

# Evaluation of Livestock Products/By-products Value Chain Processing and Utilization as a Cottage Industry

## Sustainable Agriculture and Livestock Production Initiative

### Zonal Efforts for Agricultural Transformation-Bahr el Ghazal Efforts for Agriculture Development

Prepared for: -

Sustainable Agriculture and Livestock Production Initiative (SALPI), Zonal Efforts for Agricultural Transformation - Bahr el Ghazal Efforts for Agriculture Development (ZEAT-BEAD) Program  
Vétérinaires sans Frontières Suisse

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## Abbreviations and acronyms

CAHW	Community based Animal Health Worker
CSA	Climate smart agriculture
DRR	Disaster Risk Reduction
EU	European Union
FAO	Food and Agriculture Organization
FFS	Farmer Field Schools
GDP	Gross Domestic Product
HERY SS	Help Restore Youth South Sudan
IGAD	Inter-Governmental Agreement on
KII	Key Informants interviews
MACAWA	Mading Aweil Community Animal Health Workers Association
MARF	Ministry of Animal Resources and Fisheries
NBEG	Northern Bahr el Ghazal
NRM	Natural Resource Management
PPM &E	Participatory Planning, Monitoring and Evaluation
PRA	Participatory rural appraisal
PFS	Pastoral Field Schools
SALPI	Sustainable Agriculture and Livestock Production Initiative
SPSS	Statistical Package for Social Sciences
SSP	South Sudanese pounds
ToR	Terms of Reference
VSF	Vétérinaires sans frontières
ZEAT-BEAD	Zonal Efforts for Agricultural Transformation - Bahr el Ghazal Efforts for Agriculture Development
<i>Mosalat</i>	Name used in South Sudan to refer to public transport vehicle

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Tobias Odhiambo Ounga

## **Executive Summary**

VSF-Suisse is implementing a three-year (2019-2021) grant from the European Union (EU) under the Zonal Efforts for Agricultural Transformation-Bahr el Ghazal Efforts for Agriculture Development (ZEAT-BEAD) Component 2 Program entitled '*Sustainable Agriculture and Livestock production initiative (SALPI)*' in the former Northern Bahr el Ghazal state.

The project intervention directly contributes to the global objective of the European Commission (EC) ZEAT BEAD Component 2, which is to improve food security and income for rural small holder farmers in South Sudan, through the specific objective of enhancing sustainable supply of agriculture and livestock inputs and services through the private sector. The project focuses on improved food production and productivity, improved conflict mitigation capacities of targeted communities, enhanced income diversification, and improved community resilience. The project targets 10,000 smallholder households in the former five (5) counties of Northern Bahr el Ghazal namely; Aweil East, Aweil North, Aweil West, Aweil Center and Aweil South.

Over 80% of the people of South Sudan live in rural areas relying mainly on agro-pastoralism. It is estimated that over 85% of all households in South Sudan are pastoralists. A study by IGAD estimates livestock contribution to South Sudan national GDP at US\$3.0 billion. It is generally considered that South Sudan has the highest livestock to human ratio of over 25 per person. According to the Ministry of Animal Resources and Fisheries (MARF), based on FAO's 2009 estimates, livestock population in South Sudan is 11.7 million cattle and 24.3 million sheep and goats. However, a livestock census that involved an actual count of livestock was last conducted in Sudan (north and south) in 1975-1977. The livestock and their products are utilized for food, social roles and furniture. Although agro-pastoralism involves both livestock rearing and crop production, a household's financial capital is held in the form of livestock. The cattle and small ruminants are mainly used for payment of dowry, settlement of disputes, meat consumption during cultural events such as marriage and funerals, and provision of milk. Milk is an especially important food for young children, and pregnant and lactating mothers. Due to seasonality of food production, milk is a critical food at specific times of year, when other foods such as cereals, are not readily available.

While South Sudan has been confronted by periods of conflicts during struggle for independence and internal political conflicts, livestock have provided important role in sustaining community livelihoods.

The overall objective of the consultancy was to evaluate and provide technical expertise on livestock products (meat and milk) and by-products (hooves, hides and skins etc.) value chains, processing and utilization as a cottage industry vocation.

Findings of the evaluation showed that facilities for marketing of meat and milk value chain were largely inadequate. Design of the facilities should conform to the current and future demand for the products, and these should be estimated from slaughter rates, sale rates and volumes of products handled. Key areas that were identified for attention are: -



- Improvement of sanitation and waste disposal facilities; latrines, running water and waste disposal sites. Water facilities should be improved through roof catchment or drilling of bore holes.
- There is need for more sensitization and awareness creation on public health hygiene related to meat and milk value chain handling.
- There is need to improve on meat and milk value chain handling equipment, tools and protective wear through sensitization of handlers as well as direct support with appropriate equipment, tools and protective wear.
- Handling of meat and milk during transportation should be improved through sensitization on carriage cages especially for motorcycles.
- More public slaughter facilities and milk sheds should be constructed at other trading centers.
- Association and grouping by/of milk vendors are still poor. These groups should be strengthened to capitalize on advantages of pooling.
- More emphasis should be placed on strengthening meat trader groups/butcher operator groups, and the livestock auction groups to enhance contacts with these traders as well as improve on their own advantages of pooling together.
- In whereas there is high potential in hides and skins, there has so far been little emphasis on these products. There is need for investments in hides and skins in form of sensitizations, awareness creation, skills capacity building, input support and further assessments. These should be on the whole value chain from household and cattle camp livestock keeping, handling, slaughter, storage, market linkage and processing.
- There is immediate need for establishment of hides and skins stores at slaughter points in NBEG.

## **1. Introduction**

### **1.1. Sustainable Agriculture and Livestock Production Initiative (SALPI), Zonal Efforts for Agricultural Transformation - Bahr el Ghazal Efforts for Agriculture Development (ZEAT-BEAD) Program**

South Sudan continued to grapple with protracted conflict, displacements, insecurity, struggling economy, runaway inflation and natural calamities across the country. Due to insecurities in the country, 1.9 million people have been internally displaced (50% estimated to be children) and more than 1.2 million have fled as refugees to neighboring countries. Peace efforts mediated by regional and international bodies and partners have remained elusive, with the future looking uncertain. The overall country situation is characterized by chronic food insecurity, poor access to basic services, rapidly deteriorating socio-economic conditions, unpredictable political dynamics and precarious human security situation. The former Northern Bahr el Ghazal (NBEG) state though not directly embroiled in the ongoing conflict has borne the brunt of the spill over effects of the conflict in other parts of the country. The main trade corridors and supply routes to the region have suffered from relentless insecurity, disrupting the smooth flow of essential commodity supplies to the main terminal markets in the state. Alternative in-let routes for trade flows from Sudan have frequently been disrupted through border closures and conflicts, leading to acute shortage of food and other essential commodities in the local markets, and subsequent sharp increases in commodity prices beyond the reach of the majority of poorer households whose purchasing power has been eroded by the runaway inflation.

VSF-Suisse is implementing a three-year (2019-2021) grant from the European Union (EU) under the Zonal Efforts for Agricultural Transformation-Bahr el Ghazal Efforts for Agriculture Development (ZEAT-BEAD) Component 2 Program entitled '*Sustainable Agriculture and Livestock production initiative (SALPI)*' in the former Northern Bahr el Ghazal state.

The project intervention directly contributes to the global objective of the European Commission (EC) ZEAT BEAD Component 2, which is to improve food security and income for rural small holder farmers in South Sudan, through the specific objective of enhancing sustainable supply of agriculture and livestock inputs and services through the private sector. The action is designed as a multi-year project to provide a realistic chance to mitigate the rigidity and limited impact of traditional short-term funding for humanitarian action. The action supports the transition from dependence on externally sourced food and inputs to food and input self-sufficiency through promotion of local food and inputs production and marketing. Through this action, VSF Suisse and its partners, Vétérinaires Sans Frontières Canada (VSF Canada) and Help Restore Youth South Sudan (HeRY) will work with agro-pastoral producer groups to promote climate smart agriculture (CSA) and technologically appropriate integrated farming systems through a robust and revitalized extension system. The action builds the technical, organizational and managerial capacities of existing and new local producer groups and associations to initiate and strengthen local production and marketing of agricultural commodities and inputs. Knowledge and skills transfer are promoted through Farmer Field Schools (FFS), Pastoral Field Schools (PFS) and training of trainers (ToT)

approaches. Cost effective solutions and options are developed for cost based private sector services delivery models to fill existing gaps and to complement evolving public sector service delivery systems. Livelihood diversification and women and youth centred income generating activities are promoted through investments in value addition and markets, marketing systems and infrastructure development. These approaches mainstreams gender, protection, Natural Resource Management (NRM) and Disaster Risk Reduction (DRR) strategies and conflict sensitivity to achieve maximum equitable and sustainable impact. The project lays strong emphasis on community driven conflict mitigation and management mechanisms that will be used to navigate the interests of various stakeholders including civil society, religious groups, local authorities, traditional leaders, herders, traders, farmers, youth, women groups and similar others, while also ensuring that sustainability of the action is embedded in the strengthened community systems.

The project focuses on the following result areas; i) Improved food production and productivity, ii) Improved conflict mitigation capacities of targeted communities, iii) Enhanced income diversification, and iv) Improved community resilience.

The project targets 10,000 smallholder households in the former five (5) counties of Northern Bahr el Ghazal namely; Aweil East, Aweil North, Aweil West, Aweil Center and Aweil South.

## **1.2. Livestock production in South Sudan**

Over 80% of the people of South Sudan live in rural areas relying mainly on agro-pastoralism. It is estimated that over 85% of all households in South Sudan are pastoralists. A study by IGAD estimates livestock contribution to South Sudan national GDP at US\$3.0 billion. It is generally considered that South Sudan has the highest livestock to human ratio of over 25 per person. According to the Ministry of Animal Resources and Fisheries (MARF), based on FAO's 2009 estimates, livestock population in South Sudan is 11.7 million cattle and 24.3 million sheep and goats. However, a livestock census that involved an actual count of livestock was last conducted in Sudan (north and south) in 1975-1977.

Main livestock reared in South Sudan are cattle and small ruminants. The livestock and their products are utilized for food, social roles and furniture. Although agro-pastoralism involves both livestock rearing and crop production, a household's financial capital is held in the form of livestock. The cattle and small ruminants are mainly used for payment of dowry, settlement of disputes, meat consumption during cultural events such as marriage and funerals, and provision of milk. Milk is an especially important food for young children, and pregnant and lactating mothers. Due to seasonality of food production, milk is a critical food at specific times of year, when other foods such as cereals, are not readily available.

While South Sudan has been confronted by periods of conflicts during struggle for independence and internal political conflicts, livestock have provided important role in sustaining community livelihoods.

However, over 80% of rural people of South Sudan are poor. Livestock mainly provides for subsistence and only little economic commercial role. High proportions of the populations are frequently food insecure. Livelihoods of large proportion of the population would be greatly enhanced through improvement of livestock productivity, of products quality and improvement of utilization of livestock and livestock products.

### **1.3. Objectives of the assignment**

The overall objective of the consultancy was to evaluate and provide technical expertise on livestock products (meat and milk) and by-products (hooves, hides and skins etc.) value chains, processing and utilization as a cottage industry vocation.

The specific objectives of the assignment are: -

- Carry out a value chain analysis on livestock products and by-products including an assessment of market opportunities through the private sector.
- Formulate appropriate designs for the establishment of slaughter by-products value chain addition sheds, milk marketing sheds and slaughter sheds/ slabs that are relevant to the context.
- Support Training of Trainers for lead milk vendors on milk value chain addition, hygienic milk production, milk handling practices, operational dynamics, marketing including nutrition behavior change communication.
- Support training of lead youths on slaughter by products processing techniques, production management and product marketing skills.
- Provide specific, relevant and practical recommendations in livestock products and by-products value chain components to refine implementation of the project and documentation of lessons that could be utilized for future similar programming.
- Produce comprehensive report(s) on the assignment.

## **2. Methodology**

The evaluation was conducted through integrated participatory methodologies that ensured that the inputs of various actors in livestock products and by-products value chain processing and utilization were taken into account. Preliminary processes of the exercise gathered information and data that contributed to subsequent stages and to the overall analysis. The preliminary events provided information and data that were used for the subsequent designs of facilities, preparation of training plans, training delivery and development of recommendations in livestock products and by-products value chain components to refine implementation of the project and documentation of lessons that could be utilized for future similar programming. Training events and designs of facilities were conducted concurrently with the other activities of the evaluation. The methodology was in line with the framework outlined by the terms of reference (ToR) of the assignment.

Activities were organized into a) inception phase; b) information, data gathering and preliminary analysis phase c) training delivery and design of facilities, d) final analysis of value chain information and data, and report compilation. Each phase culminated into specific milestones.

## **2.1. Inception phase**

In the inception phase, consultations, briefing from project staff and preview of literature provided more guide for refining the methodology including detailed work plan, information and data collection tools as well as information on livestock products and by-products. Activities in this phase culminated with detailed work plan, methodology, tools and basic information from existing literature.

### **2.1.1. Desk review**

Review of literature produced information and other relevant data on livestock products and by-products processing and utilization, and other principles relevant to the objectives of the assignment and the context in the Republic of South Sudan. Desk review provided basic information and data that were updated even during period of key stakeholders' interviews and field visits. Literature materials were sourced online as well other hardcopy reports. These included other previous assessments, surveys, academic researches and project reports.

### **2.1.2. Interviews and consultations with key stakeholders**

These yielded information and data on livestock products and by-products processing and utilization as well as other related principles. Key stakeholders interviewed were staff of other organizations, staff of ministry departments; livestock and local government, traders in livestock products, processors, livestock handlers and community opinion leaders (Annex I). Checklists (Annexes II to IV) were prepared in advance for use in the interviewing.

## **2.2. Information, data gathering and preliminary analysis phase**

This phase commenced once the work plan, itinerary and refined methodology had been agreed upon with VSF Suisse. The output of this phase were information base for planning of training events, designing of facilities and final analysis on livestock products and by-products processing and utilization.

### **2.2.1. Field visits**

Field visits formed part of context analysis on livestock products and by-products processing and utilization. Field visits were as well used to assess, the current status, gaps and potentials for livestock products and by-products processing and utilization, including marketing. Further interviewing of key stakeholders and other actors were undertaken during field visits. Direct observations were made on livestock products and by-products processing and utilization. Appropriate checklists (Annex II to IV) and other tools were applied.

## **2.3. Training delivery and design of facilities**

### **2.3.1. Training delivery**

Training events were planned in advance, based on information and data obtained on livestock products and by-products processing and utilization. Participatory methodologies were applied during planning and actual training delivery. Training of Trainers for lead milk vendors on milk value chain addition, hygienic milk production, milk handling practices, operational dynamics, marketing including nutrition behavior change communication were conducted as well as training of lead youths on slaughter by products processing techniques, production management and product marketing skills. Training events were organized and conducted in close consultations with the VSF Suisse field teams.

### **2.3.2. Design of facilities**

Slaughter by-products value chain addition sheds, milk marketing sheds and slaughter sheds/slabs were formulated and designed in the geographic, cultural and socio-economic context of the counties, the region, country and the people. These took into account past, present and future changes and developments. Designs were based on information and data on livestock products and by-products processing and utilization.

## **2.4. Limitations**

The evaluation exercise was limited to the scope of the ToR. Although data and information used were obtained from wider locations and sources, the evaluation focused on Payams covered by the project. Designs of structures and facilities were mainly formulated taking into account the project's implementation existing capacity. Improvements and developments for main urban centers such as Aweil town would require bigger facilities and structures.

### 3. Key Findings

#### 3.1. The state of meat production and marketing

##### 3.1.1. Sourcing of Livestock for slaughter

In the Northern Bahr el Ghazal region, meat almost entirely is produced by the traditional pastoral livestock production system. The main livestock species for meat are cattle and small ruminants. Trade on live animals supply slaughter sites, slaughter slabs and the few slaughter houses in the region. Livestock are delivered to auction markets by the livestock owners/livestock keepers and livestock traders. From the livestock auction markets, butchery operators purchase live animals which are then moved to sites of slaughter. However, other purposes for sale and purchase of livestock include expansion of household herd, dowry and payment of fines.

The size of livestock markets depend on demand of livestock for the economic and social roles described above. Specifically, bigger trading centers have bigger livestock auctions. Livestock sales also tend to vary by fishing and non-fishing season, so that sales are higher during non-fishing seasons because more animals are sold for slaughter. Table 1 gives estimates of livestock sales at selected livestock auctions in Northern Bahr el Ghazal.

Throughout Northern Bahr el Ghazal, movement of livestock from cattle camps and homesteads to the auction markets and from one auction market to another are by foot. Movement by truck is almost non-existent. However, occasionally, small ruminants, especially goats are sited loaded on roof racks of public vehicles (*mosalat*).

**Table 1: Estimates of livestock sales at selected livestock auctions in Northern Bahr el Ghazal**

	Heads of cattle exchanged per market day	Heads of small ruminants exchanged per market day
Aweil town livestock auction	15 - 40	15 - 25
Warwar livestock auction	15 - 30	10 - 20
Wanjok livestock auction	10 - 20	10 - 15
Gok Machar livestock auction	10 - 15	5 - 10
Nyamlel livestock auction	8 - 10	5 - 15
Marial Baai livestock auction	10 - 15	10 - 15

Government authorities are involved in restricting sale of illegally acquired livestock as well as sick ones at livestock auctions. Village elders, chiefs and the police usually are on standby for claims of livestock at auction markets. Local council government also collects revenue from every head of livestock sold.

### 3.1.2. Slaughter sites, slabs and slaughter houses

Over the years, slaughter of meat has been organized and conducted by butchers who operate as groups at trading centers. Wanjok butchers association comprise of 44 operators who cooperate in lending each other capital, sharing meat sale points/sites and weekly and daily rotation on who slaughters and sells on a particular day. The arrangement is similar in all trading centers. In the smaller trading centers, the numbers of slaughter operators are 3 to 10.

**Table 2: Types and locations of slaughter structures in NBEG**

Location	Type of structure
Gok Machar, Nyamlel, Mayen Ulem, Warwar, Malek Alel	Slaughter slab
Wanjok, Nyamlel, Aweil town	Group concrete butchery stalls
Wanjok, Marial Baai, Aweil town	Slaughter house

Slaughter is done in most trading centers, however, the scale and type of slaughter facility vary between the trading centers. Generally constructed slaughter structures only exist at Gok Machar, Nyamlel, Mayen Ulem, Warwar, Malek Alel, Wanjok, Aweil town and Marial Baai trading centers/towns (Table 2).

Between 2005 to 2008, VSF Suisse constructed slaughter slabs at Nyamlel and Gok Machar. They were about 4 x 4 meters square in floor space, with metal hoist and drainage (Figure 1). They were merely basic to avoid slaughter on bare ground that was used at that time. They did not have provisions for pit drainage. According to operators and the county directors, during flooding the drain site become quite filthy. Similar slab were constructed at Mayen Ulem by Mercy Corps and Gok Machar by VSF Suisse.



**Figure 1: Slaughter slab at Gok Machar center**

They were merely basic to avoid slaughter on bare ground that was used at that time. They did not have provisions for pit drainage. According to operators and the county directors, during flooding the drain site become quite filthy. Similar slab were constructed at Mayen Ulem by Mercy Corps and Gok Machar by VSF Suisse.

In 2008, a slightly more improved slab that included corrugated iron sheet roofing was constructed by FARM

Africa at Malek Alel in Aweil South (Figure 2). This slab also included chain fencing of the compound.



At Aweil town, Marial Baai and Wanjok, there are slaughter houses with slaughter hall, livestock holding yard, hides and skins stores, waste disposal sites and water supply. Slaughter slabs are



**Figure 2: Slaughter slab constructed at Malek Alel in 2008**

available only at Gok Machar, Nyamlel, Mayen Ulem, Warwar and Malek Alel while at Wanjok, Nyamlel and Aweil town there are group butcheries. Table 2 presents existence of slaughter structures in NBEG.

During 2013, AECOM through funding from USAID, constructed slaughter slabs and hides and skins stores at Wanjok (Figure 3) in Aweil East and at Marial Baai in Aweil West. At Aweil town, there are other sets of group butchery stalls, one constructed by VSF Suisse in 2012 while the others are privately owned. Other than the group concrete butchery stalls, the rest meat selling stalls are structures made of tree branches and grass, the floors being bare earth ground.



**Figure 3: Slaughter floor at Wanjok in Aweil East**

The slaughter rates were compared between trading centers within Aweil North and in Aweil South counties. The analysis showed that in Aweil North, the 4 most active trading centers slaughter about 3 heads of cattle every market day and 1 or 2 every non-market day. In Aweil South, the busiest trading centers, Melek Alel, slaughter 3 heads of cattle every market day and 1 every non-market day

while the 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> active trading centers (Table 3) slaughter 1 on market days and nil the rest days. In both Aweil North and South, the trading centers after the 6<sup>th</sup> do not slaughter at all. Rates of slaughter vary according to size of trading center, fishing or non-fishing season and by market and non-market day. These are probably due to demand for meat. More livestock are slaughtered in the non-fishing seasons than during fishing seasons because during flood seasons when fish are readily available, households tend to rely on fish over meat. However, the prices of most remain similar through out the seasons and days of the week. Some slight variations in price of meet from one market to another. Pricing of meat are regulated by the local market councils. From time to time, the local market councils sets prices of meat at their areas of jurisdiction. The lowest price was 600.00 SSPs per kilogram of mixed meat at Gok Machar (Table 4), while at Aweil town and Wanjok, similar type of cut retailed at 700.00 SSPs per kilogram. At Wanjok meat steak retailed at 900.00 SSPs per kilogram while mutton retailed at 1,000.00 SSPs per kilogram. At Aweil town, meat steak retailed at 1,400.00 SSPs per kilogram while mutton retailed at 1,200.00 SSPs per kilogram.

**Table 3: Rates of slaughter at selected specific trading centers in Northern Bahr el Ghazal**

	Fishing season		Non-fishing season	
	Market day	Non-market day	Market day	Non-market day
<b>Pamat, slaughter under tree, small trading center</b>				
· Heads of cattle	2	1	3	2
· Heads of goats/sheep	-	-	-	-
<b>Malek Alel, slaughter slab, small trading center</b>				
· Heads of cattle	3	1	5	3
· Heads of goats/sheep	-	-	-	-
<b>Wanjok, slaughter slab, middle level trading center</b>				
· Heads of cattle	4	2	4 - 5	2
· Heads of goats/sheep	25 - 30	18	30	20
<b>Warwar, slaughter slab, middle level trading center</b>				
· Heads of cattle	10 - 15	10	10 - 15	10
· Heads of goats/sheep	30	15	30	15
<b>Aweil Slaughter house, Large trading center</b>				
· Heads of cattle	22	22	22	22
· Heads of goats/sheep	55	55	55	55

**Table 4: Price of meat (SSPs per kg) at various trading centers in Northern Bahr el Ghazal**

	Wanjok	Gok Machar	Aweil town
Beef - mixed	700.00	600.00	700.00
Mutton- mixed	1,000.00	700.00	1,200.00
Beef – steak	900.00	-	1,400.00

### **3.1.3. By-products of slaughter**

Only about 5% of hides and skins resulting from slaughter trade are sold or used further. The rest is mainly unused and merely discarded. Hides utilized culminate in traditional drums, traditional chairs and traditional beds. Based on the slaughter rates (Section 3.1.2), small trading centers yield about 30 hides per month, the medium trading centers yield 60 to 90 hides per month, bigger centers yield 90 to 150 hides per month while at Aweil town, the slaughter yields about 650 hides per month.

According to staff of the Ministry of Agriculture, Livestock and Fisheries, trading on hides and skins is non-existent in Aweil South. In Wanjok in Aweil East, about 15 pieces of hides are sold by the



**Figure 4: Horns discarded in the open at Melek Alel**

butcher group every month. The rest of hides as well as all skins from small ruminant slaughter are discarded away. The hides purchased are used from making drums, ropes for livestock, traditional beds and chairs.

All horns yielding from slaughter sites are discarded by dumping

### **3.1.4. Challenges sited in meat value chain**

#### **Challenges sited by slaughter operators**

- i) Poor equipment for meat handling.
- ii) Disposal of waste is random.
- iii) Lack of latrines.

- iv) Many flies at location of sale.
- v) Inadequate facilities for cleaning.
- vi) Carrying of water is difficult.
- vii) Low capital.

### **Challenges sited by public health and local council government officials**

- i) Disposal of wastes is bad.
- ii) Sanitation services at trading centers are poor; no latrines, poor disposal sites.
- iii) Hides and skins are discarded into the open near sites of slaughter.
- iv) Inadequate staff.
- v) Inadequate equipment; protective wear, tools for cleaning the market and transport.

### **3.1.5. Areas for improvement in meat and by-products of slaughter**

- Improvement of sanitation and waste disposal facilities; latrines, running water and incineration kilns. Water facilities should be improved through roof catchment from slaughter slab buildings, or drilling of bore holes.
- There is need for more sensitization and awareness creation on public health hygiene.
- There is need to improve on meat handling tools, equipment and protective wear through sensitization of meat handlers as well as direct support with appropriate tools and protective wear.
- Handling of meat during transportation should be improved through sensitization on meat carriage cages especially for motorcycles.
- More slaughter facilities should be constructed at other trading centers. The capacity of the slaughter facilities should be planned to conform to the rates of slaughter. Trading centers with medium activity should have slighter facilities that can handle at least two cattle simultaneously on the hoists. This is because in NBEG, slaughter are done very early in the mornings, i.e from about 4.00 am to about 5.30 am so the time is quite limited and in order to complete a number of cattle within limited time period, the hoists should be adequate.
- More emphasis should be placed on strengthening meat trader groups/butcher operator groups, and the livestock auction groups to enhance contacts with these traders as well as improve on their own advantages of pooling together.

- In whereas there is high potential in hides and skins, there has so far been little emphasis on these products. There is need for investments in hides and skins in form of sensitizations, awareness creation, skills capacity building, input support and further assessments. These should be on the whole value chain from household and cattle camp livestock keeping, handling, slaughter, storage, market linkage and processing.
- There is immediate need for establishment of hides and skins stores at slaughter points in NBEG.

## 3.2. Milk and milk products

### 3.2.1. Milk production

Milk is an important livestock product among the community in Northern Behr el Ghazal. It is produced and consumed by over 80% of rural community. Production is mainly by traditional agropastoral production system of NBEG based on cattle, goats and sheep. Over 92% of milk produced from households, at the homesteads as well as at cattle camps are consumed directly by household members (Figure 5).

Produced milk is consumed fresh, sour as well as some utilized as ghee.

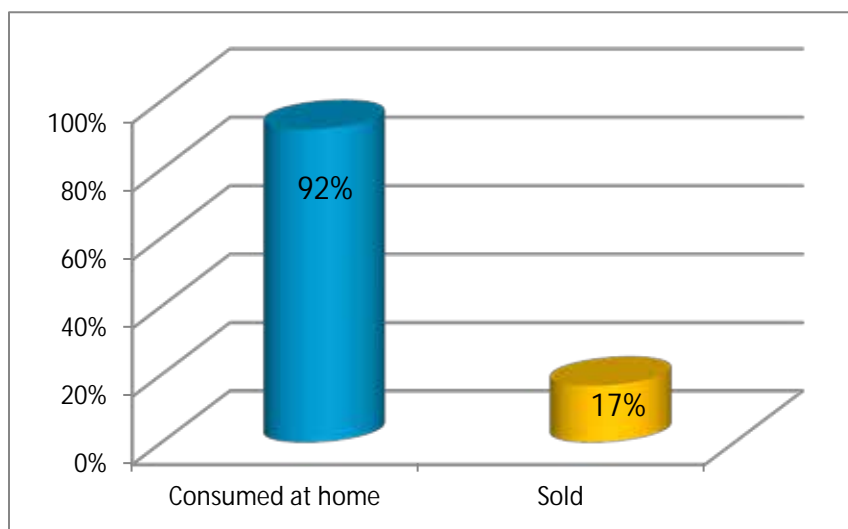
At cattle camps and at homesteads, milking is entirely done by women and girls. Milking is done in the mornings from about 7.00 am to about 9.30 am, just before livestock are released for grazing, and in the evenings just after the livestock are back from grazing from about 5.30 pm to about 7.00 pm.

Discussions with vendor women and girls, and with staff from county livestock departments showed that use of traditional guards form about 80% of milking containers while metal cans about are about 20% of the containers used.

Although no clear data is available on the incidences of diseases of public health concerns in milk utilization, Brucellosis and Tuberculosis are considered to be endemic in the Northern Bahr el Ghazal. Also there are no clear data on role of milk handling and utilization in public health.

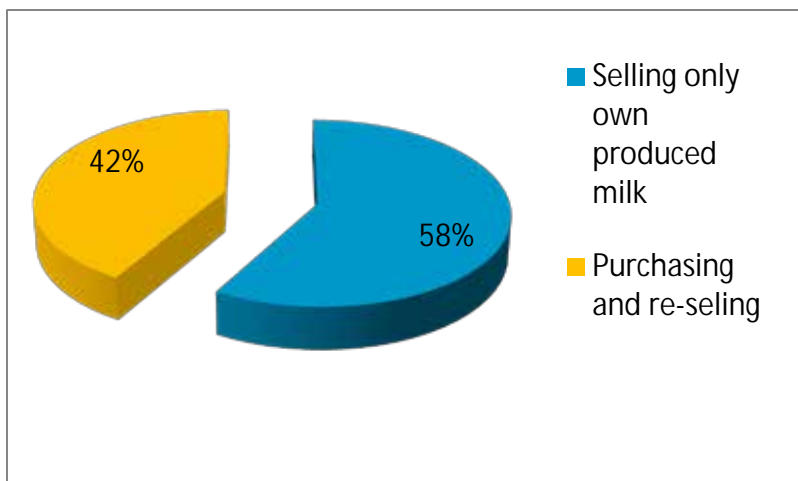
### 3.2.2. Milk marketing and facilities

Sale of milk is mainly by women and girls. 58% of the women and girl milk vendors are owners, themselves while only about 42% are traders who buy from cattle camps and resale (Figure 6). At all trading centers, there are sites where milk vendor women and girls sell milk, usually under a tree or on shop frontage. Usually these are open-air bare ground.



**Figure 5: Proportion of milk sold as compared to amount consumed at home**

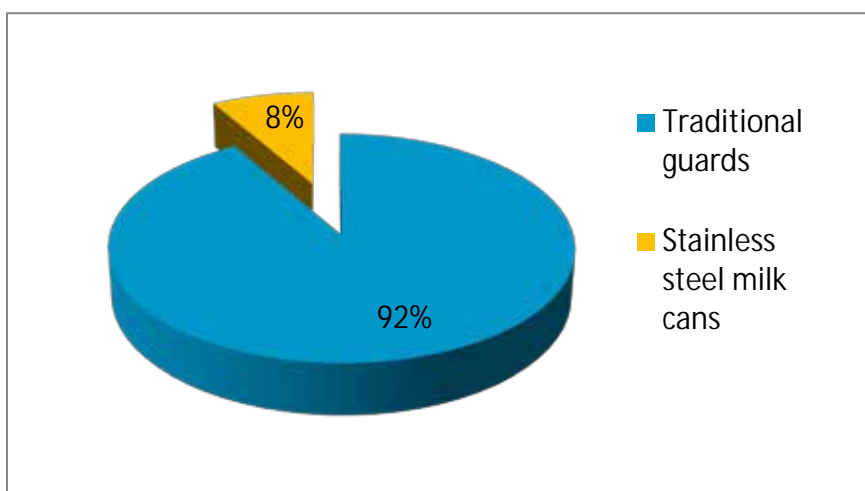




The women and girls transport milk from villages to point of sale by plastic containers or traditional guards. These are delivered on foot.

**Figure 6: Proportion of vendors selling own milk as compared to those buying and reselling**

Traditional guards are still widely used for milking and for delivering milk to trading center for sale. At milk selling sites, about 92% of the milk containers are traditional guards (Figure 7). Maintenance of hygiene of the milk guards remain mainly traditional. The other milk containers comprised of stainless steel milk cans and plastic jerricans, recycled from cooking oil containers. Measurement of milk during sale was by use of 125 ml metal cups or 250 ml recycled soda plastic bottle. Figure 8 is a picture of milk vendors at Pamat in Aweil North.



**Figure 7: Use of traditional guards as compared to stainless steel milk cans at Pamat**

During 2013, AECOM through funding from USAID constructed stalls for milk, meat and vegetable vendors at Wanjok, Marial Baai and Gok Machar as part of project mentioned in section 3.1.2 above. A milk bar was also constructed by AECOM at Aweil town in 2018. Milk marketing structures existing in NBEG region were: -

- 1) Milk shop at Gok Machar – Constructed under the SPEEDUP in 2019.
- 2) Milk shop at Aweil town – Constructed by AECOM in 2018. Run and operated by MACAWA.
- 3) Milk stalls at Wanjok and Marial Baai – Constructed by AECOM in 2015. Run and operated by MACAWA. Vendors comprise of group of 30 women.



**Figure 8: Milk vendors on a market day at Malek Alel in Aweil South**

Milk sales activity was compared between the markets in form of number of vendors and quantity of milk sold. Both of these varied between the sampled markets as well as between dry and wet seasons.

Table 5 gives milk marketing structures in NBEG and some of their milk sales their characteristics.

**Table 5: Milk sales characteristics at selected trading centers in NBEG**

	Pamat	Wanjok	Malek Alel
Number of vendors			
– dry season	5	15/30	15
– wet season	10	20/30	30
Total (by all vendors) amount of milk (liters) sold per day – dry season	8	20	-
Amount of milk (liters) sold per day by one vendor			
– dry season	1.5	-	-
– wet season	15	-	-
Price of milk (SSPs per 1 liter)	160.00	500.00	150.00
Time milk sales start	10.00 am	10.00 am	10.00 am
Time milk sales stops	12.00 pm	4.30 pm	4.30 pm



Various brands of powdered milk are available in general household commodity retail shops at major towns, townships and trading centers such as Aweil town, Nyamel town, Wanjok and Gok Machar. These are all imports from the middle East through Khartoum.

### **3.2.3. Challenges sited in milk value chain**

#### **Challenges sited by Wanjok, Pamat and Malek Alel women milk vendors**

- i) Operates on bear ground that is dusty during dry season and muddy during wet seasons.
- ii) Many flies at location of sale.
- iii) No facilities for cleaning.
- iv) Location of sales usually at crowded places of the trading center.
- v) Lack of latrines.
- vi) Disposal of waste is random.
- vii) Owners of shops always chase milk vendors away.
- viii) Poor equipment for carrying milk and for measuring milk.
- ix) Low capital.

#### **Challenges sited by public health and local council government officials**

- i) Milk vendors have very low profits and very low incomes so we never charge them revenue and it is difficult for local council to provide good services.
- ii) Disposal of wastes is bad.
- iii) Sanitation services at trading centers are poor; no latrines and the disposal sites are poor.
- iv) Inadequate equipment for maintenance of hygiene.

### **3.2.4. Areas for improvement**

- Improvement of sanitation and waste disposal facilities; latrines, running water and waste disposal sites. Water facilities should be improved through roof catchment from milk sheds buildings, or drilling of bore holes.
- There is need for more sensitization and awareness creation on public health hygiene related to milk handling.
- There is need to improve on milk handling tools and protective wear through sensitization of milk handlers as well as direct support with appropriate tools and protective wear.
- Handling of milk during transportation should be improved through sensitization on milk carriage cages especially for motorcycles.
- More public milk sheds should be constructed at other trading centers.
- Association and grouping by/of milk vendors are still poor. These groups should be strengthened to capitalize on advantages of pooling.

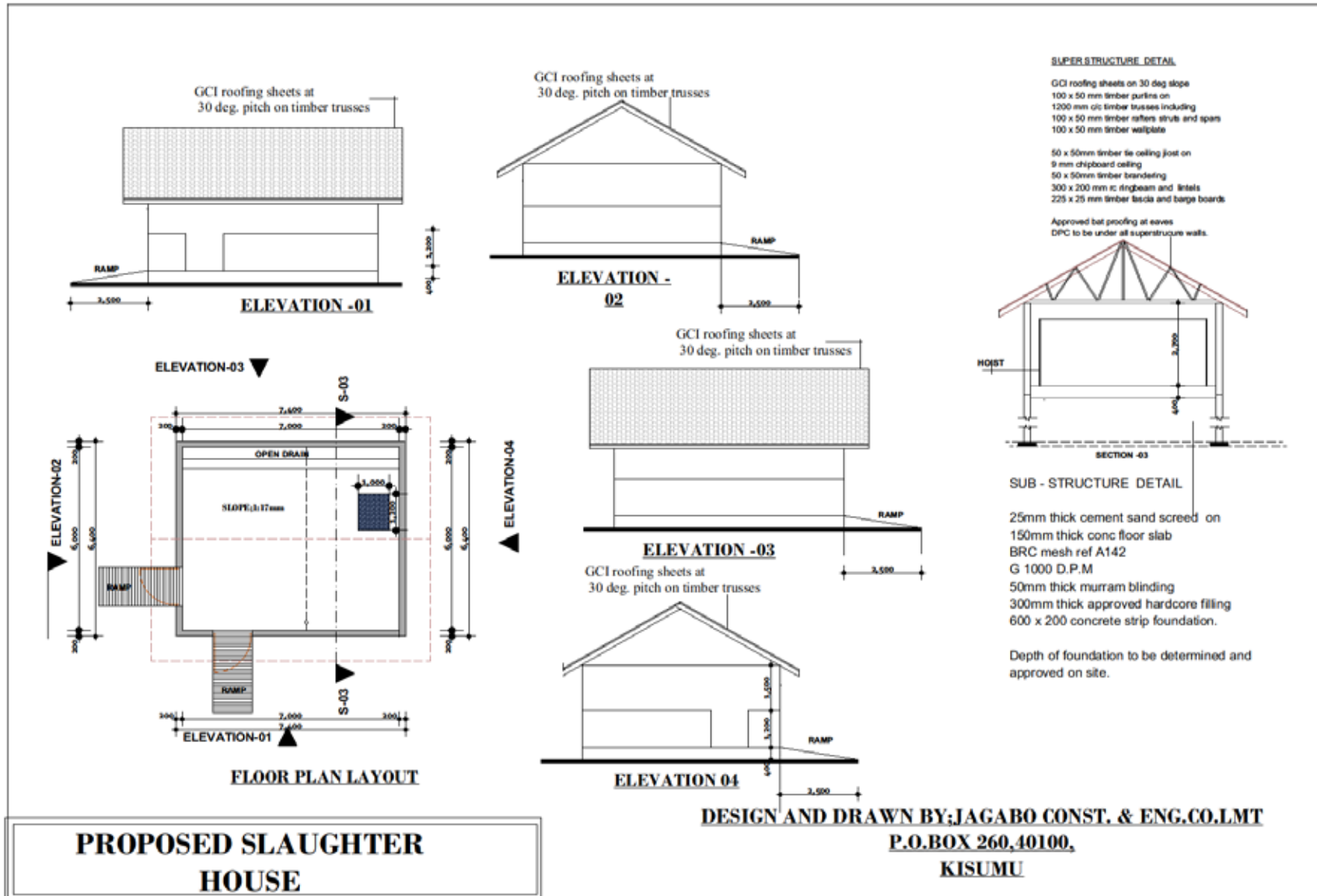
## **4. Designs of meat and milk handling structures**

### **4.1. Basis for formulation of designs**

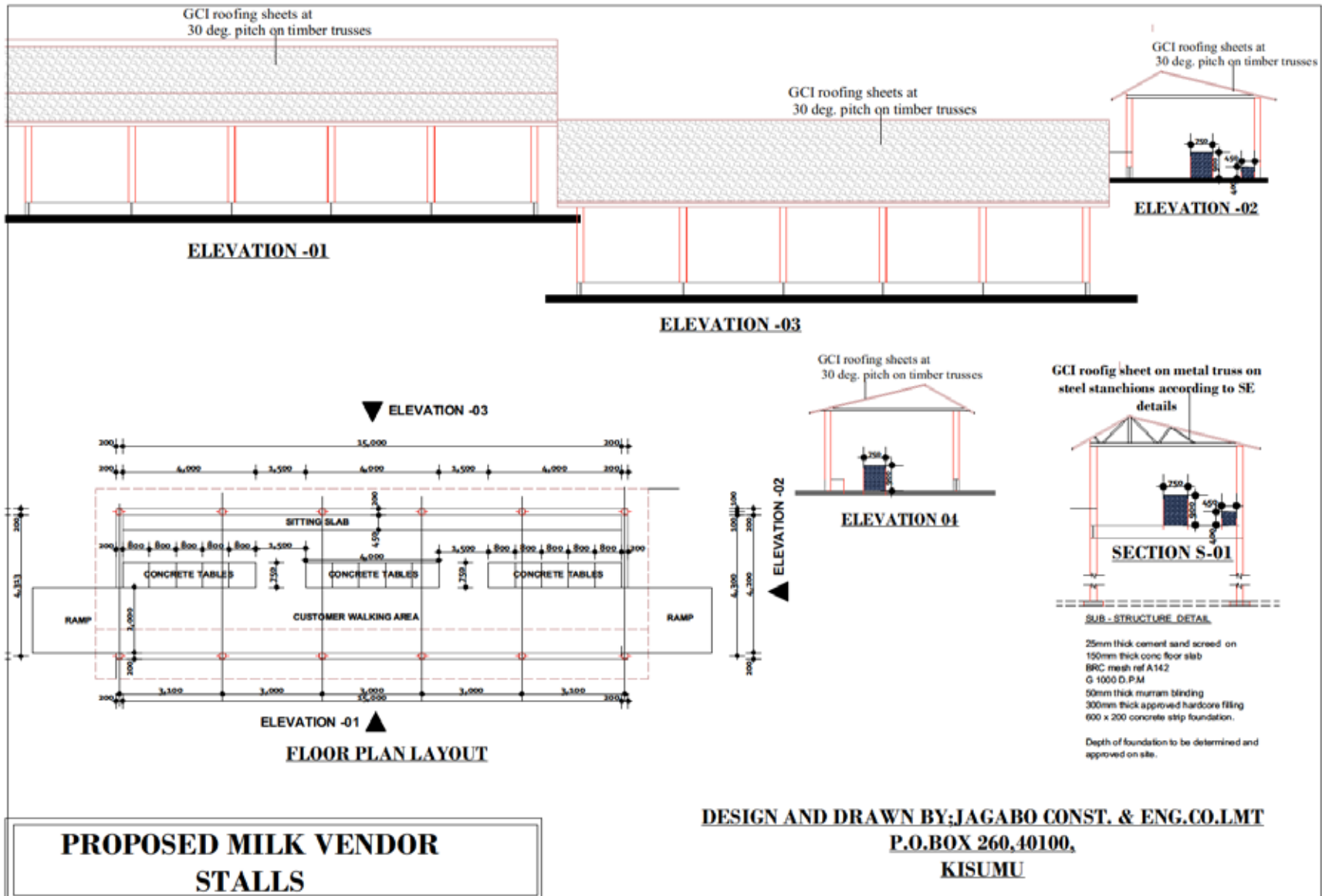
Formulation of designs for slaughter by-products value chain addition sheds, milk marketing sheds and slaughter sheds/ slabs were based on the following: -

- i) More emphasis for sustainability of the facilities should mainly be responsibility of the local vendors/operators, followed by local authority.
- ii) Ownership should mainly be bestowed on local stakeholders of the value chain. The local vendors/operators should be able to understand benefits of the facilities, needs for their repairs and other maintenances. The vendors should also be responsible for the repairs and maintenance.
- iii) The vendors, being local individuals, should be able to operate the structures without need for additional highly sophisticated skills.
- iv) The structures should enhance and improve the marketing activities already currently being undertaken by the value chain actors.
  - For milk, current marketing is mainly by individual women and girls who obtain milk from villages then sell at trading centers. Formulated facility should therefore provide for them a selling site. The milk sheds should have capacity to accommodate 10 to 15 vendors during time of sale – about 10 to 15 stalls per milking shed.
  - For slaughter site operators, currently, at most of medium and small trading centers, slaughter of cattle and the small ruminants are undertaken under trees. This minimizes application of hygiene procedures and other quality production processes. Appropriate slaughter slabs for these trading centers should be of capacity for 1 to 5 heads of cattle per day of slaughter.
- v) Designed structures and facilities should provide continuity for future developments and future upgrading, within the value chain and the structure. Such developments include construction of milk processing centers, tanneries and bigger slaughter houses.

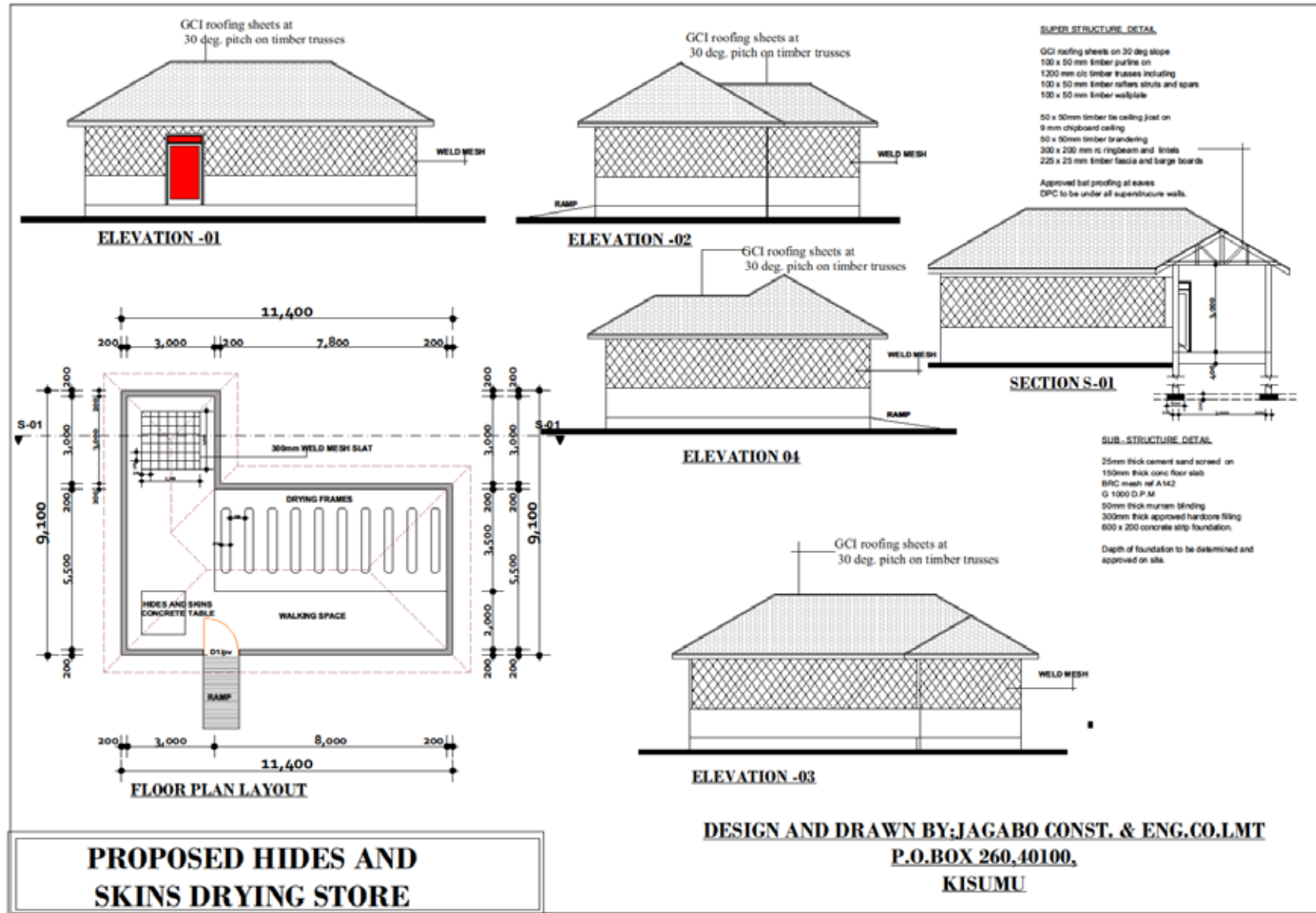
## 4.2. Slaughter slab – 1 to 5 heads of cattle per slaughter day



### 4.3. Milk vendors stalls



#### 4.4. Hides and skins stores



## 5. Conclusions and recommendations

Findings of the evaluation showed that facilities for marketing of meat and milk value chain were largely inadequate. Design of the facilities should conform to the current and future demand for the products, and these should be estimated from slaughter rates, sale rates and volumes of products handled. Key areas that were identified for attention are: -

- Improvement of sanitation and waste disposal facilities; latrines, running water and waste disposal sites. Water facilities should be improved through roof catchment or drilling of bore holes.
- There is need for more sensitization and awareness creation on public health hygiene related to meat and milk value chain handling.
- There is need to improve on meat and milk value chain handling equipment, tools and protective wear through sensitization of handlers as well as direct support with appropriate equipment, tools and protective wear.
- Handling of meat and milk during transportation should be improved through sensitization on carriage cages especially for motorcycles.
- More public slaughter facilities and milk sheds should be constructed at other trading centers.
- Association and grouping by/of milk vendors are still poor. These groups should be strengthened to capitalize on advantages of pooling.
- More emphasis should be placed on strengthening meat trader groups/butcher operator groups, and the livestock auction groups to enhance contacts with these traders as well as improve on their own advantages of pooling together.
- In whereas there is high potential in hides and skins, there has so far been little emphasis on these products. There is need for investments in hides and skins in form of sensitizations, awareness creation, skills capacity building, input support and further assessments. These should be on the whole value chain from household and cattle camp livestock keeping, handling, slaughter, storage, market linkage and processing.
- There is immediate need for establishment of hides and skins stores at slaughter points in NBEG.

## Annexes

### Annex I: Persons interviewed

	Name	M/F	Design	Location
1.	Peter Jok	M	Director of Animal Resources & Fisheries, Aweil State	Aweil
2.	Deng Dut Malith	M	Director of Extension, Aweil State	Aweil
3.	Augustine Ouger	M	Director of Fisheries, Aweil State	Aweil
4.	Marko Mawien Piol	M	Senior inspector, Public health Department, Wanjok	Wanjok
5.	Valentino Lual Garang	M	Senior meat inspector, Public health Department, Wanjok	Wanjok
6.	Joseph Deng Deng	M	Assistant inspector, Public health Department, Wanjok	Wanjok
7.	Mary Ayong Lual	F	Chairperson, Wanjok women milk vendors group	Wanjok
8.	Julia Akoc	F	Treasurer, Wanjok women milk vendors group	Wanjok
9.	Ayen Kuol	F	Deputy Chairperson, Wanjok women milk vendors group	Wanjok
10.	Maria Payei	F	Member, Wanjok women milk vendors group	Wanjok
11.	Deng Lual Deng	M	Chairperson, Mat Kurot meat traders group, Wanjok	Wanjok
12.	Simon Thiel Nyang	M	Deputy Chairperson, Mat Kurot meat traders group, Wanjok	Wanjok
13.	William Deng Ring	M	Member, Mat Kurot meat traders group, Wanjok	Wanjok
14.	Marol Wol	M	Director General, Ministry of Animal Resources & Fisheries, Aweil East State	
16.	Mohamed Angong Aturjong	M	Director of Agriculture, Animal Resources & Fisheries, Aweil North County	Gok Machar
17.	Marko Dut Dut	M	Director of Public Health, Aweil North County	Gok Machar
18.	William Chan Thiop	M	Secretary, Relief & Rehabilitation Commission, Malual center	Pamat
19.	John Angong Yuel	M	Payam Administrator, Malual center	Pamat
20.	Abuk Malong Ngong	F	Milk vendor	Pamat

21.	Tac Deng Yor	F	Member, Pamat milk vendors women group	Pamat
22.	Achae Grang Akon	F	Member, Pamat milk vendors women group	Pamat
23.	Achae Yuel Deng	F	Member, Pamat milk vendors women group	Pamat
24.	Alej Thiop Agany	F	Member, Pamat milk vendors women group	Pamat
25.	Ayom Akol Wek	M	Paramount chief, Ajak South	Malek Alel
26.	Santino Mariau Mou	M	County inspector for veterinary, Aweil South	Malek Alel
27.	John Garang Garang	M	County hygiene inspector, Aweil South	Malek Alel
28.	Arkangelo Mayuen Dut	M	Deputy director for veterinary, Aweil South	Malek Alel
29.	Deng Majak Akwar	M	Staff, County veterinary office, Aweil South	Malek Alel
30.	Abuk Geng Tong	F	CAHW, Malek Alel	Malek Alel



**Annex II: Check list for KII with Ministry Staff**

- i) Status and number of slaughter facilities in the area (State/County)
- ii) Status and number milk stalls in the area (State/County)
- iii) View of the official on way forward for livestock products
- iv) Main trading areas for livestock products
- v) Challenges in livestock products processing and utilization.

**Annex III: Check list for KII with processors, handlers, traders (butchers, milk vendors, slaughter place operators, such others)**

- i) Type of product
- ii) Sources of products
- iii) Volumes handled; volumes bought, volumes sold, volumes discarded
- iv) Types of customers
- v) Challenges faced.

**Annex IV: Check list for PRA exercises with livestock keepers**

- i) Livestock off-take; offspring per year, outflow of live animals through sales, dowry, gifts, fines, slaughter, inflow through purchases, dowry, gifts and such others
- ii) Household herd size by wealth groups
- iii) Household milk production by wealth groups
- iv) Challenges.

## Annex V: Itinerary

Date	Activities	Location	Key actors
17/11/2019	- Travel; Nairobi - Juba	- Juba	- VSF S logistics
18/11/2019	- Briefing with project staff - Sign contract - Desk review - Logistics at Juba - Inception report	- Juba	- Program manager, VSF S
19/11/2019	- Travel; Juba – Aweil – Malualkon - Meet Director of animal resources and Fisheries, Aweil town - Discuss plan with VSF S Coordinator - Logistics at Malualkon - Desk review.	- Aweil town	- Coordinator, NBEG
20/11/2019	- Discuss plan with other VSF staff - KII with Director of animal resources and Fisheries, Aweil East - KII with Public health department, Aweil East - KII with milk vendors, Aweil East - KII with slaughter house operators - Travel Malualkon to Gok Machar – Overnight at Gok Machar.	- Aweil East - Malualkon	- VSF S field staff
21/11/2019	- KII with Director of animal resources and Fisheries, Aweil North - KII with Public health department, Aweil North - KII with milk vendors, Pamat, Aweil North	- Aweil North	- VSF field staff
22/11/2019	- KII with Director of animal resources and Fisheries, Aweil South - KII with Public health department, Aweil South - KII with milk vendors, Aweil South - KII with slaughter house operators, Aweil South.	- Aweil South	- VSF field staff
23/11/2019	- KII with VSF Suisse team - Work on training plan.	- Malualkon	- VSF field staff
24/11/2019	- Work on training plan.	- Malualkon	- Coordinator,

			NBEG
25/11/2019 to 2/12/2019	- Training of 10 lead slaughter handlers - Design slaughter by-products value chain addition sheds, milk marketing sheds and slaughter sheds/slabs.	- Aweil town	- VSF field staff - Co-facilitator.
28/11/2019 to 4/12/2019	- Training of 20 lead milk vendors	- Aweil town	- VSF field staff - Co-facilitator.
28/11/2019 to 4/12/2019	- Design slaughter by-products value chain addition sheds, milk marketing sheds and slaughter sheds/slabs.	- Aweil town	-
3/12/2019	- Travel; Maluakon – Aweil - Juba	- Maluakon, Aweil, Juba	-
4/12/2019	- Briefing with project staff - Logistics at Juba	- Juba	-
5/12/2019	- Travel; Juba - Nairobi	-	-

## Annex VI: Comparisons of relative size of trading centers in NBEG

### Aweil West

	Meat	Milk	Livestock auction
Marial Baai	1	3	1
Nyamlel	1	2	1
Wedwil	2	6	2
Mayom Akuang Rel	3	4	3
Nyinboli	5	5	5
Chelko	4	1	4
Achana	6	7	-
Pawa Dhot	7	8	-

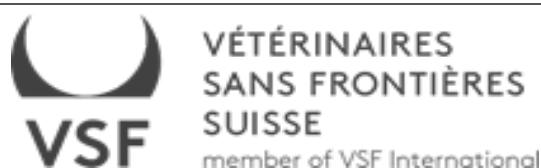
### Aweil North

	Meat	Milk	Livestock auction
Gok Machar	2	3	3
Mayen Ulem	3	5	2
Ariath	1	1	1
Pamat	5	4	5
Jaac	4	2	4
Mayom Angok	6	6	6
Areny piny	7	7	7

### Aweil East

	Meat	Milk	Livestock auction
Wanjok	2	1	2
Akuem	3	2	3
Warwar	1	3	1
Majok	7	4	4
Malual Baai	4	5	5
Peth	5	6	6
Mangar Agui	6	7	7

## Annex VII: Terms of reference



### TERMS OF REFERENCE FOR LIVESTOCK PRODUCTS/ BY-PRODUCTS VALUE CHAIN CONSULTANCY OF THE PROJECT 'SUSTAINABLE AGRICULTURE AND LIVESTOCK PRODUCTION INITIATIVE IN THE FORMER NORTHERN BAHR EL GHAZAL STATE, SOUTH SUDAN'

<b>Position</b>	: Livestock Products/ By-Products Value Chain Consultant
<b>Responsible to</b>	: Project Manager – former Northern Bahr el Ghazal
<b>Location</b>	: Aweil Center, Aweil East, Aweil North, Aweil West and Aweil South.
<b>Estimated duration</b>	: 30 days (20 days in the field)
<b>Expected start date</b>	: 20th October 2019

#### 1.1 Organization's background

Vétérinaires Sans Frontières - Suisse (VSF-Suisse) is an international NGO that has been working in South Sudan since 1995 supporting livelihoods of pastoralist and agro-pastoralist communities. VSF Suisse's geographical focus has been in former Northern Bahr el Ghazal State (Aweil East, Aweil West, Aweil Centre, Aweil South and Aweil North Counties), among other states in the country. VSFSuisse focuses on preventing and alleviating suffering, disease, and hunger, and contributing to socio-economic development and sustainable environment, in areas where livestock, agriculture and related issues play, or could play an important role in improving peoples' livelihoods, food and nutrition security and resilience. VSF-Suisse endeavors to provide communities with holistic management approaches to livestock issues including: healthcare, production management, marketing support and veterinary public health. VSF-Suisse promotes innovative service delivery approaches including capacity building of livestock keepers and farmers through pastoral/farmer field schools; integrating agriculture and livestock as a sustainable means of increasing livestock and agricultural productivity. In addition, VSF-Suisse supports community-based animal health system through training of CAHWs, support to cold chain system and establishment of private veterinary pharmacies model for sustainable animal health services delivery. VSF Suisse mainstreams and integrates cross-cutting issues such as environmental protection, gender equity, HIV / AIDS, and human protection in its program

strategies. VSF Suisse integrates and applies the principles of Conflict Sensitivity, Do No Harm and Accountability to Affected Populations in its programming.

## 1.2 Project background

In line with its country strategy, VSF-Suisse has received a three-year (2019-2021) grant from the European Union under the Zonal Efforts for Agricultural Transformation-Bahr el Ghazal Efforts for Agriculture Development (ZEAT-BEAD) Component 2 Program entitled 'Sustainable Agriculture and Livestock production initiative (SALPI)' in the former Northern Bahr el Ghazal state, with the objective to contribute to improved food and nutrition security, livelihood and incomes of small holder agropastoralist communities. The project has a strong focus on community driven conflict mitigation and management mechanisms that will be used to navigate the interests of various stakeholders including civil society, religious groups, local authorities, traditional leaders, herders, traders, farmers, youth and women groups etc., and ensure sustainability of the action is embedded in the strengthened community systems.

The project will focus on the following 4 result areas;

- i) Improved food production and productivity
- ii) Improved conflict mitigation capacities of targeted communities.
- iii) Enhanced income diversification
- iv) Improved community resilience

The project will target 10,000 smallholder households in the former 5 counties of Northern Bahr el Ghazal namely; Aweil East, Aweil North, Aweil West, Aweil Center and Aweil South.

## 2. Objective

The objective of the consultancy is to evaluate and provide technical expertise on livestock products (meat and milk) and by-products (hooves, hides and skins etc.) value chains, processing and utilization as a cottage industry vocation.

### 1.3 Specific objectives of the assignment

The following specific objectives will be pursued by the consultancy;

1. Carry out a value chain analysis on livestock products and by-products including an assessment of market opportunities through the private sector.
2. Formulate appropriate designs for the establishment of slaughter by-products value chain addition sheds, milk marketing sheds and slaughter sheds/ slabs that are relevant to the context.
3. Support Training of Trainers for lead milk vendors on milk value chain addition, hygienic milk production, milk handling practices, operational dynamics, marketing including nutrition behavior change communication.
4. Support training of lead youths on slaughter by products processing techniques, production management and product marketing skills.
5. Provide specific, relevant and practical recommendations in livestock products and by-products value chain components to refine implementation of the project and documentation of lessons that could be utilized for future similar programming.
6. Produce comprehensive report (s) on the assignment.

### **3. Scope of work**

The scope of the consultancy includes the review of relevant primary and secondary data, conduct relevant trainings and formulation of appropriate specific designs in line with the SALPI project. The geographical scope of the survey covers the project areas in the former 5 Counties that constituted the former Northern Bahr el Ghazal state.

The scope of the work to be undertaken includes;

1. A desk review of relevant project documents
2. Meeting and interview stakeholders and partners
3. Meeting with VSF-Suisse management and project staff
4. Designing data collection tools and methodologies
5. Produce an inception report
6. Selection and training of key stakeholder groups
7. Formulation of appropriate designs for the establishment of slaughter by-products value chain sheds
8. Compiling and submitting the complete consultancy report and related relevant annexes.

#### 4. Proposed methodology

In carrying out the assignment, the consultant is expected to use best practices and frameworks in food security and livelihoods analysis, Livestock Emergency Guidelines and Standards and scientific methodologies. In addition, the consultant should ensure inclusivity with focus on women and youth, livestock keepers, traders, value chain actors, key stakeholder engagement, field visits and training. Incorporate feedback from the European Union/ Technical Assistance, VSF-Suisse and its partners (VSF Canada, and HeRY) in the final report.

#### 5. Key tasks

The specific tasks expected to be performed by the consultant include:

- i) Develop of the technical and financial proposals.
- ii) Read and understand the project documents, which include relevant project documents and reports.
- iii) Develop a clear work plan to undertake the assignment.
- iv) Meet with VSF-Suisse, VSF Canada and HeRY management and technical teams in Juba, South Sudan to plan for the exercise, develop a time table for field work, and agree on methods that will be used to collect the data.
- v) Develop tools for the assignment including training plans.
- vi) Meet with key stakeholders in South Sudan (Juba and Aweil and if need be the EU Technical teams in Juba) as well for concurrence before embarking on the field mission.
- vii) Provide expertise and take part in training sessions.
- viii) Produce the final consultancy report including relevant annexes.

#### 6. Duration

Considering the vast project area (5 former counties of NBEG), and the poor infrastructure, it is expected that the assignment will take approximately 30 days, broken down as follows: 4 days of travel, 1 day to review the project documents, 20 days in the field for data collection, meeting stakeholders, and produce the draft report, and 5 days to produce the final report.



## 7. Qualifications and experience of the consultant

The consultant should ideally have the following qualifications:

- i) Master's degree in Veterinary Sciences/ Animal Production/ Public Health studies or equivalent.
- ii) At least five years' experience in conducting similar assignments, assessments in the field of food security and livelihood/ livestock.
- iii) Knowledge in conducting Livestock related studies/ Livestock products value chains surveys.
- iv) Experience in working with the EU funded food security projects in the East African region will be an added advantage.
- v) Demonstrated understanding of the South Sudan's political, socio-cultural, and livelihood contexts.
- vi) Understands Livestock Emergency Guidelines and Standards.
- vii) Demonstrated analytical and good writing skills.
- viii) Good capacity building skills.

## 8. Application procedure

Interested firms/persons must submit detailed technical and financial proposals (VSF Suisse will cover consultant travel and accommodation costs).

Technical proposal must include;

- Clear explanation of consultant's understanding of the Terms of Reference
- Proposed approaches and methodology to be used and work plan/timetable
- Updated CVs with at least 3 referees of the lead consultant and partners (if any)
- Copies of a similar assignment recently completed

Financial proposal will include budget for the assignment bearing in mind that VSF-Suisse will provide transport and accommodation for the consultant(s) to undertake the assignment.

## 9. Submission of application

All the documents must be submitted via e-mail by **15th October 2019** to: [jubarecruitment@vsfsuisse.org](mailto:jubarecruitment@vsfsuisse.org) and copy [Office.Juba@vsf-suisse.org](mailto:Office.Juba@vsf-suisse.org). **The application e-mail should indicate on the subject line the Job Title; Livestock Products/ By-Products Value Chain Consultancy**

Deadline for submission is **5:00pm on 15th October 2019**.

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