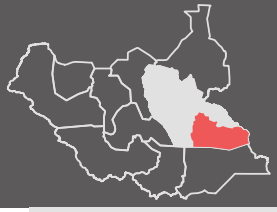


Pibor County Food Security and Livelihoods Brief

Pibor County, Jonglei State, South Sudan, April 2018

Introduction

The Integrated Food Security Phase Classification (IPC) 'Key IPC Findings: January-July 2018' report highlighted Pibor as one of the most food insecure counties in South Sudan.[1] Additionally, the October 2017 Standardized Monitoring and Assessment of Relief and Transitions (SMART) survey indicated the prevalence of global acute malnutrition (GAM) was 26.8% and Severe Acute Malnutrition (SAM) at 8%.[2] [3] Cattle raids, which previous REACH studies have linked to food insecurity, have become progressively more frequent, far ranging, and violent.[4] To better understand worsening food insecurity, cattle raiding, and the linkages between cattle migrations and deteriorating humanitarian conditions, REACH conducted a rapid assessment of four payams in Pibor County between 20 March and 6 April.[5] Seven focus group discussions (FGDs) totalling 34 participants from Pibor, Gumuruk, Verteth, and Lekuangole Payams, all located in the lowlands of Pibor County, and focused on food security shocks and cattle migration patterns were conducted. A further five key informant (KI) interviews were conducted with local authorities and NGO partners regarding broader issues and key events at the county level. Finally, direct observations of three main towns, Pibor Town, Gumuruk Town, and Lekuangole Town, and smaller surrounding settlements were conducted.

Primary data was supplemented by the results of a pilot WASH Baseline survey, that was conducted to better understand the Water, Sanitation and Hygiene (WASH) conditions during the same time period. A total of 266 randomly sampled households in Pibor, Gumuruk, Verteth and Lekuangole Payams were surveyed using a structured questionnaire covering a set number of topics: access to access to water, sanitation, hygiene, health, defecation practices, hand washing, WASH NFI and NFI distribution, laundry practices, menstruation, solid waste disposal, and Household Hunger Scale (HHS).

Key Findings

- Consecutive years of severe insecurity, disease, insufficient rains and a reduction in available natural resources have resulted in cattle loss and failed harvests and consequentially severe food insecurity since 2013.
- The HHS collected as part of the WASH Baseline indicated 29.89% of the HHs in the four assessed payams of Pibor County had a severe hunger scale.
- FGD participants and KIs reported an increased reliance on unsustainable negative and severe coping strategies, including migration as a hunger coping strategy and cattle theft, which are reducing the remaining HH assets.
- Poor WASH infrastructure and sanitation practices and a highly mobile population make the entire population highly vulnerable to an outbreak of contagious diseases.

Background

According to KIs, HHs in Pibor County are traditionally agro-pastoralists, relying on a mixture of livestock rearing and agriculture to access food and income. Pibor County can be divided into two separate livelihood groups and often the two livelihood groups do not interact with one another. Settlements in the highlands, such as in Boma Payam, rely more heavily on agriculture than livestock rearing. HHs located in the lowlands, the target area of the assessment,

Map 1: Dry Season Cattle Migration Routes Pibor County, April 2018

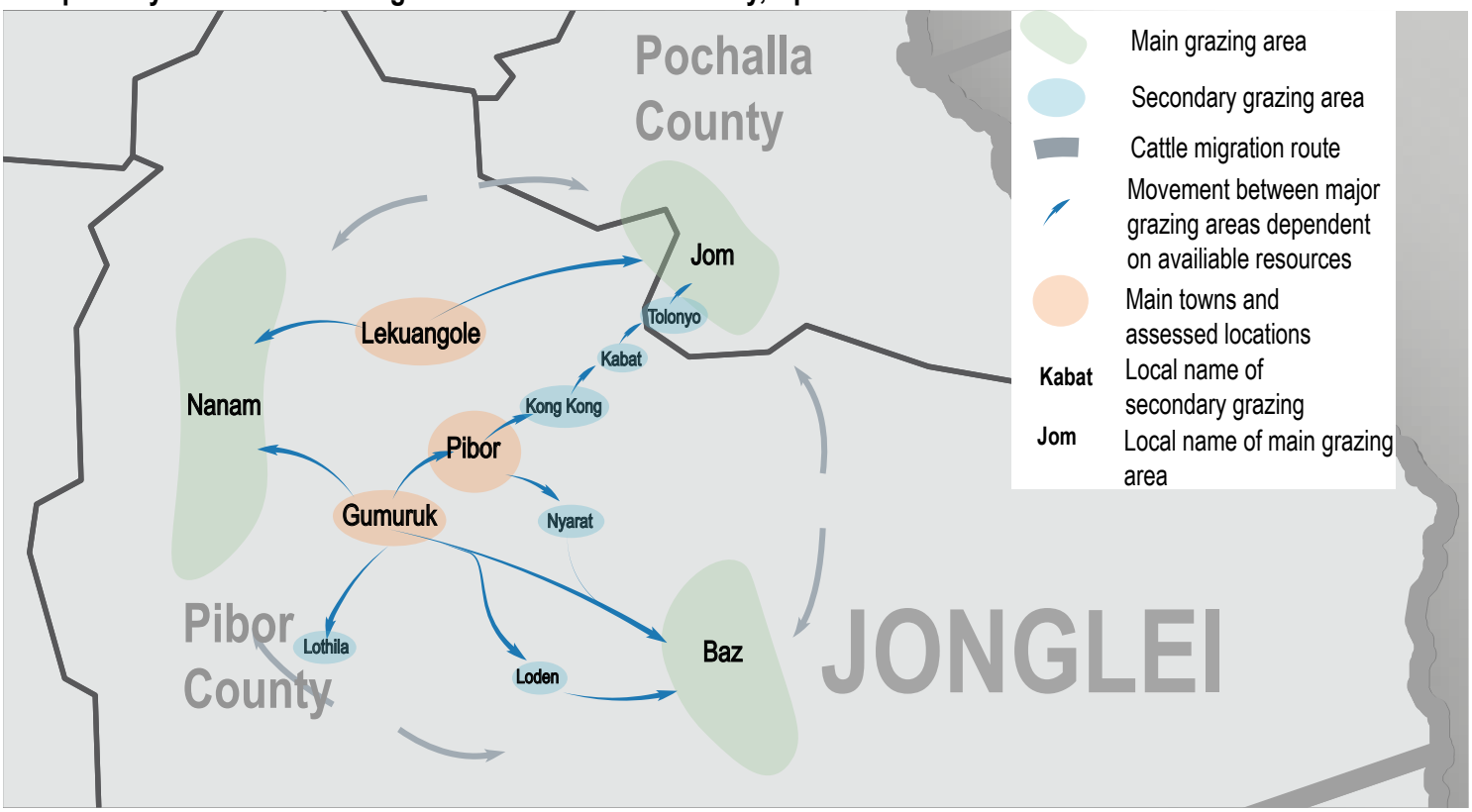


Table 1: Major Grazing Areas

Name of Grazing Location	Location	Temporary or permanent	Accessible for HHs
Jom	Pochalla County	Temporary	Yes
Nanam	Northwest Pibor County	Permanent	Yes
Baz	Southern Pibor County	Temporary	Yes
Nyadit	Northern Pibor County	Temporary	No

depend mainly on cattle, with some cultivation practiced in Verteth and Pibor Payams (Map 2). In the lowlands, cattle are seen as a form of currency, even within payams that do practise cultivation. For example, cattle are traded for food, to pay for dowries and are the main means for determining a HH's wealth. According to one KI, cattle are often the only form of payment accepted for marriages or to settle local disputes.[6]

Cattle Migration

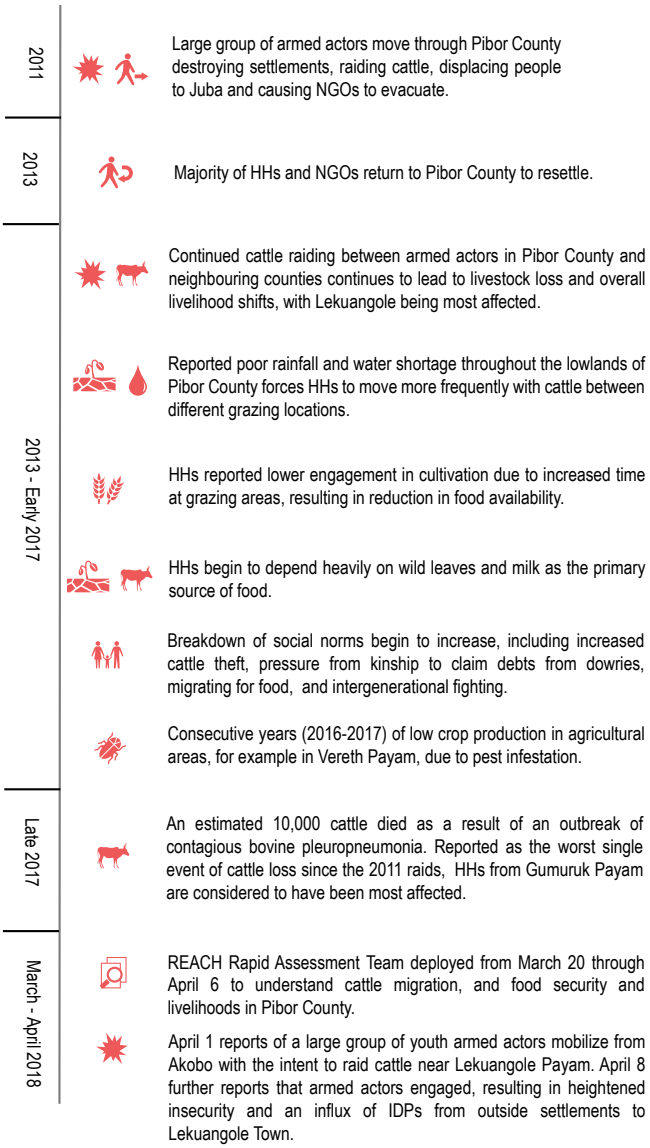
According to FGD participants, and KIs, cattle migration is traditionally driven by searching for reliable water sources. As a result, HHs frequently migrate to multiple small cattle camps until the water recedes whereafter HHs continue to one of the three major grazing locations (Map 1).[7] Two of the locations are considered seasonal and do not have a host community year-round, including Baz located in southern Pibor County and Jom in Pochalla County. A third location, Nanam, located in north-western Pibor County on the border Bor South County, is a permanent grazing area with both permanent settlements and pastoralists who bring their herds for dry season grazing. FGD participants emphasised that traditionally Jom and Baz are the most secure with minimal incidences of raids or cattle theft. Nanam is reportedly less secure due to its proximity to locations of cattle raiding. There is reportedly a fourth major grazing area, Nyadit, in northern Pibor County, bordering Akobo County, however heightened insecurity over the previous years has dissuaded HHs from migrating there with their cattle.[8]

The migration period typically starts in December, when nearby rivers begin to dry up. According to FGD participants, all HHs who are able to migrate with their cattle, often leaving vulnerable HH members behind. Each HH decides where to migrate, but HHs rarely stay in the same location for the entire dry season. Migration patterns are dictated by which location has enough water and grazing for the cattle. Depending on the payam, a HH first stops at a smaller grazing area (see Map 1), until the resources are depleted, and moves on to the next location with adequate water and grazing areas. At each major grazing area HHs arrange themselves by boma and build temporary shelters or sleep under the trees.[9] FGD participants reported that HHs have minimal to no access to services, and rely on a combination of milk, wild leaves and fishing at the grazing areas. Typically, HHs return to their homes in late April or May when the rainy season begins.

Cattle Trade

HHs often trade their cattle either in Pibor Town or in Juba Town for income and food. According to FGD participants, most HHs prefer to sell cattle in Juba due to the price difference between the Juba and Pibor markets. At the Juba market a HH can reportedly sell one large bull for up to 80,000 South Sudanese Pounds (SSP), however, the same bull may only sell for 35,000 to 45,000 SSP at the Pibor market. Most HHs normally sell their cattle in October/November, which is after the rainy season but prior to the start of the migration period[10], which is in December/January. HHs travel with their cattle in groups along a discrete bush road to Juba, ranging in groups from 5 to 50 people.

Figure 1: Reported timeline of key events



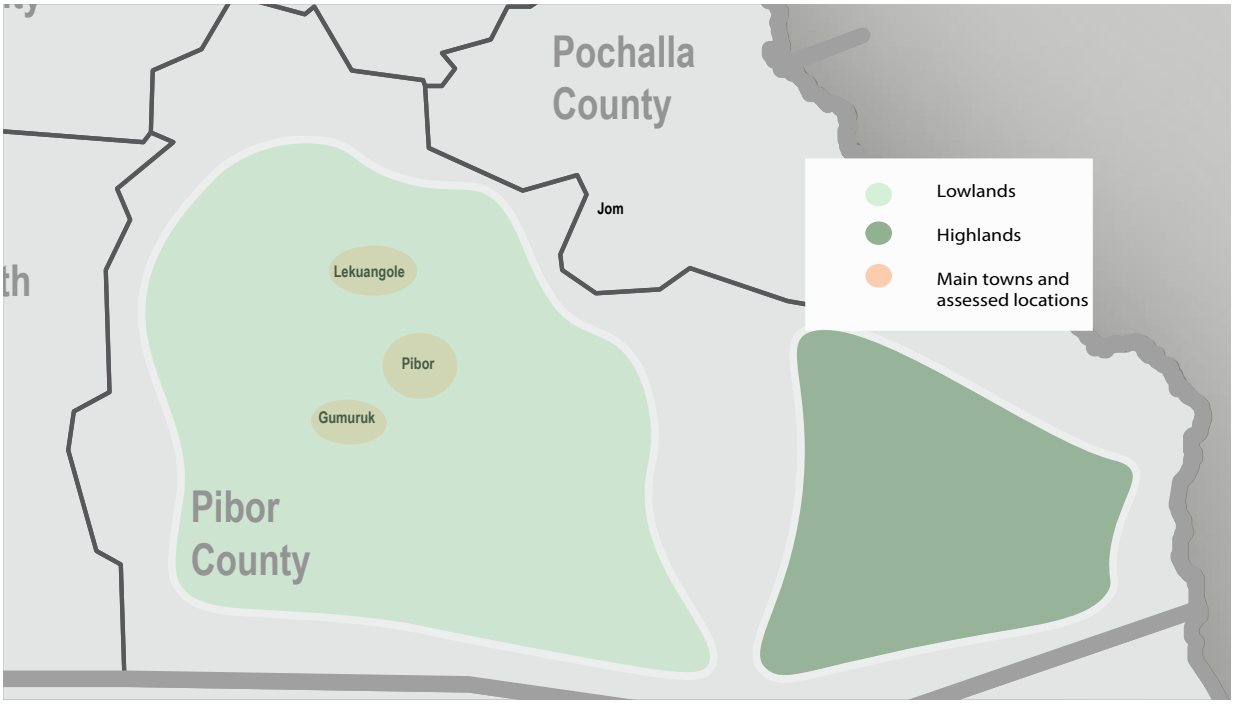
Consecutive Years of Shocks

Since 2013 the lowlands of Pibor County have seen multiple shocks, including severe insecurity, disease, insufficient rains and a reduction in available natural resources. These shocks have impacted livelihoods through diminishing herd sizes and reduced crop yields, as well as impacted access to water.

Cattle Loss Due to Insecurity

KIs emphasised that minimal levels of access to food and food availability for HHs are a result of a severe reduction in cattle ownership and a lack of water. FGD participants linked the heightened level of insecurity in 2011-2012 as the pivotal

Map 2: Lowlands and Highlands of Pibor County



period that triggered consecutive years of severe consumption gaps and livelihood changes. During the 2011-2012 insecurity, most HHs were displaced and lost the majority of their cattle to armed actors.

According to FGD participants, cattle disease and armed raiding were still problems when the majority of HHs began to return to Pibor County in 2013. From 2013-2017, traditional cattle grazing areas were frequently raided, further reducing the number of cattle owned by HHs.[11] KIs reported that during that period HHs from Eastern Equatoria State established a semi-permanent settlement along the Kasangor River. FGD participants reported the new communities these HHs created steal cattle from the Baz grazing area, resulting in heightened insecurity in a location once perceived as relatively safe.[12] While cattle raiding is still an issue overall, KIs reported that the number of cattle raids during this year's dry season, October 2017 through April 2018, was lower compared to previous years. This is likely due to the overall loss of cattle, or cattle lost during previous raids are yet to be regained.

Increased Cattle Disease

The insecurity in 2011-2012 caused most NGOs, including organisations conducting vaccination campaigns, to pause operations, making cattle more vulnerable to disease outbreaks. Unvaccinated migrating livestock may decrease herd immunity and contribute to diseases spreading across this agro-pastoralist county, as large numbers of migrating cattle inter-mix from various locations. For example, the disease *Otitious Media* reportedly started in 2013 near Maruwa Hills but quickly spread across the county when cattle in Baz grazing area came in contact with the disease.[13] According to a KI from Vétérinaires Sans Frontières - Germany (VSF-G), an estimated 10,000 cattle died in 2017 as a result of an outbreak of Contagious Bovine Pleuropneumonia (CBPP), a contagious bacterial disease that afflicts the lungs of cattle.[14] HHs from Gumuruk were reported to be the most affected. FGD participants considered the outbreak as the most extensive loss of cattle in a single year since the 2011 insecurity.

Minimal access to water

According to FGD participants, a lack of access to water was a key driver of food insecurity and continuous movement between different grazing areas. The Pilot WASH Baseline results showed that 68% of HHs in the four assessed payams used a river or

Figure 2: Timeline for Cattle Killing or Theft in exchange for female cow

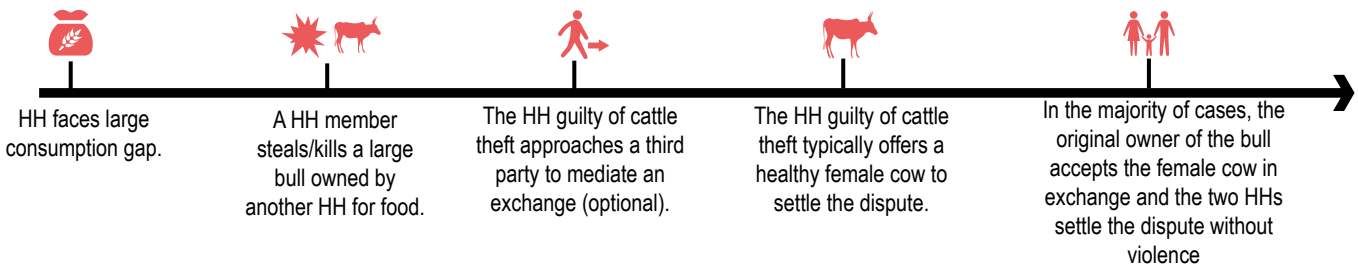


Figure 3: Access to services in assessed locations, April 2018

Administrative Area	Access to FSL	Access to WASH	Access to Health	Access to Education
Pibor Payam	Restricted	Minimal	Restricted	Sufficient
Gumuruk Payam	Minimal	Minimal	Restricted	Restricted
Lekuangole Payam	Minimal	Minimal	Restricted	Minimal

Minimal or no access
Restricted or limited access
Sufficient or minimally restricted access

Table 3: Access constraints in Pibor County by season

Season	Advantages	Difficulties
Dry season	Roads are accessible and people can move between locations.	HHs are migrating to remote locations that can be inaccessible by car.
Rainy Season	People are concentrated in and around established settlements and distribution centres.	HHs are unable to access remote settlements or distribution centres.

swamp as their primary source of drinking water. Most HHs rely on water from nearby rivers, streams and swamps, which is used as drinking water for both humans and livestock. Pibor and Lekuangole Towns have boreholes and a perennial water table, allowing for HHs to access clean drinking water.[15] However, Verteth and Gumuruk Payams were noted to have very low water tables and multiple attempts to drill boreholes in the payams have failed to find a year round water table, often forcing HHs to drink unclean water from streams or travel far distances searching for water during the dry season.[16] [17] Direct observation at the HH level indicated that most drinking water appeared dirty, cloudy, brown in colour and had a foul smell. According to KIs, rivers reportedly dry up by December forcing HHs to search for other water sources. While there were no official reported cases of cholera in Pibor County, in 2017 there were outbreaks in three neighbouring counties: Bor, Kapoeta North and Kapoeta East.[18] Additionally, the Rift Valley Fever (RVF) outbreak continues to spread in the greater Lakes area and is reported to have spread to Bor South County. [19]

Reduced Crop Yields

In addition to the lack of rains driving migration, FGD participants reported that consecutive years of poor rainfall has lead to HHs not cultivating their land. Traditionally, HHs cultivate in late April or May, when the rains have returned. However, in recent years the rains have reportedly arrived late, forcing HHs to stay in grazing areas longer than expected, leaving minimal time to prepare land and plant crops. As a result, the majority of HHs have minimal food stocks from their own production.

Although only a small proportion of households actively practice cultivation, those that do have reported consecutive years of crop failure. According to FGD participants, HHs in Verteth experienced two years of minimal crop yields due to pests. HHs in the area have reportedly switched from maize to sorghum for the 2018 cultivation season, citing that sorghum may be more resilient to pests and have higher yields.

Table 2: The WASH Baseline HHS from the four assessed payams, April 2018

None to light hunger	27.42%
Moderate hunger	42.70%
Severe Hunger	29.89%

Implications of Shocks

As a result of a reduction in food availability, locations assessed by the WASH Baseline study in Pibor County reported a HHS of 29.89% having Severe Hunger (Table 2). This reduction in food availability was also reflected in KI interviews where a number of harmful food and livelihood coping strategies were discussed. The most notable consumption-based coping strategies were an atypical reliance on wild leaves and increased frequency of slaughtering of cattle. There were a number of livelihood coping strategies, including increased cattle theft, heavier reliance and forced pressure on kinship for resources, reduction in number of days allotted to repay outstanding debts, and migration to locations with higher food availability.

Heavy Reliance on Wild Foods

According to FGD participants, the consumption of wild leaves has become a staple part of the diet for several years, despite acknowledging that HH members become sick from eating the leaves. FGD participants reportedly consumed two main types of wild leaves, lalop and Cyprus. Lalop leaves are known to cause acute diarrhoea, which can limit nutritional intake and exacerbate the loss of key nutrients. Participants reported that excessive consumption of Cyprus leaves caused constipation and severe stomach pains. However, HHs emphasised that wild leaves are a primary food source, as one FGD participant stated, “We are like the birds, we can survive on the leaves for a long time.”

Increased Cattle Raiding and Cattle Theft

Both cattle raiding and cattle theft have been a severe concern in previous years in Pibor County. Cattle raids often result in the loss of cattle, the destruction of settlements and displacement of people. Cattle theft is considered more inter-communal and typically does not lead to violence and displacement. KIs reported cattle raiding during this year’s dry season to be less common and when it occurred it was on a smaller scale, compared to previous years which saw multiple large scale

raids.[20] However, cattle theft remains a concern. KIs referred to cattle raiding as both a cross-county and as a cross-country border event, happening also across the border with Ethiopia, that occurs between two or more large armed actors.

According to FGD participants and KIs, the practice of killing another HH's large bull only to have to repay them a female cow from one's own herd has been increasing in previous years. As described by participants and demonstrated in Figure 2, when a HH has large food consumption gaps a HH member may steal or kill a large bull which belongs to another HH. The HH who stole or killed the bull may confess the crime to a mediating HH who will inform the owner of the bull. In exchange, the owner will demand a female cow.[21] This strategy has reportedly been practised by the local communities for a long time. However, this process is highly unsustainable and there are notable differences between previous years and now. FGD participants reported that before 2011 the owner of the bull may allow a HH up to four months to find a suitable female cow. However, due to the substantial loss of cattle since 2011, the repayment period has reportedly reduced from months to weeks. HHs now face more scrutiny and pressure to quickly repay the debts owed for unlawfully killing another HH's bull, including physical threats and involvement of local authorities. Additionally, **over the previous five years the intensity and frequency of this strategy has reportedly increased, raising concerns for further deterioration of social bonds as a direct result of food insecurity.** Further, this cycle of cattle raiding and cattle theft reinforces the rapid deterioration of HH wealth through the loss of cattle, limiting the ability to cope with future shocks.

Increased Pressure on Kinship

In line with most areas in South Sudan, a marriage dowry, typically in the form of cattle, is a common cultural practice. Most FGD participants mentioned dowry payments from marriage as a primary way to increase cattle ownership; the average dowry in assessed areas ranged from 40-50 cattle. In Pibor County immediate and extended relatives are entitled to a part of the dowry. In recent years, there has been increased pressure from relatives to be paid their share of the dowry faster. FGD participants noted that widows are targeted the most, and as a result will sell their cattle immediately after receiving a dowry in Pibor Market for half the price than they would receive in Juba Market in order to avoid this form of kinship obligations.

Migration Driven by Food Insecurity

According to KIs, an increasing number of HHs are migrating to seek food and income. Migration is considered a last resort and typically only occurs when a HH has lost all of its cattle and relatives are no longer able to support the HH. Some HHs migrate within Pibor County to Boma or Verteth to cultivate; the income from successful cultivation is used to purchase cattle. Additionally, HHs without cattle may also migrate to one of the large grazing areas to access resources, such as fish or Lalop leaves. Other HHs have moved to a refugee camp in Dimma, Ethiopia. KIs emphasise that nearly all abnormal migration patterns, such as moving to a new area to cultivate, are driven by the reduction in cattle which has resulted in a severe decline in HH wealth and food consumption gaps.

Access to Services

Most HHs in Pibor County have minimal access to services. Within Pibor Town there is a relatively large presence of humanitarian actors and services, including health facilities, boreholes and general food distributions (GFD). Pibor Town has a functioning market, which allows HHs to purchase cereals, medical supplies and sell cattle. However, due to access difficulties and the continued inflation of the South Sudanese Pound, commodities have high prices and are not accessible for all. For example, the pilot WASH baseline HH survey results showed that the most commonly reported reason why HHs do not have soap was because of high prices, not lacking availability. HHs in Gumuruk and Lekuangole also have GFD sites but have reduced access to healthcare and nutrition facilities. During the dry season it is often problematic for HHs to access services in the main towns, due to frequent movement to and between remote grazing areas. In the rainy season, populations are more concentrated in permanent settlements, but due to poor road conditions settlements are isolated from main catchment sites, such as Pibor and Gumuruk Towns (Table 3). Additionally, KIs from humanitarian agencies emphasised the difficulties of traveling between locations during the rainy season, noting that transporting supplies to target areas via road is not possible once the rains begin. **Therefore, it becomes difficult for humanitarian actors to respond to a population that has exhausted normal coping strategies and is increasingly using and dependent on unsustainable practices.**

Conclusion

Since 2011 HHs in the lowlands of Pibor County have experienced multiple shocks that have compounded the population's vulnerability and increased food consumption gaps. Increased food consumption gaps have led to a very severe HHS, which supports KI statements about the deterioration in food security. To cope HHs have continuously engaged in negative coping strategies such as increased cattle theft and atypical reliance on wild leaves that can cause diarrhoea. HHs have also participated in hunger migration, a critical strategy that is a sign of extreme consumption gaps. Additionally, the combination of minimal access to clean water and widespread practice of open defecation raises a concern that there is an elevated risk of a disease outbreak associated with poor WASH practices occurring during the rainy season, e.g., cholera. As HHs continue to frequently move between grazing areas and inter-mix cattle from other herds, either via increased raiding or cattle theft and minimal access to services persists, HHs remain exposed to the risk of spread of both human and cattle diseases, further reducing their resilience and capacity to cope during the upcoming lean season.

Endnotes

1. IPC. South Sudan. Key IPC Findings: January-July 2018. IPC uses a number of data sources to build consensus of the level of food insecurity at the county level. Food Security and Nutrition Monitoring Systems (FSNMS) Round 21 was conducted by World Food Programme (WFP) Vulnerability Analysis and Mapping (VAM) department from November to December 2017. It includes a series of questions regarding a HH's food security and livelihoods, including

availability, access, utilisation, and stability.

2. SMART Survey methodology is used to measure the magnitude and severity of a humanitarian crisis through two key indicators: the nutritional status of children under five and the mortality rate of the population.

3. When 10% or more of children are classified as suffering from GAM, there is generally considered to be a serious emergency, and with over 15% the emergency is considered critical. In South Sudan, the nutrition coordination group recommends curative interventions for levels of GAM above 15%.

4. See REACH, Yirol West County Food Security and Livelihoods Brief, January 2018 and https://radiotamazuj.org/en/news/article/over-40-killed-in-jonglei-state-cattle-raid-official. The Yirol West assessment was indicative that as food insecurity increases cattle raiding is likely to become more intense, frequent, and involve an atomised/dissolution of homogeneous tribal structures, in which clans or families that previously protect one another start to turn on one another in order to survive.

5. A payam is the second-lowest administrative division, below counties, in South Sudan.

6. The KI used the example of marriage. A man can offer 1,000,000 SSP as a dowry and the father will refuse, but if the same man offers 40 cattle then the father will accept the marriage.

7.While typically referred to cattle camps, FGD participants and KIs emphasised that these are large grazing areas and unlike cattle camps do not have a hierarchical structure of leadership and HHs are in charge of taking care of their own cattle.

8. FGD participants noted that relations with authorities in Akobo have improved, however HHs still prefer to travel to the other major locations. At the time of the assessment there were heightened tensions between youth groups in Akobo and Lekuangole Payam and reports of armed fighting between two youth groups.

9. A boma is a lowest-level administrative division.

10. During this period there is still water along the route to Juba and it is the less likely time for cattle to die during the journey.

11. Phillip T. Manyok. 2017. Cattle Rustling and Its Effects among Three Communities (Dinka, Murle and Nuer) in Jonglei State, South Sudan.Doctoral dissertation. Nova Southeastern University. Retrieved from NSUWorks, College of Arts, Humanities and Social Sciences – Department of Conflict Resolution Studies.

12. A KI noted that in August 2017 there was a large clash between armed cattle owners in the area, displacing many of the HHs.

13. Otitis media, inflammation of the middle ear structures, is seen in small and large domestic animals.

14. CBPP is caused by the bacterium Mycoplasma mycoides, and the symptoms are pneumonia and inflammation of the lung membranes. In some localities, susceptible herds may show up to 70% morbidity with mortality likely to be ~50% in herds experiencing the disease for the first time. https://www.merckvetmanual.com/respiratory-system/respiratory-diseases-of-cattle/contagious-bovine-pleuropneumonia

15. A WASH KI working for an INGO in Pibor stated that boreholes in Pibor Payam reach 80m in depth and boreholes in Lekuangole can go as deep as 120m.

16. REACH South Sudan. Pilot Pibor WASH Baseline Assessment. March-April, 2018.

17. According to a WASH cluster meeting held on 26/04/2018 there were five recent attempts to drill boreholes in Gumuruk Town, but all were unsuccessful in accessing a water table suitable for drinking.

18. Ministry of Health. South Sudan. Cholera Situation and Responses Update. 6 October 2017.

19. Rift Valley Fever (RVF) is caused by a virus transmitted by mosquitoes and blood feeding flies that usually affects animals (commonly cattle and sheep) but can also involve humans. In humans the disease ranges from a mild flu-like illness to severe haemorrhagic fever that can be lethal. (www.who.int/emergencies/diseases/rift-valley-fever/en/)

20. At the time of the assessment, there was reported armed youth from Akobo County heading towards Pibor County to conduct a cattle raid. On April 8, after the rapid assessment team returned to Juba, there was reported fighting in northern Lekuangole Payam.

21. As reported by KIs, the owner of the bull may also be offered a daughter to marry in exchange. However, the owner has the right to refuse marriage and demand the female cow.