.0 | 174 |
| 11 | Cereals | 1.30 | 0.28 | 0.40 | 0.66 | 0.27 | 2.90 | 2 | 4.9 | 174 |

[6] Food Security and Nutrition

### Other Livelihood Options for Host and Refugee Communities in Afar Region

Like the Tigray region, KII and FGD participants were asked to suggest business ideas outside the agricultural value chains that could be suitable to engage the host and refugee communities. The business ideas are related to engaging off farm, non-farm and micro businesses. The top business ideas recommend for the host and refugee communities in Afar region include the following.

- Cart transport
- Camel renting to fetch salt from mining site
- Public bathroom and toilet service
- Youth recreation service, language school, library
- Salt mining
- Traditional clothes sewing and matt-making
- Milk shop and milk processing
- Shop (wholesale and retailing of consumable items)
- Running small cafeteria and restaurant with butchery, and bakery
- Barber and hair saloon

## 3.2 GAMBELLA AND BENISHANGUL-GUMUZ CLUSTER

Similarly to the Tigray/Afar section, the objective of this assessment was to select three value chains per cluster. In order to ensure regional representation, the value chain selection exercise was made for each region of Gambella and Benishangul-Gumuz separately. Accordingly, **three value chains** were selected for the Gambella – Benishangul-Gumuz cluster. The data collection, source of information and data processing were the same for both regions. Two value chains for Gambella and one value chain for Benishangul-Gumuz region were selected. The rationale for selecting two value chains for the Gambella region and one for Benishangul-Gumuz region is mainly based on the target refugee population. The refugee population in Gambella is higher than in Benishangul-Gumuz.

As presented in the following table, maize and vegetables (Tomato and Okra) production were selected for Gambella region while soybean was ranked number one for the Benishangul-Gumuz region.

***Table 10:*** *Value Chains selected for Gambella and BG regions*

| Region | Value Chain selected | Total Score | Max. Possible[7] Score |
|---|---|---|---|
| **Gambella** | 1. Maize production | 38.6 | 84 |
| | 2. Vegetables (Tomato and Okra) Production | 38.4 | 84 |
| **Benishangul-Gumuz** | Soybean | 50.8 | 102 |

Notably, the total score for each value chain is less than half of the maximum possible score in each region. This is because a large number of commodities were considered by the FGD participants and the experts interviewed when selecting their "top five". This is due to the multiple livelihood options available in the two regions. For this reason, the score has been spread over various value chains, and therefore the points achieved by each value chain decreased.

The assessment also looked at the livelihood options available from off-farm and non-farm economic activities and micro enterprise developments. A range of business ideas have been suggested by KII and FGD participants.

[7] The maximum possible score indicates the highest possible score that could be achieved if the VC would have been identified *and* evaluated by *all participants* (FDGs and experts) to rank as *number one* in each interview exercise.

### 3.2.1 Value Chains selected for Gambella Region

Gambella Regional State is situated in the south-western part of Ethiopia. The region borders with Benishangul-Gumuz and Oromia regions to the North, the Southern Nations, Nationalities and Peoples' Regional State (SNNPR) and the Republic of South Sudan to the South, Oromia and SNNPR to the east and the Republic of South Sudan to the west. Agro-ecologically, the region is predominantly lowland with a few midlands.

The main refugee and host community population is composed of Nuer and Anyuaak people. Recession riverside agriculture is common, particularly for growing maize, sorghum and vegetables, and is widely practiced by Anyuaak people along the Baro, Gilo and Akobo rivers. As the region is generally not cereal self-sufficient, alternative income activities such as fishing are important sources of food for the Anyuaak community. Wild animal consumption is part of the dietary intake given the untouched bush land and natural forest resources. Most of the Nuer population reside along the border with South Sudan (Akobo and Jikawo woredas), where the climate is too dry for rain-fed agriculture, therefore livestock constitutes the primary source of income for the community.

According to UNHCR (2020), there are a total of 311,781 persons of concern, of which 70 percent are under the age of 18. Refugees have, on average, a 10 x 30 meter plot of land per household used for different purposes from house construction to backyard gardening. Refugees are often engaged in small businesses (e.g. tea rooms, small shops, kiosks, etc.) within the camp. A few refugees manage to work outside the camp boundaries, however this is limited to minimal informal jobs.

**Scoring result from the Focus Group Discussions**

As presented in **Table 11**, a total of eleven (11) different value chains were identified as top five value chains from the 10 FGDs conducted in Gambella region. The listing considered a wide range of value chains from cereals, pulses, fruits and vegetables, trees (Moringa) to livestock subsectors. These value chains were evaluated against the predefined criteria by the host and refugee communities. From the total eleven value chains, FGD participants ranked vegetables and maize first and second with total score of 32.5 and 30.8 respectively. Vegetables and maize were rated in the top five VCs 10 and 9 times respectively from the total of 10 FGDs conducted in the region.

As mentioned, the total scoring result is low due to differences in preferences for value chains among the different groups. This is partly due to the differing agro-ecological conditions in the woredas and also the differences in existing skillset among the community members.

Across the FGDs, the vegetables value chain attained the highest score and ranked first. The vegetables value chain achieved a relatively high score across three key dimensions: economic, food security & nutrition, and social inclusion. A high score was given on the economic dimension since the local and regional markets are considered to be attractive and have a strong demand for vegetables. When discussing vegetable production, the FGD participants were asked to prioritize commodities. Tomato and

Okra are the result of this prioritization made by the communities. It was mentioned that Okra is a very popular food for local people both in the urban (Gambella city) and in rural areas. Okra was also considered positively for food security and nutrition due to its availability and affordability in the area.

Participants mentioned that the current market for tomato is mainly served by produce coming from distant areas such as Addis Ababa and Oromia since there is not enough production in the region, despite the high consumption. Additionally, tomato and okra attained a relevant score in the social inclusion dimension. By and large, all focus group discussants highlighted the potential for scaling-up and replication in these two chains and the potential to engage youth and women in the refugee and host community (see Figure 2).

Nonetheless, the vegetables value chain scored low on the institutional and environment dimensions. As shown in the below **Table 11**, under the "frequency" column, the vegetable value chain was rated in the "top-five" by all 10 groups. Ideally, if all groups ranked vegetables as the number one value chain in terms of the institutional dimension, the total score would have been 10 (0.28 times 10 times 5). Despite being the biggest number in the "institutional" column in the **Table 11** below, vegetables only achieved 21 percent of the total possible score from the ten FGDs. The result in the institutional dimension was similar for Maize as the commodity scored only 2.0 from the maximum possible score of 9. The weighted score for the institutional dimension was low mainly due to limited existing support from government for the development of the vegetables (and maize) sub-sector. It was reported that Gambella, out of all the regions, depends highly on federal grants due to low institutional capacity, low economic base and political instability within the region. It was also noted that the region is characterized by weak coordination among stakeholders, weak budgeting and expenditure administration, poor revenue generating capacity and weak public sector service deliveries. Finally, vegetables achieved a low score on the environment dimension because production is heavily dependent on irrigation from nearby rivers and this may affect long-term sustainability if not carefully managed.

***Figure 2:*** *Youth and women transporting their freshly harvested tomato to market along river Baro*

[8] 0.2 (20%) is the weight assigned to institutional dimension; 10 is the number of FGDs; 5 is the score per FGD when a VC is ranked as number one.

Maize, which was ranked second by FGD participants, scored the highest in the food security and nutrition dimension (71 percent) followed by environment (62 percent), economic (57 percent) and Social inclusion (42 percent) dimensions. Evidently, maize is a very important crop for food nutrition and security as it could be available throughout the year and is considered affordable for the communities. Moreover, maize is one of the main staple foods for both refugees and host communities in both assessment areas in Gambella. As the host community in the study area enjoys a comparatively large cultivable land area per household (e.g. up to 5 hectares[9]), rotation farming is commonly practiced. Maize farming was, therefore, considered environmentally friendly, or at least not posing an adverse effect on the environment. Conversely, FGD participants highlighted that women participation in Maize farming is low compared to vegetables production, hence the difference in social dimension ranks for the two value chains.

***Table 11:*** *Result of FGD ranking of the "top-five" VCs - Gambella*

| Rank | Value Chains | Weighted score by dimensions | | | | | | Frequency | Total | Max point |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Economic | F/S & N[10] | Institutional | Social | Environment | Total | | | |
| **1** | Vegetables | 11.8 | 1.5 | 2.1 | 5.4 | 1.8 | 22.5 | 10 | 32.5 | 60 |
| **2** | Maize | 11.6 | 1.6 | 2.0 | 3.8 | 2.8 | 21.8 | 9 | 30.8 | 60 |
| **3** | Shoat | 9.6 | 1.2 | 1.5 | 3.0 | 2.6 | 17.9 | 7 | 24.9 | 60 |
| **4** | Poultry | 6.5 | 1.0 | 1.3 | 2.7 | 1.3 | 12.7 | 6 | 18.7 | 60 |
| **5** | Ground Nut | 6.0 | 0.9 | 1.4 | 2.0 | 1.8 | 12.0 | 6 | 18.0 | 60 |
| **6** | Fish | 5.9 | 0.5 | 0.6 | 1.9 | 0.8 | 9.6 | 4 | 13.6 | 60 |
| **7** | Cattle Fattening | 2.4 | 0.2 | 0.4 | 1.0 | 0.7 | 4.6 | 2 | 6.6 | 60 |
| **8** | Moringa | 1.0 | 0.2 | 0.1 | 0.5 | 0.3 | 2.1 | 1 | 3.1 | 60 |
| **9** | Beans | 1.0 | 0.2 | 0.2 | 0.3 | 0.3 | 2.0 | 1 | 3.0 | 60 |
| **10** | Mango | 0.6 | 0.2 | 0.2 | 0.4 | 0.2 | 1.6 | 1 | 2.6 | 60 |
| **11** | Watermelon | 0.6 | 0.1 | 0.2 | 0.3 | 0.2 | 1.4 | 1 | 2.4 | 60 |

### Scoring result from the Key Informant Interviews

The same exercise was held with experts working for the regional government and development organizations. As seen in **Table 12**, a total of twelve (12) value chains were identified by the experts during the ranking exercise. Accordingly, dairy, fish and maize value chains came out as the top three value chains. The result of the KII ranking exercise was found to be quite different from the FGD ranking outcome, although the maize value chain was included in the top-3 list by both groups. This difference in

[9] Ethiopian national land average is approximately 1 hectare
[10] Food Security and Nutrition

results is believed to be due to the wide agricultural options available in the region, and the respective comparative perception each expert has about the potential of these value chains.

The experts who participated in the KII ranked dairy and fish as the first and second most important value chains for project intervention with total score of 11.5 and 8.9 respectively from the maximum possible score of 24. Fishing from the river was selected as a high priority value chain given that Gambella region is endowed with many perennial rivers which are rich in fish. Also, populations close to the Baro River are high fish consumers (more than 10 kilograms/person/year) making fish a relevant value chain for Food Security and Nutrition as well as for the Economic dimension.

Dairy was ranked number one, and scored high on economic, food security and nutrition, and social inclusion dimensions. In particular, dairy was considered as an alternative source of cash for the host communities as, in some camp areas, they already sell fresh milk to refugees. In addition, it was reported that dairy is relevant to engage women as there are milk savings groups in existence in the woredas. Within the group, women members aggregate their production of fresh milk daily and take turns to deliver it to the marketplace. Every day a new member takes the duty of marketing the product while other members can stay at the household. Nonetheless, the dairy value chain was not ranked in top five by the FDG participants. This is probably due to the fact that the study covered only two villages and two camps where dairy was not deemed relevant by the communities. KII experts informed otherwise, given their broader experience and exposure in the entire territory.

***Table 12:*** *KII ranking results - Gambella*

| Rank | Value Chains | Weighted score by dimensions | | | | | | Frequency | Total | Max point |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Economic | F/S & N[11] | Institutional | Social | Environment | Total | | | |
| **1** | Dairy | 4.7 | 0.6 | 0.8 | 1.8 | 0.5 | 8.5 | 3 | 11.5 | 24 |
| **2** | Fish | 3.3 | 0.5 | 0.7 | 1.2 | 0.3 | 5.9 | 3 | 8.9 | 24 |
| **3** | Maize | 3.3 | 0.4 | 0.4 | 1.3 | 0.2 | 5.6 | 2 | 7.6 | 24 |
| **4** | Mango | 2.4 | 0.2 | 0.8 | 0.8 | 0.2 | 4.3 | 2 | 6.3 | 24 |
| **5** | Vegetables | 1.8 | 0.3 | 0.6 | 1.0 | 0.4 | 4.1 | 2 | 6.1 | 24 |
| **6** | Honey | 2.2 | 0.3 | 0.3 | 0.8 | 0.2 | 3.8 | 2 | 5.8 | 24 |
| **7** | Milk | 1.6 | 0.2 | 0.4 | 0.7 | 0.1 | 2.9 | 1 | 3.9 | 24 |
| **8** | Sorghum | 1.2 | 0.2 | 0.4 | 0.5 | 0.3 | 2.5 | 1 | 3.5 | 24 |
| **9** | Ground Nut | 1.4 | 0.1 | 0.3 | 0.5 | 0.1 | 2.4 | 1 | 3.4 | 24 |
| **10** | Rice | 1.2 | 0.2 | 0.1 | 0.7 | 0.2 | 2.3 | 1 | 3.3 | 24 |
| **11** | Poultry | 1.2 | 0.1 | 0.3 | 0.5 | 0.2 | 2.1 | 1 | 3.1 | 24 |
| **12** | Shoat | 1.1 | 0.1 | 0.2 | 0.5 | 0.2 | 2.1 | 1 | 3.1 | 24 |

## Aggregate Scoring Results (KIIs + FGDs)

[11] Food Security and Nutrition

**Table 13** below presents the aggregated score from the FGD and KII ranking exercise. The aggregate scoring result revealed a different outcome, as the top two performing value chains were not the same for FGDs and KIIs. The aggregated score showed that vegetable production (which mainly combines Okra and Tomato) was ranked as number one with the total score of 38.6 while maize and shoat production came second and third with total scoring of 38.4 and 28 respectively.

This shows that KII experts have a different view on commodity selection when compared to the refugee and host communities. This can potentially be explained by their broader knowledge of the potential agricultural activities in the region, yet less in-depth knowledge of the specific refugee and host-community activities and skill base in the villages where the FGDs were held. FGDs with refugee and host communities, being bigger in numbers (10), prevailed over the KIIs views (4) when the scores were aggregated. Additionally, given that the refugees and host communities will be the direct beneficiaries of any future livelihood interventions, the results from the participatory approach have clearly identified their preference for specific value chains when it comes to income and livelihood options.

As seen in **Table 13**, these two chains scored highly across the economic, social and food security and nutrition dimensions and are well aligned with the current agro-ecological conditions, production experience and skillset of both the refugee and host populations in the four woredas. In addition, both commodities are seen to have strong economic potential as demand is strong in both local and regional markets. Based on existing experience, the vegetable chain in particular is considered to actively engage women and youth in the production and marketing of the commodities, and both vegetables and maize can be produced with minimal disruption to the environment, although further work is needed to ensure adequate irrigation water is available for vegetables production. Although both commodities were scored low across the institutional dimensions, this is representative of the weak enabling environment for all value chains that currently exists in the Gambella region where little government support is available. The only institutional support that was identified was a small programme managed by the Danish Church Aid which organizes fresh vegetables markets in some camps in the Gambella area. Aggregators and traders (not farmers) from the host community have a space to sell vegetables such as onion, tomato and cabbage within the refugee camps, and refugees are given a voucher that allows them to buy fresh produce to complement their diet and make it more nutritious. This is another reason why support for the vegetable value chain should be prioritized as there are least some ongoing activities that are functioning despite the weak government institutional environment. Finally, both commodities scored highly on the food security and nutrition elements which recognizes the importance of the issues of availability and affordability for both the refugee and host communities.

***Table 13:*** *Aggregate scoring result (FGD+KII) - Gambella*

| Rank | Value Chain | Economic | F/S & N[12] | Institutional | Social | Environment | Total | Frequency | Total | Max Point |
|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Vegetables | 13.6 | 1.8 | 2.7 | 6.4 | 2.2 | 26.6 | 12.0 | 38.6 | 84 |
| **2** | Maize | 14.9 | 2.0 | 2.4 | 5.1 | 3.0 | 27.4 | 11.0 | 38.4 | 84 |
| **3** | Shoat | 10.7 | 1.3 | 1.7 | 3.4 | 2.8 | 19.9 | 8.0 | 27.9 | 84 |
| **4** | Fish | 9.1 | 0.9 | 1.3 | 3.1 | 1.0 | 15.5 | 7.0 | 22.5 | 84 |
| **5** | Poultry | 7.7 | 1.1 | 1.5 | 3.2 | 1.4 | 14.9 | 7.0 | 21.9 | 84 |
| **6** | Ground Nut | 7.3 | 0.9 | 1.7 | 2.6 | 1.9 | 14.3 | 7.0 | 21.3 | 84 |
| **7** | Fattening | 7.1 | 0.9 | 1.2 | 2.8 | 1.2 | 13.1 | 5.0 | 18.1 | 84 |
| **8** | Mango | 3.0 | 0.4 | 1.0 | 1.2 | 0.4 | 5.9 | 1.0 | 6.9 | 84 |
| **9** | Honey | 2.2 | 0.3 | 0.3 | 0.8 | 0.2 | 3.8 | 2.0 | 5.8 | 84 |
| **10** | Milk | 1.6 | 0.2 | 0.4 | 0.7 | 0.1 | 2.9 | 1.0 | 3.9 | 84 |
| **11** | Sorghum | 1.2 | 0.2 | 0.4 | 0.5 | 0.3 | 2.5 | 1.0 | 3.5 | 84 |
| **12** | Rice | 1.2 | 0.2 | 0.1 | 0.7 | 0.2 | 2.3 | 1.0 | 3.3 | 84 |
| **13** | Moringa | 1.0 | 0.2 | 0.1 | 0.5 | 0.3 | 2.1 | 1.0 | 3.1 | 84 |
| **14** | Beans | 1.0 | 0.2 | 0.2 | 0.3 | 0.3 | 2.0 | 1.0 | 3.0 | 84 |
| **15** | Watermelon | 0.6 | 0.1 | 0.2 | 0.3 | 0.2 | 1.4 | 1.0 | 2.4 | 84 |

### Other livelihood options for host and refugee communities in Gambella region

KII and FGD participants were asked to suggest business ideas outside of the agricultural value chains, which could be suitable to engage both host and refugee communities. The business ideas are related to engaging off-farm, non-farm and micro businesses. Accordingly, various business ideas have been suggested for the host and refugee communities in the Gambella region. The top business ideas recommended for the host and refugee communities include the following.

- Skilled agricultural labor for commercial farms
- Small retail business
- Briquette making (energy)
- Milk collection and producing derivatives
- Dry Fish
- Tailoring
- Carpentry
- Pottery
- Hair Dressing
- Weaving

[12] Food Security and Nutrition

### 3.2.2 Value Chains selected for Benishangul-Gumuz Region

Benishangul-Gumuz Regional State borders Sudan in the west, Gambella in the south, Oromia in the east and Amhara in the north. Despite being an exceptionally green area, the region is prone to a number of challenges, and subsistence farming is the mainstay for 85 percent of the population (CSA 2017). The population is vulnerable to shock and stress due to the lack of a diversified livelihood strategy. Although there is a high potential for bamboo tree, fruits (mango especially), vegetables, maize and soybean production, the community struggles with low income and lack of skills to build on the potential.

According to UNHCR (2020), the registered population under the Sub-Office Assosa in the Benishangul-Gumuz Region stands at 62 820 Persons of Concern, of which 66 percent (41 740) are Sudanese, 32 percent (20 337) are of South Sudanese descent, and the remaining are from other nationalities. Refugees have, on average, a 10 x 30 meter plot of land per household used for different purposes from house construction to backyard gardening. Nonetheless, unlike in Gambella, refugees in Benishangul-Gumuz are often engaged in lease farming and/or hired as seasonal farm laborers by the host communities. Therefore, it was noted that there is good potential for livelihoods and economic inclusion interventions in this region.

Additionally, it was noted that there are limited renewable energy sources, resulting in refugees being forced to deplete natural resources to respond to their domestic energy needs which are, on average, four kilograms of wood per person per day.

#### Scoring results from the Focus Group Discussions

As presented in **Table 14** below, a total of fourteen (14) value chains were evaluated during 11 FGD sessions conducted in the Benishangul-Gumuz Region. These sessions were held in the Sherkole and Bambasi areas where refugees and host communities provided their feedback. Shoat and vegetables production have topped the ranking with a total of weighted score of 34.6 and 28.4 respectively, from the total possible score of 66.

Shoat, which FGD participants ranked first, scored the highest in the Economic dimension (67 percent) followed by Food Security and Nutrition (62 percent), and Social Inclusion and Environmental (56 percent each) dimensions, compared to the respective total possible scores. However, it scored the lowest in Institutional (34 percent) dimension. Despite the relatively better institutional conditions in the region when compared to Gambella, support to this particular value chain was perceived to be negligible. Moreover, the FGD participants did not see shoat production as having the potential to engage youth and women, nor the potential to enhance integration and collaboration between the host and refugee community.

Conversely, vegetable which FGD participants ranked second, scored well in the Social Inclusion dimension (61 percent) followed by Food Security and Nutrition (60 percent) and Economic (54 percent) dimensions. Evidently, vegetables are a very important crop for household food and nutrition security. Production

could be available most of the year and affordability is considered fair. Moreover, vegetables production is perceived to have a potential to engage youth and women segments of the community. The vegetables value chain scored low in Environmental (43 percent) and Institutional (36 percent) dimensions, as FGD participants did not see the potential for climate smart production. Moreover, according to FGD participants, vegetables production is not a government priority in the study area and therefore receives low levels of institutional support.

***Table 14:*** *FGD scoring result "top-five" VCs - Benishangul-Gumuz Region*

| Rank | Value Chains | Weighted score by dimensions | | | | | | Frequency | Total | Max point |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Economic | F/S & N[13] | Institutional | Social | Environment | Total | | | |
| **1** | Shoat | 13.6 | 1.4 | 3.1 | 5.0 | 2.5 | 25.6 | 9.0 | 34.6 | 66 |
| **2** | Vegetables | 9.7 | 1.2 | 2.9 | 4.9 | 1.7 | 20.4 | 8.0 | 28.4 | 66 |
| **3** | Maize | 10.0 | 1.4 | 3.0 | 4.4 | 1.1 | 20.0 | 7.0 | 27.0 | 66 |
| **4** | Soybean | 10.3 | 1.0 | 2.9 | 4.0 | 1.3 | 19.4 | 7.0 | 26.4 | 66 |
| **5** | Sorghum | 8.4 | 1.1 | 2.3 | 3.3 | 1.4 | 16.5 | 6.0 | 22.5 | 66 |
| **6** | Poultry | 9.0 | 0.9 | 1.8 | 3.8 | 0.6 | 16.1 | 6.0 | 22.1 | 66 |
| **7** | Ground Nut | 4.6 | 0.6 | 1.4 | 2.0 | 0.6 | 9.1 | 4.0 | 13.1 | 66 |
| **8** | Flour Mill | 2.9 | 0.1 | 0.7 | 1.9 | 0.5 | 6.0 | 2.0 | 8.0 | 66 |
| **9** | Niger Seed | 3.1 | 0.3 | 0.9 | 0.6 | 0.4 | 5.2 | 2.0 | 7.2 | 66 |
| **10** | Fattening | 1.5 | 0.2 | 0.6 | 0.9 | 0.2 | 3.4 | 1.0 | 4.4 | 66 |
| **11** | Honey | 1.4 | 0.2 | 0.4 | 0.6 | 0.2 | 2.7 | 1.0 | 3.7 | 66 |
| **12** | Sesame | 1.2 | 0.2 | 0.4 | 0.6 | 0.1 | 2.5 | 1.0 | 3.5 | 66 |
| **13** | Chick Pea | 0.8 | 0.2 | 0.3 | 0.4 | 0.1 | 1.7 | 1.0 | 2.7 | 66 |
| **14** | Sweet Potato | 0.7 | 0.2 | 0.2 | 0.3 | 0.2 | 1.5 | 1.0 | 2.5 | 66 |

### Scoring result from the Key Informant Interviews

A total of eleven (11) value chains were identified by the 6 experts who participated in the scoring exercise conducted in Benishangul-Gumuz region. The listing was made from different subsectors such as cereals, pulses, oil seeds, livestock and fruits. The result of the KII scoring showed that soybean production is considered the top value chain in the region. As presented under **Table 15** below, soybean is the highest ranked value chain with a total score of 24.4, out of the total possible score of 36, followed by maize and shoat production with 11.7 and 10 points, respectively. Soybean was considered as one of the top five value chains by five (out of six) experts.

The result of the KII ranking exercise is found to be quite different from the FGD ranking outcome, though the Soybean value chain was included in the top-4 list in both exercises. Like the Gambella context, this is believed to be mainly due to the wide range of agricultural options in the region, and the respective comparative perception each expert has with regard to the potential of each value chain. Soybean scored

[13] Food Security and Nutrition

high in the Economic and Institutional dimensions (84 percent each) followed by Environmental (76 percent), Social Inclusion (70 percent) and Food and Nutrition Security (40 percent) dimensions.

Soybean is considered to be a strategic crop for import substitution both at the national and regional level, and therefore benefits from strong institutional support from input provision, produce aggregation and marketing through the Ethiopian Commodity Exchange platform (ECX). The Benishangul-Gumuz region has two research centres (Assossa and Pawe Agricultural Research Centres) which are directly involved in the development of soybean production and productivity. Moreover, soybean farmers are usually members of primary cooperatives and part of multi-purpose unions.

Soybean is a nitrogen fixing crop which helps for crop rotation, besides its adaptability and relative high performance in less fertile lands makes it environmentally friendly. In addition, it was reported that the crop has significant potential for integration of refugees (i.e. through lease farming and demand for seasonal agriculture labor), hence the relatively high score given on the Social Inclusion dimension.

***Table 15:*** *KII scoring result "top-five" VCs – Benishangul-Gumuz region*

| Rank | Value Chains | Weighted score by dimensions | | | | | | Frequency | Total | Max point |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Economic | F/S & N[14] | Institutional | Social | Environment | Total | | | |
| **1** | Soybean | 9.4 | 0.5 | 4.2 | 3.5 | 1.9 | 19.4 | 5 | 24.4 | 36 |
| **2** | Maize | 3.3 | 0.7 | 1.6 | 2.1 | 1.0 | 8.7 | 3 | 11.7 | 36 |
| **3** | Shoat | 3.7 | 0.3 | 1.5 | 1.6 | 1.0 | 8.0 | 2 | 10.0 | 36 |
| **4** | Sorghum | 2.2 | 0.5 | 1.2 | 1.3 | 0.8 | 6.0 | 2 | 8.0 | 36 |
| **5** | Poultry | 1.4 | 0.2 | 0.5 | 0.9 | 0.1 | 3.0 | 1 | 4.0 | 36 |
| **6** | Honey | 2.7 | 0.3 | 1.4 | 1.4 | 0.5 | 6.3 | 2 | 8.3 | 36 |
| **7** | Mango | 2.6 | 0.3 | 1.2 | 1.8 | 0.5 | 6.4 | 3 | 9.4 | 36 |
| **8** | Niger seed | 4.7 | 0.3 | 1.6 | 1.8 | 0.9 | 9.2 | 4 | 13.2 | 36 |
| **9** | Sesame | 4.8 | 0.3 | 2.5 | 1.3 | 0.4 | 9.3 | 4 | 13.3 | 36 |
| **10** | Mung bean | 0.8 | 0.0 | 0.3 | 0.1 | 0.3 | 1.4 | 1 | 2.4 | 36 |
| **11** | Wheat | 1.5 | 0.1 | 0.5 | 0.5 | 0.2 | 2.7 | 1 | 3.7 | 36 |

### Aggregate scoring results (FGDs + KIIs)

The aggregate score from the FGDs and KIIs revealed that soybean attained the highest score for Benishangul-Gumuz region with 50.8 points, out of maximum possible score of 102. The weighted score performance for Soybean stands at 73 percent of the total possible score for the economic dimension, followed by Social Inclusion (63 percent), Institutional (59 percent), Environmental (52 percent) and Food and Nutrition Security (50 percent) dimensions. Overall it delivers strong potential across all five key dimensions and there is already some evidence that supports the potential for future collaboration by refugee and host communities in the region on the production and marketing of this commodity.

[14] Food Security and Nutrition

It was noted from field observation that soybean farmers hire seasonal workers from the refugee community and could also lease part of their land to refugees. Such existing work arrangements and relationships can be further scaled-up and formalized for successful labor market integration of refugees. Incentives directed towards smallholder farmers/employers could help scale-up production of this strategic crop and thereby include more refugees in the formal labor market.

Although the soybean value chain was not identified as the highest-ranking commodity chain by refugees and host communities during the FGDs, it was ranked fourth in their list and performed consistently across the five key dimensions when compared to the top two VCs selected by the FGDs of shoat and vegetables. Both of these value chains were perceived to face challenges along various dimensions with institutional and social challenges facing the shoat VC and economic and environmental challenges for vegetable production. Soybean scored more consistently across all five dimensions in line with the findings from the KIIs. One difference in the scoring of soybean between the FGDs and the KIIs was on the Environment dimension. This was rated lower by FGDs due to the fact that both refugee and the host communities see that they have no safety-net or micro-insurance mechanisms to recover from any shock or stress. Yet soybean received a relatively high score on the Environment Dimension from the KIIs, as the possibility of stress and/or shock is perceived to be lower and environmental benefits such as nitrogen fixation and the ability to be grown in less fertile lands makes soybean a more environmentally friendly alternative to some other VCs.

***Table 16:*** *Aggregate scoring Result (KII+FGD), BG Region*

| Rank | Value Chain | Economic | F/S & N[15] | Institutional | Social | Environment | Total | Frequency | Total | Max Point |
|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Soy Bean | 19.6 | 1.5 | 7.1 | 7.5 | 3.1 | 38.8 | 12 | 50.8 | 102 |
| **2** | Shoat | 17.2 | 1.7 | 4.6 | 6.6 | 3.5 | 33.6 | 11 | 44.6 | 102 |
| **3** | Maize | 13.3 | 2.1 | 4.6 | 6.6 | 2.1 | 28.7 | 10 | 38.7 | 102 |
| **4** | Sorghum | 10.7 | 1.6 | 3.6 | 4.5 | 2.2 | 22.5 | 8 | 30.5 | 102 |
| **5** | Vegetables | 9.7 | 1.2 | 2.9 | 4.9 | 1.7 | 20.4 | 8 | 28.4 | 102 |
| **6** | Poultry | 10.4 | 1.2 | 2.2 | 4.7 | 0.7 | 19.2 | 7 | 26.2 | 102 |
| **7** | Niger seed | 7.7 | 0.6 | 2.5 | 2.4 | 1.3 | 14.4 | 6 | 20.4 | 102 |
| **8** | Sesame | 6.0 | 0.4 | 3.0 | 1.9 | 0.5 | 11.8 | 5 | 16.8 | 102 |
| **9** | G. Nut | 4.6 | 0.6 | 1.4 | 2.0 | 0.6 | 9.1 | 4 | 13.1 | 102 |
| **10** | Honey | 4.1 | 0.5 | 1.8 | 2.0 | 0.7 | 9.0 | 3 | 12.0 | 102 |
| **11** | Mango | 2.6 | 0.3 | 1.2 | 1.8 | 0.5 | 6.4 | 3 | 9.4 | 102 |
| **12** | Flour Mill | 2.9 | 0.1 | 0.7 | 1.9 | 0.5 | 6.0 | 2 | 8.0 | 102 |
| **13** | Fattening | 1.5 | 0.2 | 0.6 | 0.9 | 0.2 | 3.4 | 1 | 4.4 | 102 |
| **14** | Wheat | 1.5 | 0.1 | 0.5 | 0.5 | 0.2 | 2.7 | 1 | 3.7 | 102 |
| **15** | Chick Pea | 0.8 | 0.2 | 0.3 | 0.4 | 0.1 | 1.7 | 1 | 2.7 | 102 |
| **16** | SweetPotato | 0.7 | 0.2 | 0.2 | 0.3 | 0.2 | 1.5 | 1 | 2.5 | 102 |
| **17** | Mung bean | 0.8 | 0.0 | 0.3 | 0.1 | 0.3 | 1.4 | 1 | 2.4 | 102 |

[15] Food Security and Nutrition

### Other Livelihood Options for Host and Refugee Communities in Benishangul-Gumuz region

KII and FGD participants were asked to suggest business ideas outside of the agricultural value chains, which could be suitable to engage both host and refugee communities. The business ideas are related to engaging off-farm, non-farm and micro businesses. Accordingly, various business ideas have been suggested for the host and refugee communities in Benishangul-Gumuz region which are similar to the findings from Gambella. The top business ideas recommend for the host and refugee communities include the following.

- Agricultural Labor
- Small retail businesses
- Briquette making for household energy,
- Milk collection and producing derivatives
- Tailoring
- Carpentry and Pottery

## 3.3 SOMALI CLUSTER

Somali Regional State is the second largest region of Ethiopia. The state borders Afar and Oromia and the chartered city Dire Dawa to the west, Djibouti to the north, Somalia to the north and east, and Kenya to the southwest. The five refugee camps in the Dollo Ado area are located in the southern border of Somali and accommodate about 220 000 refugees, mostly Somalians, out of the 900 000 refugee population in Ethiopia (2019).

As mentioned in the background section, the objective of this assessment was to select one value chain from the crop production sector. Considering prior engagements and efforts by UNHCR, two value chains (dairy and incense/gum) were already prioritized. Accordingly, only one value chain was selected for the Dollo Ado area of Somali Region through the participatory ranking exercise. As highlighted in the following sections, onion was selected as the most relevant crop value chain.

The Dollo Ado area is in the south of Somali Regional State, a few kilometers from the border with Somalia and Kenya. The area is located in the angle formed by the confluence of the Ganale Dorya river with the Dawa River. The inhabitants are traditionally agro-pastoralists, practicing a mixed livelihood system of livestock with crop productions. They practice rain-fed and irrigation farming for household consumption and for market purposes. Irrigation agriculture was recently strengthened by development interventions, favoring the production of crops such as tomato, fruits and onion.

Under UNHCR initiatives, funded by the IKEA foundation, a total of 1 000 hectares of irrigation land was targeted along Genale River to benefit both the refugee and the host communities in the Dollo Ado and Bokolmanyo Woredas. Dollo's irrigation land potential is relatively higher when compared to other refugee hosting clusters. Currently, about 850 hectares of irrigable land is under cultivation. Onion production is mostly practiced during first cropping season, between March to July, due to a demand-driven effect. Farmers commonly cultivate maize, watermelon and tomato during the second cropping season. Based on the Memorandum of Understanding signed between UNHCR, ARRA and the Ethiopian Somali Regional state in 2016, the irrigation land schemes are divided on an equitable 50/50 basis with 0.5 hectare plots allocated equally between the host and refugee community farmers (UNHCR 2017).

The assessment also looked at the livelihood options available from off-farm and non-farm economic activities and ideas for micro enterprise development. A range of business ideas were suggested by KII and FGD participants.

### Scoring result from the Focus Group Discussions

As presented in the ensuing tables and summarized in **Table 19**, a total of fourteen (14) different value chains were short-listed and evaluated by members of the host and refugee communities and KIIs against the set of predefined criteria outlined under section 2.2. **Table 17** depicts the result of the FGDs. Six FGDs were conducted across different camps and the host communities in the area. From the total ten value

chains identified by the FDGs, onion and maize were ranked first and second with a total score of 26 and 20 respectively, from a maximum possible score of 36.

The onion value chain was given high scores in the economic, institutional and social dimensions. In terms of the economic dimension, both refugees and host communities considered onion as an important cash crop as it is mainly cultivated for sale purposes.

The Dollo Ado area also has a comparative economic advantage based on recent production growth performances and the possibility to service distant markets due to off-season production. Participants explained that intermediaries are sometimes able to sell locally-produced onions to markets as far as Addis Ababa.

Due to its potential, onion is also on the priority list of the local government, leading the value chain to achieve a higher score in the institutional dimension. In addition, onion was prioritized by several development organizations and recent production has benefited from the introduction of new planting materials and irrigation infrastructure. FGDs participants highlighted the support received from both government and donors in the development of this commodity.

Onion was also considered to be an important crop in relation to its potential for social inclusion. The FGD participants found it to be a suitable crop to engage women and youth in production and marketing, especially through the creation of women cooperatives or youth groups, many of which already exist in the area and have received support from humanitarian and development projects. Additionally, onion was considered as an important crop to foster the economic integration of the host and refugee communities as there are cases of joint production by the members of the two communities through share cropping arrangements.

Nevertheless, onion received a relatively lower score on the food security and nutrition dimension, as well as the environmental dimension. As onion is relatively perishable, its availability is not year-round; and compared to other foods crops (in particular cereals), it is considered to be costly. The price for one kilogram of seeds is in fact very high (3000 to 3500 ETB). However, although it requires a larger investment, the returns are greater when compared to cereals such as maize. Onion production may also require the application of some agro-chemicals which could potentially lead to environmental damage if mismanaged. Annual rainfall is insufficient for onion production and therefore producers in the area are dependent on irrigation water from the nearby river. Careful management of this resource will be required to ensure that irrigation water is efficiently used and environmental damage does not occur.

On the other hand, maize was ranked higher on the food security and nutrition dimension. Specifically, maize was given 87 percent of the total possible score for food security and nutrition, whereas onion achieved only 41 percent of the total possible score for the same dimension. Evidently, maize is a very important crop for food security and nutrition. It is a staple crop, it can be available throughout the year and it is also considered affordable to both communities. Maize also requires low investment costs and during the dry season, the residue is often used as fodder for livestock.

*Table 17: Result of FGDs ranking of the "top-five" VCs - Dollo Ado Refugee Settlement Area*

| Rank | Value Chains | Weighted score by dimensions | | | | | | Frequency | Total | Max point |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Economic | F/S & N[16] | Institutional | Social | Environment | Total | | | |
| 1 | Onion | 10.08 | 0.61 | 4.33 | 4.48 | 0.80 | 20.29 | 6 | 26.29 | 36 |
| 2 | Maize | 6.56 | 1.09 | 2.86 | 2.79 | 1.97 | 15.26 | 5 | 20.26 | 36 |
| 3 | Watermelon | 8.65 | 0.5 | 2.52 | 2.28 | 1.13 | 15.08 | 5 | 20.08 | 36 |
| 4 | Tomato | 5.63 | 0.81 | 2.28 | 2.41 | 1.10 | 12.22 | 5 | 17.22 | 36 |
| 5 | Sesame | 2.36 | 0.26 | 0.69 | 0.74 | 0.63 | 4.68 | 2 | 6.68 | 36 |
| 6 | Sweet/green pepper | 2.01 | 0.12 | 0.65 | 0.89 | 0.30 | 3.96 | 2 | 5.96 | 36 |
| 7 | Banana | 1.09 | 0.21 | 0.27 | 0.57 | 0.43 | 2.57 | 1 | 3.57 | 36 |
| 8 | Lemon | 1.11 | 0.24 | 0.12 | 0.58 | 0.17 | 2.22 | 1 | 3.22 | 36 |
| 9 | Papaya | 1.33 | 0.16 | 0.31 | 0.31 | 0.03 | 2.14 | 1 | 3.14 | 36 |
| 10 | Guava | 0.66 | 0.05 | 0.20 | 0.30 | 0.13 | 1.34 | 1 | 2.34 | 36 |

### Scoring results from the Key Informant Interviews

The same exercise was held with 10 experts working for government and development organizations. As presented in the ensuing **Table 18**, a total of twelve (12) value chains were identified by the experts during the short-listing and ranking exercise. The ranking exercise revealed the same result as the FGD ranking whereby onion and maize value chains were ranked first and second with a total score of 49 and 37, respectively. All of the 10 experts interviewed included onion in the ranking exercise while maize appeared 8 times.

The performance of the two value chains in relation to the major dimensions assessed was also similar to the result from the FGD exercise. For the same reasons highlighted in FGDs section, the onion value chain received higher scores in the economic, institutional and social dimensions, whereas the maize value chain received a solid score in the food security and nutrition and environmental dimensions.

[16] Food Security and Nutrition

*Table 18: KII scoring result "top-five" VCs - Dollo Ado Refugee Settlement Area*

| Rank | Value Chains | Weighted score by dimensions | | | | | | Frequency | Total | Max point |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Economic | F/S & N[17] | Institutional | Social | Environment | Total | | | |
| 1 | Onion | 19.14 | 1.46 | 8.09 | 8.64 | 1.83 | 39.15 | 10 | 49 | 60 |
| 2 | Maize | 11.86 | 1.8 | 4.68 | 8.38 | 2.77 | 29.48 | 8 | 37 | 60 |
| 3 | Watermelon | 7.73 | 0.88 | 3.18 | 3.46 | 2.93 | 18.17 | 6 | 24.17 | 60 |
| 4 | Tomato | 7.31 | 0.84 | 2.58 | 3.83 | 1.27 | 15.83 | 5 | 20.83 | 60 |
| 5 | Sesame | 4.68 | 0.38 | 1.81 | 2.09 | 0.93 | 9.88 | 3 | 12.88 | 60 |
| 6 | Papaya | 3.26 | 0.38 | 1.60 | 1.05 | 0.73 | 7.02 | 3 | 10.02 | 60 |
| 7 | Banana | 2.89 | 0.48 | 1.23 | 1.28 | 0.83 | 6.70 | 3 | 9.70 | 60 |
| 8 | Beans | 2.10 | 0.14 | 0.75 | 0.88 | 0.63 | 4.50 | 2 | 6.50 | 60 |
| 9 | Cabbage | 1.19 | 0.37 | 0.28 | 0.33 | 0.13 | 2.30 | 1 | 3.30 | 60 |
| 10 | sweet pepper | 1.00 | 0.08 | 0.18 | 0.56 | 0.13 | 1.95 | 1 | 2.95 | 60 |
| 11 | Swiss chard | 0.99 | 0.11 | 0.11 | 0.30 | 0.20 | 1.71 | 1 | 2.71 | 60 |
| 12 | Mango | 0.58 | 0.13 | 0.34 | 0.31 | 0.20 | 1.55 | 1 | 2.55 | 60 |

**Table 19** presents the aggregated score from the FGD and KII ranking exercises. As the top two value chains were the same in both cases, the aggregate scoring result remains the same. Experts who have participated in the KII included a larger number of value chains than the community members, as a result of their knowledge of the sector or their exposure from working on development projects.

*Table 19: Total scoring result (FGD+KII) - Dollo Ado Refugee Settlement Area*

| Rank | Value Chain | Economic | F/S & N | Institutional | Social | Environment | Total | Frequency | Total | Max Point |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Onion | 29.21 | 2.07 | 12.42 | 13.11 | 2.63 | 59.44 | 16 | 75.44 | 96 |
| 2 | Maize | 18.43 | 2.89 | 7.53 | 11.17 | 4.73 | 44.75 | 13 | 57.75 | 96 |
| 3 | Watermelon | 16.38 | 1.38 | 5.70 | 5.74 | 4.07 | 33.26 | 11 | 44.26 | 96 |
| 4 | Tomato | 12.94 | 1.65 | 4.86 | 6.24 | 2.37 | 28.04 | 10 | 38.04 | 96 |
| 5 | Sesame | 7.04 | 0.64 | 2.50 | 2.82 | 1.57 | 14.56 | 5 | 19.56 | 96 |
| 6 | Banana | 3.98 | 0.69 | 1.50 | 1.84 | 1.27 | 9.27 | 4 | 13.27 | 96 |
| 7 | Papaya | 4.59 | 0.54 | 1.91 | 1.36 | 0.77 | 9.16 | 4 | 13.16 | 96 |
| 8 | Sweet/green pepper | 3.01 | 0.2 | 0.825 | 1.45 | 0.43 | 5.92 | 3 | 8.92 | 96 |
| 9 | Beans | 2.10 | 0.14 | 0.75 | 0.88 | 0.63 | 4.50 | 2 | 6.50 | 96 |
| 10 | Cabbage | 1.19 | 0.37 | 0.28 | 0.33 | 0.13 | 2.30 | 1 | 3.30 | 96 |
| 11 | Lemon | 1.11 | 0.24 | 0.12 | 0.58 | 0.17 | 2.22 | 1 | 3.22 | 96 |
| 12 | Swiss chard | 0.99 | 0.11 | 0.11 | 0.30 | 0.20 | 1.71 | 1 | 2.71 | 96 |
| 13 | Mango | 0.58 | 0.13 | 0.34 | 0.31 | 0.20 | 1.55 | 1 | 2.55 | 96 |
| 14 | Guava | 0.66 | 0.05 | 0.20 | 0.30 | 0.13 | 1.34 | 1 | 2.34 | 96 |

[17] Food Security and Nutrition

**Other livelihood options for host and refugee communities in the Dollo Ado area**

KII and FGD participants were also asked to suggest business ideas outside of the agricultural value chains that could be suitable to engage the host and refugee communities. The business ideas are related to engaging off-farm, non-farm and micro businesses. Accordingly, various business ideas were suggested for the host and refugee communities. The top business ideas recommended for the host and refugee communities in the Somali region include the following.

- Petty trade
- Live animals trade
- Small restaurant, coffee shop
- Meat sale
- Farm tools shops
- Input seed retailer
- Construction
- Bee keeping
- Sesame oil extraction
- Soap and detergent production[18]
- Plastic recycling

[18] Many Somali refugees have traditional skills in the production of soap and detergent at cottage level

# 4. CONCLUSIONS

The overall objective of this FAO-UNHCR collaboration is to develop a common understanding and analysis of the food security and agricultural livelihoods situation in the three regions of Ethiopia where refugees are currently hosted, with a view of using the findings to inform the development of joint initiatives aimed at refugee and host community economic inclusion. This report represents the first step in this process to identify three priority value chains for the each of the three clusters (Tigray/Afar, Gambella/Benishangul Gumuz, Somali) through a participatory process.

Two value chains for Tigray Regional State and one value chain for Afar Regional State were selected and consensus was reached on the selection of these by both refugee and host-communities (i.e. FGDs) and development experts (i.e. KIIs). Cattle fattening and shoat (sheep and goat) production were selected for Tigray region while goat production was ranked number one for Afar region. All three of the value chains selected were ranked highly by experts and community members for their potential to deliver on economic, institutional, social and environmental dimensions, however some alternative value chains such as poultry and vegetables were identified as more relevant for achieving food security and nutrition objectives. This trade-off between economic benefits and food security and nutrition outcomes is to be expected, and a balance must be achieved across all the dimensions. It is a particularly positive sign to see that the value chains selected in these two regions are clearly aligned with government priorities for the region and that production activities and knowledge already exists for these commodities in the refugee and host community populations. This will make it easier for any planned interventions in these chains in the future as buy-in from the host and refugee community and regional government already exists.

In Gambella/Benishangul Gumuz, the value chain ranking exercise showed that there is huge potential for value chain development across a range of commodities from oil seed production to cereals, vegetable and fruit production on both rainfed and irrigated agricultural land, fishery, dairy, apiary, meat production and forest products. As a result, a large number of VCs were identified and reviewed during the scoring exercise; leading to relatively low scores across the VCs when compared to the total possible score. Differences also existed in the value chains prioritized by the FGDs and KIIs in both regions. In Gambella the two value chains that prevailed were vegetable (tomato and okre) and maize which were scored highest by the FGDs but not the KIIs, who considered dairy and fish to be more valuable options when considering the entire region. However, when the scores were aggregated, the two commodities selected by the FGDs outperformed the other chains, and they were also the most closely aligned with refugee and host-community interests which is important for any livelihood interventions planned in the future.

For Benishangul-Gumuz, the opposite occurred whereby the FGDs ranked the two value chains of shoat and vegetables as their top priorities, yet findings from the KII scoring showed that soybean production was considered the top value chain in the region. When the scores were aggregated, this time the KII priority chain prevailed with soybean attaining the highest score for the Benishangul-Gumuz region and delivering strong potential across all five key dimensions. In addition, there is already some evidence that collaboration on this value chain by refugee and host communities in the region already exists.

Unlike in Tigray/Afar, one of the greatest challenges that remains for any value chain development activities in the future in the Gambella district, is the weak enabling environment. Both FGDs and KIIs scored this dimension as low across all commodity chains, as to date, regional government is providing little or no support for any agricultural activities. Despite the huge potential that exists for crop production and livestock rearing for both communities in the region, refugee mobility and access to land (i.e. informal leasing) and a lack of employment remain the primary bottlenecks for building resilient livelihoods in Gambella. It was also noted that the refugee and host community integration and/or collaboration levels are very low. Hence, any development intervention aimed at supporting livelihoods and economic inclusion of refugees in this region needs to consider conflict sensitive interventions as part of its package to minimize risk.

Conversely, in Benishangul-Gumuz region, it was found that the institutional environment is better and labor market integration of refugees already exists as farmers often hire refugees as seasonal workers, and/or lease part of their land to them. Incentives directed towards smallholder farmers/or employers could help scale-up production of strategic crops in this region (i.e. Soybean and Maize) and in-so-doing increase the potential for formal hiring of more refugees.

Another key finding that emerged from the VC selection exercise in Gambella was recognition of the need to consider bundled value chains (sub-sectors) instead of one value chain so that that wider community could benefit from different production options potentially at different times during the year. For example, the vegetable value chain development effort shall consider at least two vegetable crops - Okra and Tomato. This will help to diversify livelihood activities, maximise the potential demand for these two commodities in local and regional markets, and contribute to diversified diets for both refugee and host communities.

In the Somali region, the two value chains of dairy and gum/incense had already been evaluated and selected by UNHCR through prior initiatives, and therefore, on the advice of the Melkadida UNHCR mission, only one value chain selection exercise was conducted in the Dollo Ado area by the FAO team. The onion value chain was selected by both FGDs and KIIs as the chain with the most potential to deliver improved livelihoods for the refugees and the host communities. The onion value chain was ranked highly for its potential to deliver on economic, institutional and social dimensions, yet it scored slightly lower on the dimensions of food security and nutrition and the environment than the second highest value chain of maize. However, overall there was very strong support for the strengthening of the onion value chain as refugees and host communities had already received some limited support to initiate production (irrigation infrastructure and planting material), and had already identified the market potential to produce off-season and potentially supply to markets in Addis via intermediaries.

It is a positive sign also to see that the value chain selected in Somali is clearly aligned with government priorities for the region. The potential for social inclusion of women and youth, and the positive integration of both communities also appears strong for this commodity, as youth and women's associations already exist in the area and can potentially be re-focused to support onion production and marketing. There were also some cases identified of joint production of onion through sharecropping arrangements between refugees and host communities, which will make it easier for any interventions

planned in the future as buy-in from the host and refugee community and regional government already exists.

Overall, the first phase of the project has not only identified the priority value chains for each cluster, but has also helped to gather the initial information needed to better understand the context for these value chains and how this differs across the five regions. The assessment has provided a snapshot not only of the economic potential of these commodities, but also the underlying social and institutional challenges that may prevail in some regions.

The next phase of this work will focus on analyzing in more depth the nine value chains identified across the three clusters. Efforts will be made to review existing work that has already been done, and a comprehensive analysis of key actors and product flows along the chain will be undertaken. This will be used to identify key intervention points where upgrading activities could be initiated or further strengthened to the benefit of both refugee populations and host communities to achieve improved livelihood outcomes. Tools are currently under development for the second phase of the analysis which will require both desk review and field work.

Although it is envisaged that the major interventions from the project will focus on the nine value chains recommended above, it is also anticipated that there will be positive flow-on effects for other value chains identified by the communities and experts. For instance, facilities and trainings provided to reduce post-harvest losses and improve storage for onion in Somali, would also be of benefit to the other vegetable commodities produced in the area at different times of the year, and could also potentially help with the storage of other food crops such as maize. In Tigray and Afar, if facilitating access to finance is considered as a major intervention activity needed to support the cattle and shoat livestock value chains, then this may also benefit other value chains in the region including dairy and poultry production and processing. In addition, off/non-farm activities and micro-enterprise development efforts could be supported with similar interventions to those proposed for the core value chains.

In terms of limitations to the study, the team faced a number of logistical constraints across the regions particularly when it came to gathering the right amount of people in the right place, gaining translation support, travel approval etc. In Gambella and Benishangul-Gumuz region, despite the original plan to conduct a total of 24 FGDs, three FGDs with host community groups could not be conducted due to logistical issues. These included the host community Youth group in Jewi, the host “Men” group in Pugnido and the host “Women” group in Sherkole.

In the Somali region the selection exercise was meant to cover two specific areas of the region: the Jigjiga area (north of Somali) and the Dollo Ado area (south of Somali). One refugee camp was targeted in the Jigjiga area (Kebre Beyah) and three refugee camps were targeted in the Dollo area (Melkadida, Bokolomayo and Hilewoyen camps). However, following discussions with the UNHCR team, since two value chains had already been identified through other initiatives, an agreement was reached to focus the agricultural value chain selection assessment on the Dollo Ado refugee settlement areas only.

The differences in value chains prioritized by FGDs and KIIs in Gambella and Benishangul-Gumuz can also be explained by the narrow selection area for the study (i.e. in Gambella the study covered only two villages and two camps), when compared to the broader experience of the key informants and their exposure to agricultural and livestock activities operating across the entire territory. To overcome this

issue, aggregate scoring was used and the value chains that prevailed scored highest overall based on the combined results of both the FGDs and KII exercises.

Another challenge that was noted in Gambella and Benishangul-Gumuz was the misunderstanding/misinterpretation by host-communities related to the government pledge under the Comprehensive Refugee Response Framework (CRRF) to make 10 000 hectares of irrigable land available, to enable 20 000 refugees and host community households (100 000 people) to grow crops. This was perceived as a threat by the host communities and to some extent by the local government also, as it is unclear where this land will come from and the host communities thought that refugees will be encouraged to take over their lands. Clearly greater communication is needed at the grass-roots level on how the CRRF pledges will be implemented so that host communities (and local governments) can see this as an opportunity for all and fears can be dispelled.

In Tigray and Afar, another challenge was identified in terms of the ultimate objective of the project to develop a multi-year framework for economic inclusion programs for refugees and host-communities in the three clusters. Phrases such as durable solutions and long-term programs were not well received or considered to be appealing for the refugees. They tend to consider their situation as temporary, and they want to travel somewhere else (mainly Europe) instead of being confined in the camps. As a result, achieving collaboration in the FGDs was difficult and it required a lot of explaining and convincing. They are also experiencing “consultation fatigue”, as they reported they are often asked to provide their inputs and ideas to development workers but they hardly see any change in their situation. These are important social considerations that must be taken into account when planning future interventions.

# ANNEXES

**Annex 1.** List of KII participants from the three refugee hosting clusters

| No | Name | Region | Organization | Position |
|---|---|---|---|---|
| 1 | Woini Gebregiorgis | Tigray | UNHCR | Livelihood Coordinator |
| 2 | Zenaneh Nigussie | Tigray | ARRA | Camp Administrator |
| 3 | Desta Lemlem | Tigray | OoANR | Livestock Expert |
| 4 | Mekonen Yewhala | Tigray | OoANR | Input (Livestock) Expert |
| 5 | Mebrat Haile | Tigray | OoANR | Input (Crop) Expert |
| 6 | Gebrehiwot Gebrewahid | Tigray | OoANR | Crop Expert |
| 7 | Yayneshet Woldeabzgi | Tigray | OoANR | Marketing and Credit Expert |
| 8 | Yamah Massaleq | Tigray | UNHCR | Livelihood Coordinator |
| 9 | Goitom | Tigray | ARRA | Program Officer |
| 10 | Desalegn Mebrahtom | Tigray | OoANR | Input (Crop) Expert |
| 11 | Tesfay Alema | Tigray | OoANR | Crop Expert |
| 12 | Mezgebe Berihu | Tigray | OoANR | Livestock Expert |
| 13 | Dr. Moges Abohey | Tigray | OoANR | Input (Livestock) Expert |
| 14 | Endeshaw Molla | Tigray | OoANR | Marketing and Credit Expert |
| 15 | Gebrezgiabher Tesfay | Tigray | UNHCR | Livelihood Coordinator |
| 16 | Mikiyas Yakob | Tigray | ZOA (NGO) | Program coordinator |
| 17 | Yemane Terefe | Tigray | NRC (NGO) | Program Coordinator |
| 18 | Yimesel Tadele | Tigray | HelVETS (NGO) | Program Coordinator |
| 19 | Daniel Nigusse | Tigray | IOM (NGO) | Program Coordinator |
| 20 | Solomon Kiflu | Tigray | IRC (NGO) | Program Coordinator |
| 21 | Teklay Gebru | Tigray | BoANR | Livestock Director |

| | | | | |
|---|---|---|---|---|
| 22 | Berihun Aregawi | Tigray | BoANR | Horticulture / Crop / Director |
| 23 | Alebachew Hagos | Tigray | BoANR | Input (Crop) Director |
| 24 | Gebreselasse Kidanu | Tigray | BoANR | Marketing and Credit Director |
| 25 | Messele Mulugeta | Tigray | BoANR | Input (Livestock) Director |
| 26 | Zelalem Bekelle | Afar | UNHCR | Livelihood Coordinator |
| 27 | Fitsum Mengistu | Afar | ARRA | Camp Administrator |
| 28 | Abdu Ali | Afar | OoLANR | Livestock Expert |
| 29 | Tesfahun Hadush | Afar | OoLANR | Crop Expert |
| 30 | Said Yessuf | Afar | OoLANR | Input (Livestock & Crop) Expert |
| 31 | Deressa Ali | Afar | OoLANR | Natural Resources Expert |
| 32 | Hussien Worku | Afar | EECMY (NGO) | Program Coordinator (Off-farm) |
| 33 | Kedir Said | Afar | BoLANR | Livestock Expert |
| 34 | Aregawi Lemlem | Afar | BoLANR | Crop Expert |
| 35 | Asmeret Tilahun | Afar | BoLANR | Marketing Expert |
| 36 | Meles Workneh | Afar | BoLANR | Input (Livestock and Crop) Expert |
| 37 | Ruth Seyfu | Afar | UNHCR | Protection Officer |
| 38 | Senay Bahta | Afar | ARRA | Program Officer |
| 39 | Musa Yassin | Afar | OoLANR | Office Head |
| 40 | Awol Umar | Afar | OoLANR | Livestock Expert |
| 41 | Shiferaw | Afar | OoLANR | Extension Head |
| 42 | Awel Seid | Afar | OoLANR | Crop Expert |
| 43 | Aschalew Tekero | Somali | DRC | Livelihood Expert |
| 44 | Tofik Rahmeto Hassen | Somali | UNHCR | Associate Agriculture Officer |

| | | | | |
|---|---|---|---|---|
| 45 | Jemaludin Syed | Somali | ZOA | Livelihood Expert |
| 46 | Mohammed Isack | Somali | Dolo Ado woreda OoA | Crop Expert |
| 47 | Ahmed Mohammed | Somali | Dolo Ado-Woreda OoA | Cooperative and marketing expert |
| 48 | Hassen Mohammed | Somali | Bokolomanyo woreda OoA | Crop and Extension expert |
| 49 | Dahir Ahmed | Somali | Bokolomanyo woreda OoA | Cooperative expert |
| 50 | Ashebir Simon | Somali | IMC | Livelihood and Nutrition Expert |
| 51 | Demissew Eshete | Somali | UNHCR | Associate Technical Coordination Officer |
| 52 | Mohammed Hassen | Somali | ARRA | Livelihood and environment officer |
| 53 | Abebe Tenaw | Gambella | Bureau of Finance and Economic Development | Senior Expert |
| 54 | Getachew Wolde | Gambella | BOANR | Team leader – Crops |
| 55 | Tariku | Gambella | ARRA | Team Leader – CRRF |
| 56 | Mohammed Lebbie | Gambella | UNHCR | Livelihood Officer |
| 57 | Atsbeha Teklehaimanot | Gambella | ZOA | Program Manager |
| 58 | Kumlachew Mesafint | BG | UNHCR | Livelihood Officer |
| 59 | Abebe | BG | ARRA | CRRF Officer |
| 60 | Desta | BG | Assosa Agri. Research Center | Researcher |
| | Regassa | | Assosa Agri. Research Center | Researcher |
| 62 | Abdirashid | BG | ECX Assossa | Commodity Market officer |
| 63 | Belete | BG | NRC | Program Manager |
| 64 | Abiyot | BG | BoANR | Crop Production Officer |
| | Fikru | | BoANR | Animal Production Officer |

| | | | | |
|---|---|---|---|---|
| 66 | Bahiru | BG | Lutheran World Federation - Bambasi | Program Coordinator |
| 67 | Mulualem Wondasa | BG | Agri. Marketing & Trade | Bureau Director |

**Annex 2.** Dimensions, sub-dimension and assessment questions used for ranking VCs (KII and FGD)

| Dimension/criteria | Assessment questions | VC1 | VC2 | VC3 | VC4 | VC5 |
|---|---|---|---|---|---|---|
| **1. Economic Dimension (45%)** | | | | | | |
| 1.1 Potential to increase income for refugee and host community (10%) | Does the value chain have potential to create jobs and create good income? | | | | | |
| 1.2 Potential for increasing Market opportunities (15%) | 1. Is there demand in the local and / or distant markets (regional, national, cross boarder)? (And potential to substitute import) | | | | | |
| | 2. Are there organized input providers in your area (accessibility)? | | | | | |
| | 3. Are there ready and accessible buyers (industrial, wholesalers, institutional…?) | | | | | |
| | 4. Is there potential for processing (local level value addition)? | | | | | |
| **Sub-total score** | | | | | | |
| 1.3 Need for resource allocation/commitment (5%) | Can Refugees and host community allocate (matching) resources for the production and/or marketing activities of the commodity? E.g. land, water, labour, finances, transport etc. | | | | | |
| 1.4 Potential for increasing Productivity and Production (15%) | 1. Is there potential to increase scale of production, and/or improve productivity through access to land, water and other necessary inputs? (e.g. seeds, mechanization etc) | | | | | |
| | 2. Is there a potential to reduce losses through improved post-harvest handling/storage? | | | | | |
| | 3. Does the refugee and host community have the right technical production and management skills to increase production or reduce losses? | | | | | |

| Dimension/criteria | Assessment questions | VC1 | VC2 | VC3 | VC4 | VC5 |
|---|---|---|---|---|---|---|
| **Sub-total score** | | | | | | |
| **Total Score (Economic)** | | | | | | |
| **2. Food security & Nutrition (5%)** | | | | | | |
| 2.1 Availability year-round (3%) | Is the commodity available throughout the year in terms of production and purchase? | | | | | |
| 2.2 Affordability year-round (2%) | Compared with other crops or livestock products, how affordable is the commodity for both refugee and host communities? | | | | | |
| **Total Score (Food Security)** | | | | | | |
| **3. Institutional (20%)** | | | | | | |
| 3.1 Collective action and community/local groups engagement (8%) | 1. Are there (in-) formal organizations supporting the value chain and community? (e.g. cooperatives, community savings groups, women's and youth associations, policy dialogue platforms etc) | | | | | |
| | 2. Are there active private sector actors supporting the VC such as SMEs including input suppliers, processors, service providers (extension, finance, market...), buyers, etc.? | | | | | |
| **Sub-total score** | | | | | | |
| 3.2 Development actors (4%) | Are there active donor funded projects and NGOs developing/working on the | | | | | |
| 3.3 Government priority and engagement (5%) | 1. Is the VC in-line with the sector policies and government priority (e.g. selected/recommend cluster in the woreda)? | | | | | |
| | 2. Are there research institutions working on improvement of the production and productivity of the commodity? | | | | | |
| **Sub-total score** | | | | | | |
| 3.4 Infrastructure (3%) | Is the production and marketing of the commodity supported by adequate infrastructure (facilities for cooling, storage facilities, irrigation infrastructure, good internal/local roads, telecommunications etc.)? | | | | | |

| Dimension/criteria | Assessment questions | VC1 | VC2 | VC3 | VC4 | VC5 |
|---|---|---|---|---|---|---|
| **Total Score (Institutions)** | | | | | | |
| **4. Social Inclusion (20%)** | | | | | | |
| 4.1 Potential to engage youth and women in refugee and host community (8%) | 1. Are women and youth actively involved in the value chain at present? In what roles? | | | | | |
| | 2. Is there potential to create more jobs for youths and women along the value chain? | | | | | |
| **Sub-total score** | | | | | | |
| 4.2 Potential to increase integration and collaboration between host and refugee community (7%) | To what extent does the value chain offer the potential for collaboration between refugees and host communities? Please provide some examples of activities that support your score | | | | | |
| 4.3 Potential for scale up and replication (5%) | 1. Can the technology used in production and marketing of the commodity be easily adopted by many others? i. e. does it require specialist skills and training? Is it costly? | | | | | |
| | 2. Can improvement in production and productivity of the commodity attract engagement of new actors in production and marketing of it? In particular (Micro Small and Medium Enterprises (MSMEs)? | | | | | |
| **Subtotal score** | | | | | | |
| **Total score (Social)** | | | | | | |
| **Environment (10%)** | | | | | | |
| 5.1 Potential to build climate resilience and resource-use efficiency among refugee and host community (10%) | 1. What is the potential of the commodity to resist/survive drought, disease, and pests and contribute to reduce soil erosion? I.e. low vulnerability to climate change and support climate adaptation/biodiversity | | | | | |
| | 2. Does the commodity have a low negative impact on the environment? To what extent are the products supportive of a green economy? (e. g. low levels of waste, potential for sale of by-products etc.) | | | | | |

| Dimension/criteria | Assessment questions | VC1 | VC2 | | VC3 | VC4 | VC5 |
|---|---|---|---|---|---|---|---|
| | 3. Do the refugee and host community have mechanism (Self or micro insurance) to recover from moderate shock (drought/flood/pest*)* and pursue production and marketing activities? | | | | | | |
| **Total score (Environment)** | | | | | | | |