

# THE INTERNATIONAL JOURNAL OF HUMANITIES & SOCIAL STUDIES

## Examination of State of Household Food Insecurity in Juba Valley Basin, Somalia

**Ahmed Ali**

Ph.D. Student, Mount Kenya University,  
Department of Social Science and Developmental Studies, Thika, Kenya

**Kennedy Mutundu**

Lecturer, Mount Kenya University,  
Department of Social Science and Developmental Studies, Thika, Kenya

**Grace Wamue Ngare**

Professor, Department of Gender and Development Studies, Kenyatta University, Kenya

### **Abstract:**

*In the absence of a working state for the last over 25 years, hunger and malnutrition have been serious challenges in Somalia and great causes for concern to the international humanitarian community. Given the state of insecurity in Somalia, it is important that continuous research be done to understand the causes of lack of food and the consequences to the society. Juba River Basin has always been a major producer of food for Somalia. Yet, the status of household food sufficiency or insecurity in the Juba River Basin is an under-researched topic, and even reports by NGOs do not speak much of this crucial region. Thus, the objective of this study consists of exploring the current state of household food insecurity in Juba Valley Region of Southern Somalia. The study results on state of household food insufficiency indicate that 75% households are severely food insecure. Similarly, measure on household unit food insecurity accessibility -related domains revealed that 80% of the households fall in domain 1 of worry and anxiety about food due to lack of resources, 84% of the respondents fall in domain 2 of insufficient quality food and as a result eat less preferred foods. Further, 85% of the household's experience hunger (domain 3) where they reduce their meals per day. Thirty eight percent of the respondents face severe hunger according to the household hunger scale. A majority of the respondents (18.7%) blamed it on recurrent droughts where 16.5% stated that pests and diseases were big problem for crop production. Lack of fertilizers, appropriate seeds and farm implements/tools (12%, 10.7% and 14%, were among some of the concerns of the study respondents. Figure 7 illustrates limiting factors to food production.*

**Keywords:** Food security, food insecurity, food sufficient, household food security, socio-economic determinants, household food insecurity

### **1. Introduction**

Global discussions on food insecurity have evolved over the last half century, moving from a focus about the physical accessibility and availability of food at the global perspective to the provision of food to individuals. According to Devereux and Maxwell, food security and sufficiency can be assessed by looking at the level of vulnerability and victory against hunger in the local populace especially in terms of the food sufficiency at the level of households as expressed by journal by Devereux and Maxwell,( 2001). It was in the World Food Summit (WFS) which was held on 1996 where there was a consensus that food security can be confirmed when people not only have physical means of accessing food but also have economic means to access the food which will meet their dietary needs when they (FAO, 1996). Reutlinger went further to argue that apart from the usual accessibility of food in the community it is important to define food security also in terms of its availability and the ability to acquire it (Reutlinger, 1985).

At the same times at macro level, it can be defined as adequacy and availability of foodstuffs for domestic use and the ability to meet the food target for the Country food security whereby if insufficient it can also be complemented by local production or supplementing through imports with purpose of boosting the consumption needs of all people in a country at large. It is imperative to know that matter of food security depends on several factors which are income, ability to import, conflicts, weather conditions. From these definitions, according to FAO whether or not their food insecurity in the community will largely depend on three critical factors food *Availability*, *food Accessibility* and *food Utilization* (FAO, 2010). Accordingly to food availability is said to have been achieved when the food is sufficient in quantities and the critical amount is secured within the Country whereby this is expected to be in constant and sufficient quantity in which case if not sufficient enough it can be supplied it can be supplied through household production, other domestic output, commercial imports or food assistance, that is, the overall ability of the agricultural system to meet

food demand ((FAO, 2010a). In terms of *Food accessibility* it is only ascertained when close to all homes and all individuals within the household have adequate resources to obtain enough and in good quality the foods for a nutritious diet (FAO, 2010a). This access however will depend on income available to the household units, the distribution of disposable income within the household units and the price of food items. FAO also defines the *Food utilization* is holistic ability to use of food and ability for that food to benefit the body in terms of body metabolism and nutrition content, in terms of proper body functioning there are several basic and elementary content of food important for the body together with water and adequate sanitation (FAO, 2010a). Similarly for the effective food utilization to happen there must be sufficient knowledge within the households on how food is stored and techniques used to store the food within the households, the food processing techniques and the proper and basic principles of nutrition and proper child care, and illness management (Riely et al., 1999).

Overall, food insecurity is one of the complex challenges facing Somalia. Allen and Thomas (2000) argue that the country had been self-sufficient in grain production and livestock for both exportation and domestic consumption in the 1960s and 1970s. However, during the past over thirty years, the country has been constantly being in conflicts which has resulted in the Country experiencing a rapidly rising food deficit that reflects a rapidly increasing food insecurity and expanding per capita food consumption on one hand, and a declining per capita food production on the other hand, leading to the country's overreliance on food imports and food aid. Although the humanitarian community has described Somalia's food situation as a complex emergency from time to time, volumes of existing literature suggest that the country had received \$1 billion bilateral economic aid from the government of Italy alone between 1980 and 1989 to fund 114 projects (Ali, 2011). However, there is little evidence of improvements in the universal supply and availability of food in the country.

According to FSAU (2011), state of household food in terms of insufficiency of food in the Juba Valley Region (in the study area) is severe and is now deteriorating with the highest malnutrition levels in Somalia, which are significantly above the usual range (24.5%) of Global Acute Malnutrition (GAM). About 43% of the population in the region lives in an extreme poverty, or on less than US\$1 per day. This number is 53% in rural households. Household food insecurity refers to the lack of capacity of a household to procure a stable basket of adequate food for its members. A typical household that is food insecure means members in the household do not know where they will find their next meal. The livelihoods of Somalia households come from five main areas: agriculture, livestock, fishing, wage labour and income generating activities/small scale business. All of these areas of livelihoods, which determine the status of household food security, are under-researched and consequently little is covered in the literature except in some reports by NGOs. Allen and Thomas further argue the collapse of the central government in 1991 resulted in the destruction of agricultural production systems that were central in promoting food sufficiency. Recent years have shown worsening situations that led to the declaration of major food crisis across Somalia. The years of conflict in Somalia have created a situation of protracted and complex emergencies that have eroded livelihoods and threatened people's access to food. Since the collapse of a stable government in 1991, most government institutions ceased to exist, leading to a collapse of the major economic sectors supported by these institutions. These observations are similar to the FAO Reports. The 2003 report have positioned a country like Somalia second to last in terms of the proportion of undernourished households members (71%) of the total population, while the 2005 report's findings indicating that armed conflict as the root cause of hunger around the world because it destroys lives, opportunities and environments. Another FAO Report (2008) indicates that such protracted crises are often characterized by loss of human lives due to conflict leading to high and steadily growing levels of food insecurity and hunger.

According to the FSNAU Report of 2013, agriculture, which has been the main economic activity in Somalia not just for meeting the food needs of the people but also for income generation for rural livelihoods, is in a state of neglect and underdevelopment. This situation has widely been attributed to the prolonged civil strife in the country which seems to have exacerbated the food insecurity situation (Watts and Bohle, 1993). It is suggested that among the most possible causes are in regards to "seasonal fluctuations as compared to access to key foods, limited dietary diversity provisions, poor early child feeding programs and low level of contact with health services for young children and women of reproductive age and within the prescribed scope" (FSAU, 2004a). The vulnerability of households has increased considerably as the household asset base has become depleted, as my study also demonstrates.

The situation was also exacerbated by the 2011 drought, which created widespread famine in most parts of the country and mass migration of the farming communities to IDP camps in major cities like Mogadishu (FAO, Somalia Ministry of National Resources, 2013). Crop production in both rain-fed and irrigated areas in South Somalia, where most of the country's crops were typically grown, has suffered the most. What is more, reliable data on the degree of the decline of food production in Somalia is not immediately available although it is estimated that grain production is about 50% lower than in pre-war years (FAO, 2013: page). The once-successful banana and sugar cane trades, as well as cereal, fruit, and vegetable production, have collapsed and show limited signs of returning to their former states. However, the deficit in production is primarily filled by food imports and food aid (FAO, 2010b).

## 2. Research Methodology

This study used both the quantitative and qualitative approaches as well as secondary and primary data collection methods. The adopted a mixed methodology which comprises of interview guides, focus group discussions (FGD) and analysis of literature review as well as observation guides. The exploration of the matter to do with matter to do with food insecurity was based on worldwide metric and scale of measurement of food insecurity otherwise called (HFIAS) indicators which are as follows household food accessibility score, house unit food insecurity access related domains, access related prevalence and household's units, food insecurity access score. The other three domains in the HFIAS model are insufficient food uptake and its physical implications, example anxiety because of lack of food and uncertainty similarly due to food insufficiency score and insufficient quality related anxiety. A total of 360 respondents took part of the study. The study was conducted in Juba valley region (JVR) in Southern Somalia between Jaunty and

April 2015. The region consists of three provinces: Lower Juba, Middle Juba and Gedo with a population of about 1.3 million (UNDP Somalia, 1997). Its name 'Juba' is derived from the Juba River, which runs through all the three administrative provinces. The topography of the region is composed of plains, coastal areas and semi-desert. The population in the region is classified under five main categories: pastoralists, agro-pastoralists, agriculturalists, fishing community and urban sedentary.

### 3. Data Presentation and Discussion

#### 3.1. Household Food Insecurity Status in Juba Valley Region

This section provides findings of the analysis for Household food sufficiency status. The state of proposed model for the study being HFIAS model is very important in yielding information on food insecurity (access) at the household level while at the same time provides some essential four indicators computed to underscore and unearth as well as to understand changes and characteristics of household accessibility in sampled population. Previously in the research the researcher indicated the four drivers and indicators which will be used to provide the summary and domains of food insecurity which are Household Food accessibility (HFIA) – related Conditions score, HFIA – related Domains scores, HFIAS indicator and score, and HFIA Prevalence score. Another additional indicator presented is also the household hunger scale (HHS). The results from the analysis of these indicators is presented and discussed below.

##### 3.1.1. Household Units Food Access-Related Conditions and Insecurity

As has been suggested previously the researcher will use 9 indicators questions in the HFIAS questionnaire, which is able to provide the percent of households experiencing the condition at any given level of severity and vulnerability, relative to the frequency of occurrence, were calculated (Table 1). Accordingly, the results presented below were obtained about the HH in the Juba Valley Region. Respondents were queried on their personal experience with food uncertainty and food anxiety about the food acquisition during the previous month. It was found that about 80% respondents reported any occurrence of worrying about food in the past month. However, a majority HH (54%) indicated that they experienced this situation sometimes (2-10 times) in the month while some (33%) said they experienced it quite regularly (> 10 times). On the query on whether any household member was not able to eat due to their preference due to lack of financial resources in the past month, 80% respondents affirmatively responded on this question. It was found that 34% HH experienced this condition often times (> 10 times), that is, having few choices in the type of food they eat due to lack of resources. Meanwhile about 20% experienced this condition sometimes (2-10 times) only in the past month. The study also examined at the dietary choices related to variety and types of food – that is, whether the household had to eat foods that they may otherwise not like or desire in repetitive variety in the past month. Results indicate that 80% of the HH depended entirely on monotonous diets, but not a preferred wide variety of types of foods. With respect to specific frequency, 34% HH experienced this situation often times (more than 10 times).

HH situation in past 4 weeks from data of interview	Freq.	Percent	95% Conf. Interval	
<b><i>Worry about food</i></b>				
Not at all	75	20.38	16.38	24.86
Rarely times ranging (1-2 times)	94	25.54	21.16	30.32
Sometimes ranging (2-10 times)	79	21.47	17.38	26.02
Often Ranging between (> 10 times)	120	32.61	27.84	37.66
<b><i>Unable to eat preferred foods</i></b>				
Not at all	72	19.57	15.64	23.99
Rarely times ranging (1-2 times)	96	26.09	21.67	30.89
Sometimes ranging (2-10 times)	74	20.11	16.13	24.57
Often ranging (> 10 times)	126	34.24	29.4	39.34
<b><i>Eat just a few kinds or variety of food</i></b>				
Not at all	70	19.02	15.14	23.41
Rarely at times (1-2 times)	89	24.18	19.9	28.89
Sometimes ranging (2-10 times)	85	23.1	18.89	27.75
Often in the range (> 10 times)	124	33.7	28.88	38.78
<b><i>Eat foods that they really do not want to eat</i></b>				
Not at all	71	19.29	15.39	23.7
Rarely ranging (1-2 times)	75	20.38	16.38	24.86
Sometimes ranging (2-10 times)	76	20.65	16.63	25.15
Often attimes (> 10 times)	146	39.67	34.64	44.87
<b><i>Eat a smaller meal</i></b>				
Not at all	69	18.75	14.89	23.12
Rarely at times (1-2 times)	73	19.84	15.88	24.28
Sometimes ranging (2-10 times)	78	21.2	17.13	25.73
Often ranging (> 10 times)	148	40.22	35.17	45.43

<b><i>Eat fewer meals in a day</i></b>				
Not at all	78	21.2	17.13	25.73
Rarely (1-2 times)	81	22.01	17.88	26.6
Sometimes (2-10 times)	64	17.39	13.66	21.66
Often (> 10 times)	145	39.4	34.38	44.6
<b><i>No food of any kind in the HH</i></b>				
Not at all	123	33.42	28.62	38.5
Rarely in the range (1-2 times)	69	18.75	14.89	23.12
Sometimes in the range (2-10 times)	46	12.5	9.3	16.32
Often in the range (> 10 times)	130	35.33	30.44	40.45
<b><i>Go to sleep hungry</i></b>				
Not at all	131	35.6	30.7	40.73
Rarely ranging (1-2 times)	69	18.75	14.89	23.12
Sometimes ranging (2-10 times)	31	8.42	5.8	11.74
Often ranging (> 10 times)	137	37.23	32.27	42.39
<b><i>Under-go whole day and night without eating</i></b>				
Not at all	128	34.78	29.92	39.89
Rarely ranging (1-2 times)	71	19.29	15.39	23.7
Sometimes ranging (2-10 times)	31	8.42	5.8	11.74
Often ranging (> 10 times)	138	37.5	32.54	42.67

Table 1: Household Food Insecurity Access Conditions

Almost tantamount to the dimension of limited choices in the preceding paragraph, the study investigated whether any household unit members of all age bracket are forced by circumstances to eat food stuffs found culturally, socially and physically unacceptable due to a lack of financial or physical resources with its hardships. About 81% of the respondents affirmed that they experienced such a situation. More specifically, 40% HHs reported that they experienced it quite often during the past month. Respondents were asked whether they felt that the amount of food in quantity (of any kind and variety) that any members of the households consumed or ate in any particular course of meal during a minimum of at least four weeks was smaller or inadequate and by what far than they felt they needed due to a lack of resources, 81% said members experienced this condition. It was further identified that about half of this group of HH actually experienced this situation often times (>10 times) during the past month. The respondents were again asked whether any household unit members, as a result of lack of opportunity to eat or insufficiency or in less times meals than recommended. Most (79%) HH reportedly experienced this situation saying that at least their members ate fewer meals than expected. In terms of frequency of occurrence, it was found that again about half of this group of households experienced the condition often times (> 10 times) during the past month.

A situational search was made on whether the household at any one time had plainly no food to eat of any kind or variety in the homestead. In other words, this can happen in situation and condition where food was not available to household unit members through the households' normal and familiar or usual means, for example, by procurement, from the farms or garden or fields, from storage, among others. It was interesting to find that over 60% HH experienced this undesirable situation in the past month. It was rather sad to note that about 35% experienced this condition so often in range of (more than 10 times and instances) in the past period of at least a month. The study also investigated whether the respondent felt a pang of at bedtime because of total lack of food or whether the respondent was aware or have a chance of other household unit's members who were hungry at bedtime because of lack of food in the past period of a month. Empirical data showed that at least over 60% HH passed through this humiliating circumstance during the past month. In terms of relative frequency of occurrence, it was reportedly found that 37% went through this humbling experience often times (> 10 times) in the past period of a month. The study further inquired whether any household member did not eat or have not eaten from the time they awoke from bed in the morning to the time they awoke the next morning due to lack of food or insufficient foodstuffs. Surprisingly, 65% HH responded affirmatively to this question. Additionally, 38% of the sample HH reported experiencing this condition regularly (> 10 times) in the past one month.

The findings indicated that most of the households' units' members in the area of study underwent certain socially undesirable conditions in their search for food. This was despite the natural resource endowments of the study area. Although the tabular illustration above may seem a descriptive representation of the food insecurity situation in the area, it represents the general condition both by experience and frequency of occurrence.

### 3.1.2. Household Units Food Insecurity Access-Related Domains

The study examined HH distribution according to Household accessibility domains (Table 2). According to the FANTA (2007), there are three known Household Food Insecurity domains reflected in the HFIAS are: a) food anxiety and uncertainty domain, b) food insufficient quality domain, and c) food insecurity insufficient food intake and effect on physical attributes.

The study found 80% of the households fall in the first domain of anxiety and uncertainty, in other words, they are unsure of what food to eat in subsequent meals. About 84% households experienced the condition of insufficient quality, that is, households resorting to eating the foods they would not wish to have eaten because of insufficiency of resources. Lastly, it was found that 85% HH

experienced a situation of insufficient food percentage intake and its physical ramifications i.e. eating fewer meals than expected, reducing on the amount of food to consume, going to bed hungry or not contemplating to eat, and as well as spending the whole period of night and day without eating anything. The majority (over 80%) of number of households in the study area were victims of this disturbing research fact. Table 2 below illustrates Household food insufficiency and insecurity Access-related Domain data.

Household Accessibility Insecurity -related domain	Freq.	Percent	95% Conf. Interval	
<b><i>Anxiety and Uncertainty</i></b>				
Inside	293	79.62	75.14	83.62
Outside	75	20.38	16.38	24.86
<b><i>Insufficient Quality</i></b>				
Inside	309	83.97	79.81	87.57
Outside	59	16.03	12.43	20.19
<b><i>Insufficient food intake in the households &amp; its effect and Physical Consequences</i></b>				
Inside	311	84.51	80.4	88.05
Outside	57	15.49	11.95	19.6

Table 2: Household Unit Food Insecurity Access-related Domain

The study used inferential statistics namely the pair wise chi-square test of independence after cross-tabulation of the dependent and independent variables was conducted to assess any associations between the binary HFIA-related Domains. It was found that these domains were highly correlated with each other ( $p$ -value < 0.001). This justifies and aligns well with theoretical expectation that most of the households that exhibit a behaviour trait of being anxious and being uncertain on food during the month; also, became vulnerable to consuming food of insufficient quality. At the same time, the households also struggle with eating insufficient quantities of foods, thus, suffered from hunger for considerable amount of time in a month.

### 3.1.3. Household Food Insecurity Score on Access Scale (HFIAS)

This is a measurement score which is calibrated for continuous measurement of degree of food insufficiency in terms of accessibility (access) in the household revealed an approximate average HFIAS score of 15 with a standard deviation of 9.6. It was also observed that 27% HH scored exactly 27/27, indicating that they suffered all hunger domains and the frequency was more than 10 times for each of the indicators in the past month from the date of the interview. A proportion of 15% HH did not experience food insecurity at all, that is, HH achieved a score of 0/27, while about 13% HH scored 9/27 on the HFIAS. The rest of the HH are distributed on minority proportions (below 6%) on the HFIAS scale (not presented in table 3). The HH in general are averagely food insecure according to the HFIAS.

HFIAS Scores	Freq	Percent	95% Conf. Interval	
0	55	14.95	11.46	19.01
9	47	12.77	9.54	16.62
27	96	26.09	21.67	30.89

Table 3: Household unit on Food Insecurity Access Scale Scores

### 3.1.4. Household Unit Food Insecurity Access Score on Prevalence (HFIAP)

The food insecurity accessibility index otherwise known as (HFIAP), a categorical food insecurity status and score, was also measured among the HH in the study area. It was found that 15% HH in the study population fall in the food secure category of the HFIAP (Table 4). Only about 0.5% HH are in the mildly food insecure group. The study identified that 10% HH are in the moderately food insecure group. Interestingly, the majority of the HH (75%) fell in the severely food insecure category of the HFIAP classification. The HFIAP indicator, among the HFIAS earlier indicators, has also proven that there is clear evidence of food insecurity among the HH in the area of the study.

HFIAP category	Freq.	Percent	95% Conf. Interval	
Food secure	55	14.95	11.46	19.01
Mildly food insecure	2	0.54	0.07	1.95
Moderately food insecure	36	9.78	6.95	13.29
Severely food insecure	275	74.73	69.96	79.09

Table 4: Household Food Insecurity Access Prevalence

## 4. Household Hunger Scale

The severity of hunger experienced by the households was measured using the Household Hunger Scale (HHS) indicator. The study found that 34% HHs experienced little or no hunger at all. About 28% of the HH experienced moderate hunger, while 38% HH experienced severe hunger in the one month before the date of the interview (Table 5 below). Based on the HFIAS four indicators, the

HHS further validates the fact that there exists a high degree of hunger among the HH in the study area. With 66% HH falling in the moderate to severe hunger, it clearly demonstrates that the HH in the study area are heavily constrained, and lack coping mechanisms at their disposal given these findings.

Hunger Scale	Freq.	Percent	95% Conf. Interval	
Little or no hunger	126	34.24	29.37	39.11
Moderate hunger	103	27.99	23.38	32.60
Severe hunger	139	37.77	32.80	42.75

Table 5: Household Hunger Scale

### 5. HH Perception on Limiting Factors to Food Production

The Juba River Basin is a farming region in Somalia where households predominantly practice subsistence agriculture. This study explored the perception of the household respondents cornering factors constraining food sufficiency as they see it. A majority of the respondents (18.7%) blamed it on recurrent droughts where 16.5% stated that pests and diseases were big problem for crop production. Lack of fertilizers, appropriate seeds and farm implements/tools (12%, 10.7% and 14%, were among some of the concerns of the study respondents. Figure 7 illustrates limiting factors to food production.

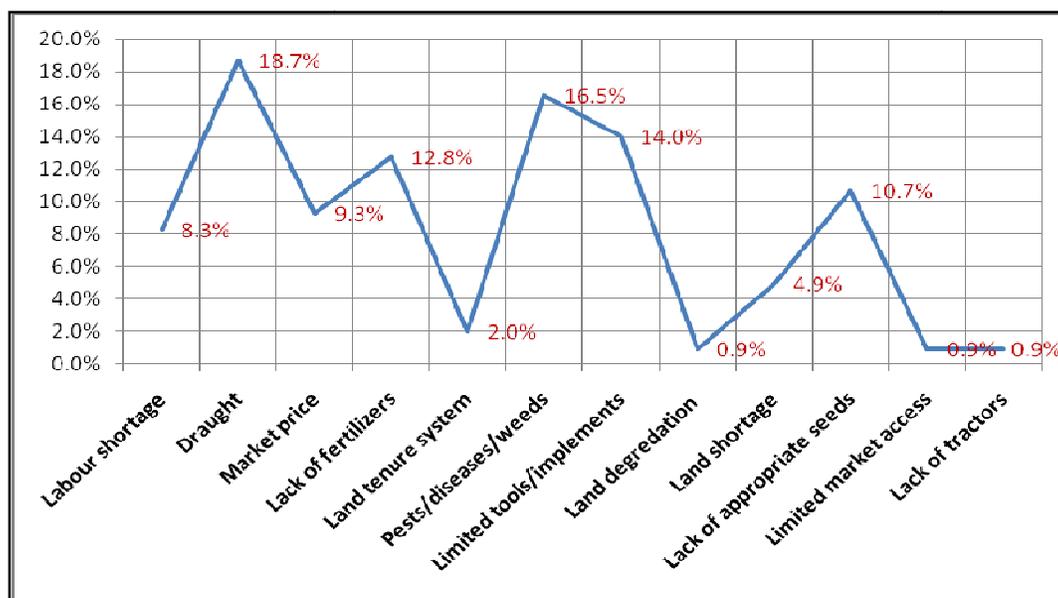


Figure 1: HH Perception on Limiting Factors to Food Production

The collapse of agricultural production system, lack of access to farm inputs, insecurity, climate shocks, weak coping mechanism and the absence of the government planning role factors undermined the livelihood potential of the farmers and threatened food access. Unfortunately, the agricultural production system collapsed with the central government in 199. Consequently, farming land, soils, and river water have been severely damaged.

Most survey respondents in the study area were mixed farmers and could be defined as agro-pastoralists who practice low input labor and are extremely intensive in subsistence farming, each cropping in an extremely and in relatively small areas of land or working cooperatively on larger units of farms. Because rural farmers were too poor to access agricultural inputs, the crop yields were below expected yield (20% of potential). The crop harvests they produce only last for short periods, leaving the households hungry for the most part of the year. However currently the, crop yields were found to be low and have not improved for a period of more than a decade. Moreover, opportunities such as off-farm employment were non-existent and income generating activities were very minimal. Farmers were faced with seed shortages during planting season, and therefore, end up not realizing the full potential of their agricultural land. Besides, most farmers also utilized local seeds that were prone to diseases, drought, and were of low yield. The amount of food realized from a unit quantity of land could not, therefore, produced sufficient food to feed the family members over the months of the year.

In addition, farmers and agro-pastoralists in the area were also marginalized from product markets due to poor transport mechanism and road network. These conditions were exacerbated by insecurity that has limited households' access to markets and towns for trading opportunities, thus, significantly reduced the chances of improving their livelihoods. The protracted complex emergencies caused by armed militia have eroded the confidence of those engaging in productive agriculture.

Climatic shocks, especially drought, recurrently and severely affected food production in the area. Agricultural production in the study area was heavily reliant on rainfall with limited irrigation technology. Many flood-control systems and canals in the area that existed during the pre-war time are in ruins, as the infrastructure was looted, and/or became unusable. These factors add to the burden of recurrent food insecurity and hunger in JVR. Lastly, there were no proper coping and adaptation strategies among households against

food insecurity in the study area. The households therefore remained vulnerable to any shocks that occur. Based on the above observations, the study presents the following suggestions for the improvement of food insecurity in the JRB

## 6. Conclusion and Recommendations

Household hunger and malnutrition in Somalia have been challenges and remain significant causes for concern to the international humanitarian community in the absence of a stable state for the last over 25 years. However, the state of household food insecurity in Juba River Basin is an under-researched topic and consequently little of it has been covered in the reports by NGOs. Thus, the study was guided by the objective which was to examine prevailing trend and state of household in terms of food insecurity in Juba Valley Region of Southern Somalia. The study results indicate that 75% of the researched households are severely food insecure today. Similarly, the measures that the household use to address the food insecurity crisis and the state of access-related domains revealed that 80% of the households fall in domain 1 'of worry and anxiety about food' due to lack of resources. Eighty four percent of the respondents fall in domain 2 of 'insufficient quality food' and as a result eat less preferred foods. Further, 85% of the households' experience hunger (domain 3) where they reduce their meals per day. Thirty eight percent of the respondents face severe hunger according to the household hunger scale. A majority of the respondents (18.7%) blamed it on recurrent droughts where 16.5% stated that pests and diseases were big problem for crop production. Lack of fertilizers, appropriate seeds and farm implements/tools (12%, 10.7% and 14%, were among some of the concerns of the study respondents.

Efforts to enhance household food security in Somalia have been threatened by a multiplicity of factors, both at the macro and micro household levels. Their collective effects have led to deep food insecurity, with the crisis escalating amongst the households. An understanding of these challenges, within their local context, and a critical examination of previous research, have been collectively used to suggest possible remedies to the food insecurity prevalent among households inside the place the study took place in particular, and Somalia in general. It is a central proposition of this study that building on traditional farming structures, using what people know and can do for themselves are probably the best approaches to reconstruct food security in the Juba basin in Somalia.

1. **Increased productivity:** In essence having established that there is a major food insecurity it is of essence to improve the food productivity in terms of improving the variety in terms of crops husbandry and management practices through measures such as improved training, extensions, access to inputs, effective and efficient crop protection services, improvement of genetic variety, crops diversification, testing and adaptive. With special reference to the seed composition, training on the use and manufacturing and production with special interest being extended to improvement of genetic portfolios as well as the expansion of the genetic portfolio of rain-fed and irrigated, long and short cycle varieties. In remote areas, seed production from local landraces should be encouraged and supported. As expected such measures will leads to increased yield will lead to improved seed storing methodologies and facilities and varieties.

2. **Programs to Support and Motivate the Farmers:** The government needs to have special programs to support and motivate farmers in the Southern region to fully realize that they are very important in the national economy by providing them with incentives. Improving pricing policies, organizing farmers in groups to maximize on the economies of large-scale purchasing and marketing, the establishment of national silos for grain storage, and setting of annual targets to produce tons of food that the country needs to sufficiently feed the population among others, will see Somalia transform into a food sovereign state. These efforts should be intensified to support poor households through the provision of farm inputs and credit facilities at low interest rates.

3. **Adult Literacy Programs:** The government and other agencies should provide education programs tailored towards introducing these farmers to modern agricultural and commercial practices. These programs should include aspects such as agricultural chain management practices and post-harvest techniques so that the communities can benefit from participating fully in the value addition chain. This would especially be beneficial to the female-headed households, who would in turn improve the overall livelihoods through food security.

4. **Infrastructural Rehabilitation:** Rehabilitation of key infrastructure is crucial for the revival of the agricultural sector. Roads need to be reopened, broken bridges repaired, market infrastructure refurbished and new ones constructed. All these activities will lead to improved access, by the households, to inputs and easy delivery of outputs from the farms to the markets. Infrastructural developments should stir interest in commercial agriculture in the food producing regions of Somalia.

## 7. References

- i. Allen, Tim and A. Thomas (eds.) (200) Poverty and Development in the 21<sup>st</sup> Century. London: Oxford University Press.
- ii. FAO. (1996b). The State of Food and Agriculture. Rome. Retrieved September 16, 2013, from <http://www.fao.org/docrep/003/w1358e/w1358e.pdf>
- iii. FAO. (2005). "Committee on World food Security: Thirty-first session." In International Alliance Against hunger: Food and Agriculture Organization of the United Nations Thirty-First Session, Rome, 23-26 May 2005. Retrieved from [http://www.fao.org/monitoringprogress/docs/CSF\\_May05\\_en.pdf](http://www.fao.org/monitoringprogress/docs/CSF_May05_en.pdf)
- iv. FAO. (2008). Integrated Food Security Phase Classification. Rome. Retrieved August 3, 2013, from <http://www.fao.org/docrep/010/i0275e/i0275e.pdf>
- v. FAO. (2010a). The State of Food Insecurity in the World; Addressing Food Insecurity in Protracted Crises. Retrieved September 16, 2013, from <http://www.fao.org/docrep/013/i1683e/i1683e.pdf>
- vi. FAO. (2010b, May 22). A 5-Year Strategy and Plan of Action 2011-2015. Retrieved from [http://faosomalia.org/uploads/FAO\\_Somalia\\_5-year\\_strategy.pdf](http://faosomalia.org/uploads/FAO_Somalia_5-year_strategy.pdf)

- vii. FAO. et al. (2013). Strategic Options — Technical and Institutional — for Economic Sector Development ( Agriculture , Livestock and Fisheries ) in Somalia: Background Paper.
- viii. FSAU. (2004b). Technical Series Report No. IV.1 November 11, 2004. In Food Security Analysis Unit Strategic Development Retreat Technical Peer Review Workshop Proceedings (p. 32).
- ix. FSNAU. (2013). Food Security and Nutrition Analysis Post Deyr 2012/13. Retrieved September 16, 2013, from [http://www.fews.net/docs/Publications/Somalia\\_SR\\_FSNAU\\_Post-Deyr\\_2012-13\\_Technical\\_Series\\_03\\_2013\\_en.pdf](http://www.fews.net/docs/Publications/Somalia_SR_FSNAU_Post-Deyr_2012-13_Technical_Series_03_2013_en.pdf)
- x. Watts, M. J., & H. G. Bohle. (1993). "The Space of Vulnerability: the Causal Structure of Hunger and Famine." *Progress in Human Geography*, Vol. 17, pp. 43–67. <http://doi.org/10.1177/030913259301700103>
- xi. World Food Programme. (2007). Annual Report - World Food Programme, 2007: Be Part of the Solution. Rome.
- xii. World Food Programme. (2009). Annual Report - World Food Programme 2009. Rome.