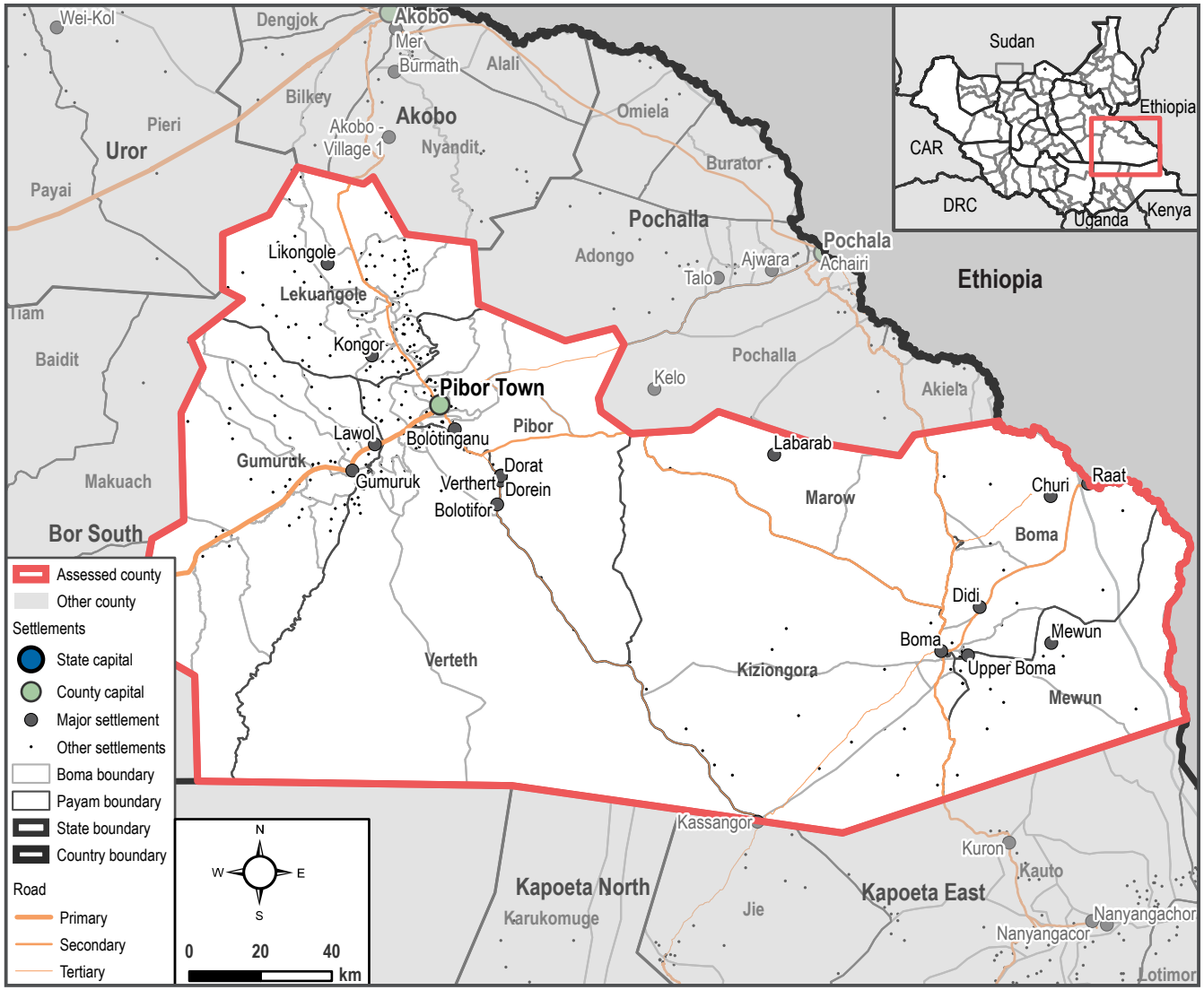
PIBOR COUNTY - JONGLEI STATE

Map 0.1. Location of Pibor County within South Sudan indicating payams, boma boundaries and key settlements



PIBOR COUNTY - KEY FACTS

- **Estimated population:** 223,000[1]
- **Area:** 33,050 km²
- **Population density:** 7 persons per km²
- **County headquarters:** Pibor Town
- **Payams:** Boma, Gumuruk, Kiziongora, Lekuangole, Marow, Mewun, Pibor, Verteth

Pibor is a large county located in the southeast of Jonglei state, bordered by Ethiopia to the east. Together with Pochalla County, it makes up the Greater Pibor Administrative Area.[2] The population is centred around Pibor Town area and the western payams.

Pibor County has experienced various episodes of conflict and inter-communal clashes in recent years, often resulting in displacement.[3] Infrastructure remains limited whilst road access is poor, particularly in the rainy season. The county also generally faces limited water access and poor WASH conditions.[4] Atypical flooding has occurred in recent years, with the most extensive being in 2019. This appeared to directly follow a period of drought,[5] highlighting climatic variability in the region in recent years.

About REACH Initiative

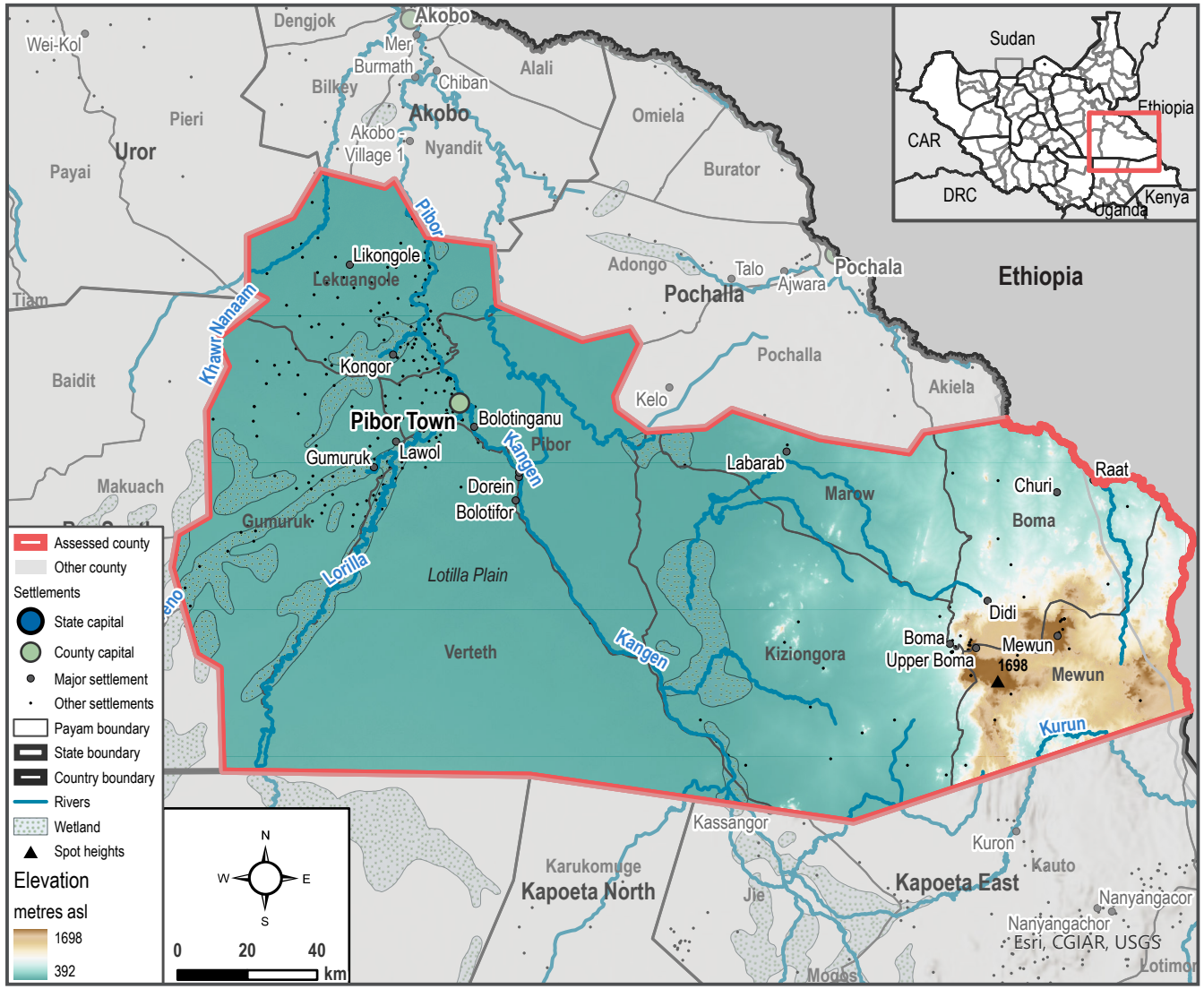
REACH Initiative facilitates the development of information tools and products that enhance the capacity of aid actors to make evidence-based decisions in emergency, recovery and development contexts. The methodologies used by REACH include primary data collection and in-depth analysis, and all activities are conducted through inter-agency aid coordination mechanisms. REACH is a joint initiative of IMPACT Initiatives, ACTED and the United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT).

Visit www.reach-initiative.org and follow us @REACH_info.

GFDRR Global Facility for Disaster Reduction and Recovery
This county profile has been made possible by the generous support of the Global Facility for Disaster Risk Reduction and Recovery (GFDRR)

REACH Informing more effective humanitarian action

Map 1.1. Natural features including wetland areas, rivers and water bodies in Pibor County. Elevation is also shown.

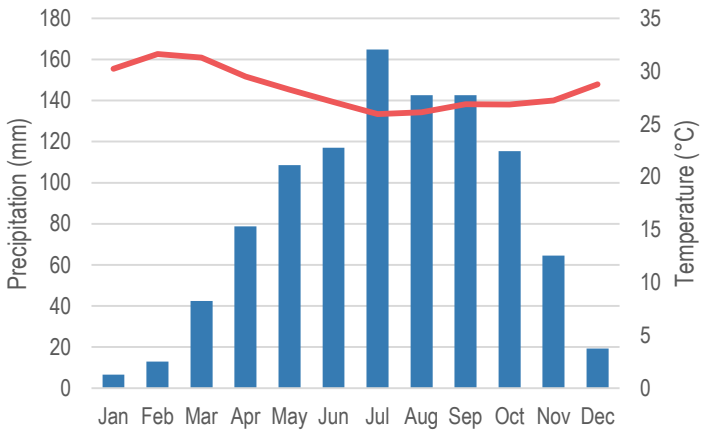


The western part of Pibor County is predominantly flat, with an average elevation of 488 metres above sea level. **The Lotilla Plain, a dry Sahellian savannah, stretches from the west of the county and rises towards the Boma Plateau** on the border with Ethiopia, reaching an elevation of almost 1700m (Map 1.1).[6] Sandy loam soils are found throughout the county, with some black cotton clay in the central and western lowland areas.[7]

Major rivers include the Pibor, Kangen and Lorilla rivers, which drain into the Sobat Basin and eventually into the White Nile. There are some seasonal wetlands in the flat plains to the centre and west of the county. **The plateau is characterised by a more riparian environment with year-round water access, although climate change has resulted in shrinking rivers in recent decades.**[8] There are small concentrations of forest cover on the plateau and to the north of Pibor Town.

The county receives a large amount of rainfall, totalling 1015 mm/year on average (Graph 1.1). This is higher than the national average. The rainy season generally lasts between June and October across most of the county, with July being the wettest month. On the plateau, there is a longer extended rainy season which generally lasts from March to December.

Graph 1.1. Average monthly precipitation and temperature, Pibor County (1981 - 2021)[9,10]



Highest point
1698m

Average elevation
488m

Elevation range
1306m

Annual precipitation
1015mm/yr

Average temperature
28.3°C

Wettest month
July

Driest month
January

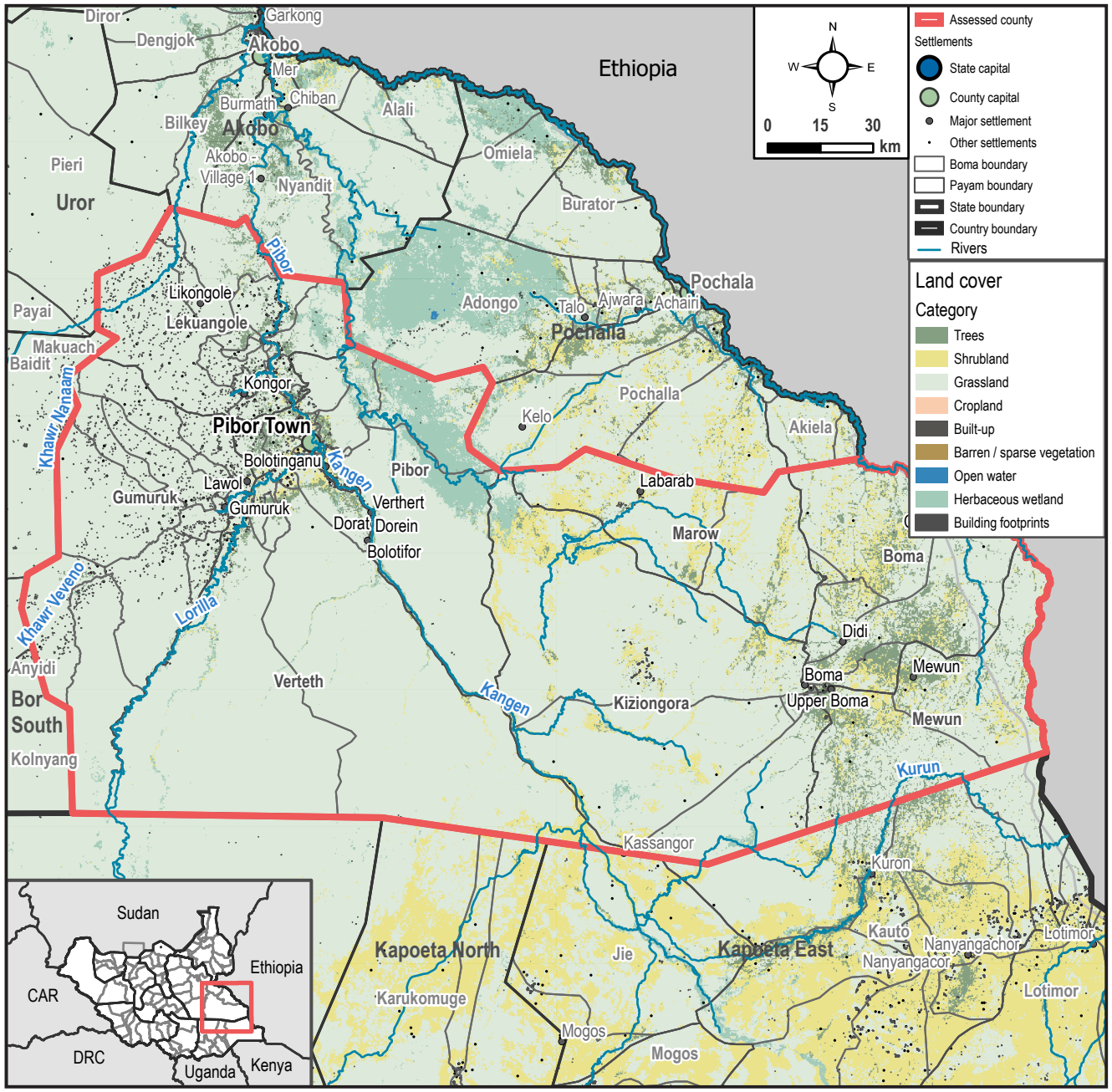
GFDRR Global Facility for Disaster Reduction and Recovery

This county profile has been made possible by the generous support of the Global Facility for Disaster Risk Reduction and Recovery (GFDRR)

REACH Informing more effective humanitarian action

2. LAND USE AND LAND COVER

Map 2.1. Land use and land cover map, Pibor County[11]

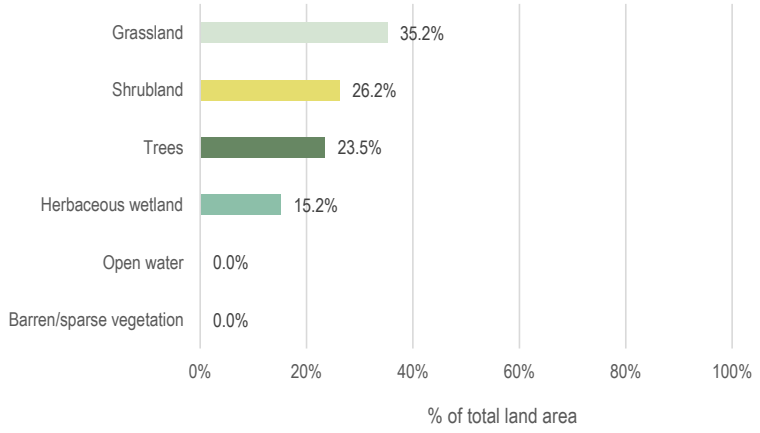


Map 2.1 shows the land cover across Pibor County. Land cover across the county is **predominantly characterised by extensive, sparsely inhabited grassland and shrubland.** In the highlands around Boma, as well as around the riverine environments close to Pibor town, there are some areas of forest cover.

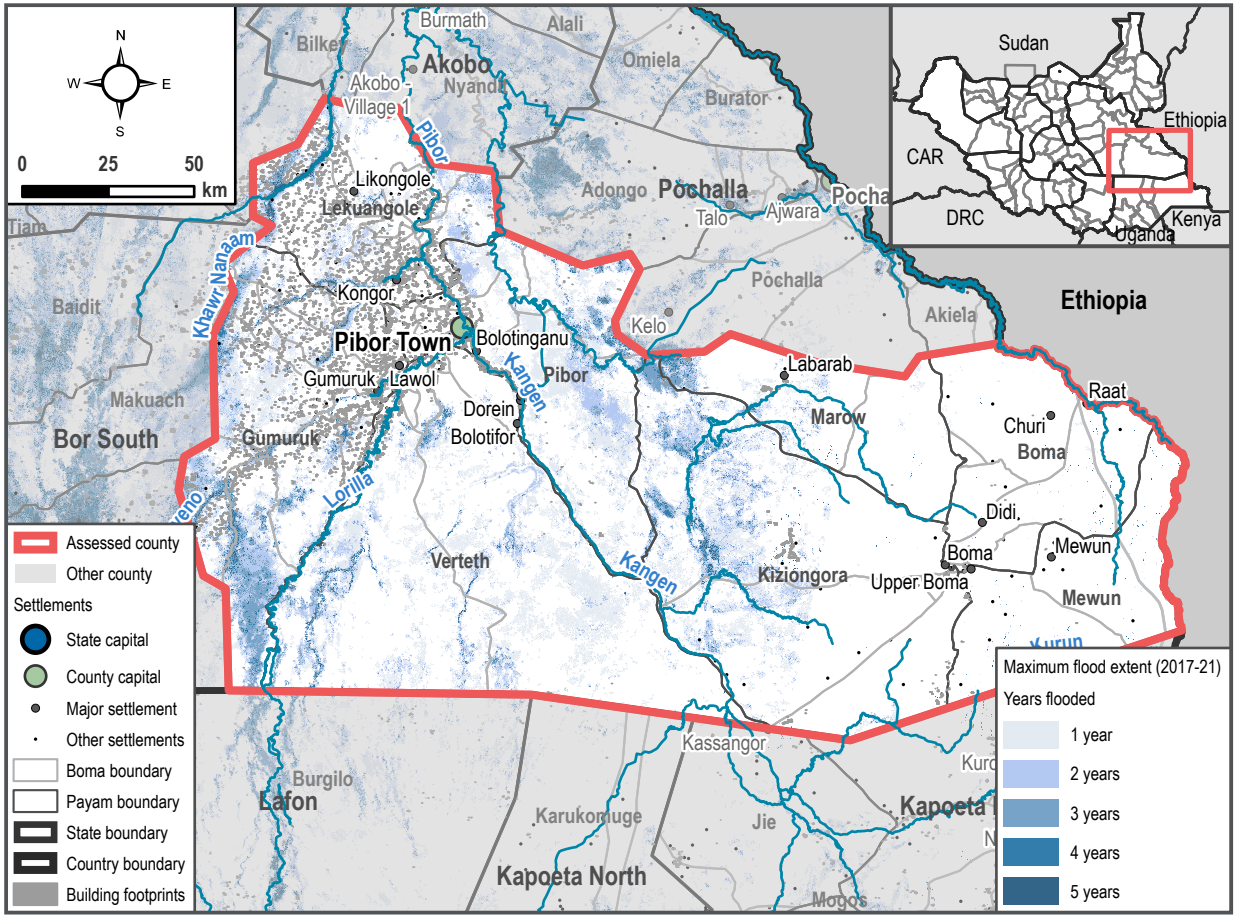
A large zone of herbaceous wetland is also present to the east of Pibor Town close to the border with Pochalla County. As indicated by the concentration of building footprints in and around Pibor Town, the **majority of the population in the county is spread throughout this north-western grassland area, especially close to the main river channels (Map 2.1). This exposes much of the population to flooding** as outlined in section 3.

47,173 identified buildings in Pibor County[12]

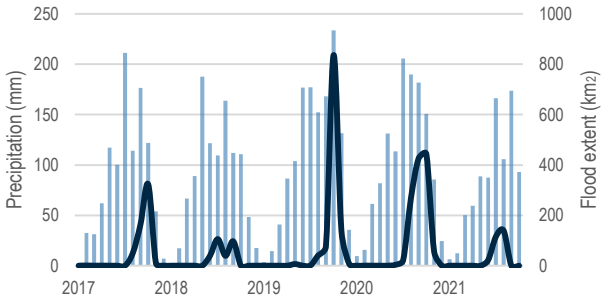
Chart 2.1. Land cover as proportion of Pibor County area



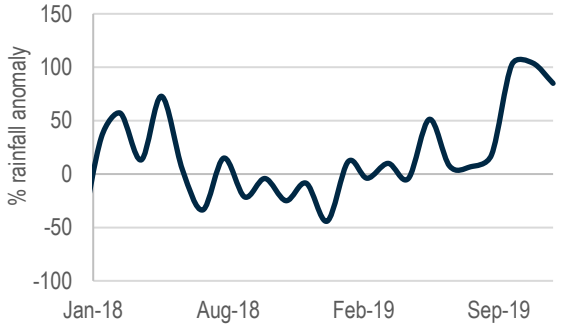
Map 3.1. Estimated maximum annual flood extent (2017-2021), affected settlements and key infrastructure[i]



Graph 3.1. Area of flood extent vs rainfall (2017-21)[15]



Graph 3.2. Rainfall anomaly (2018-2019)[16]



i Estimated flood extent calculated based on analysis of Sentinel 1 data in Google Earth Engine. Data is indicative only and has not been validated in the field.

FLOODING

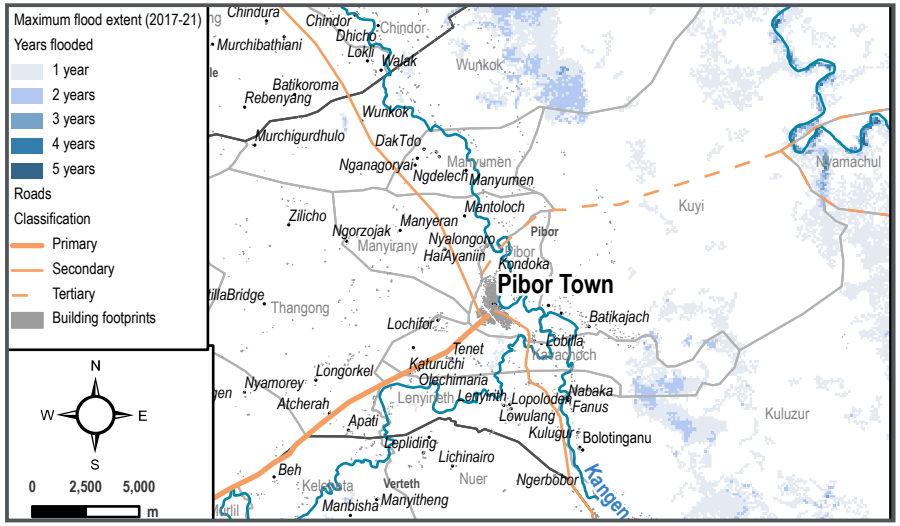
Pibor County has been impacted extensively by flooding in the past five years (Map 2.1), with the majority of floodwater predominantly concentrated around the main river channels. As mentioned in the previous section, **the population is mostly concentrated in this location, which exposes them to flooding.** A number of rivers run through the county, including the Kangen and Lorilla, which flow northwards from the highlands on the Ugandan border in Greater Kapoeta and Lafon respectively, as well as a number of streams flowing down from Boma Plateau in the east of the county.

The Kangen and Lorilla rivers are highly influenced by upstream rainfall which can cause stormflows and subsequent flooding downstream.[13] There are also a number of wetland areas (Map 1.1) prone to seasonal flooding between July and November.

As Graph 3.1 shows, **flooding generally occurs seasonally over several months each year. However, more extensive flooding in Pibor County occurred in 2019,** seemingly resulting from higher-than-usual rainfall in 2019 (Graph 3.2). This also **follows a period of low rainfall anomaly and suspected drought, as outlined on the following page.** Drought conditions result in reduced permeability of soil, potentially worsening flood impacts.

Map 3.2 indicates flood extent in the past 5 years around Pibor Town. **Flooding in 2019 reportedly resulted in markets becoming inaccessible, damage to critical infrastructure including health centres, as well as deterioration of Pibor airstrip, which was restored in 2020.**[14]

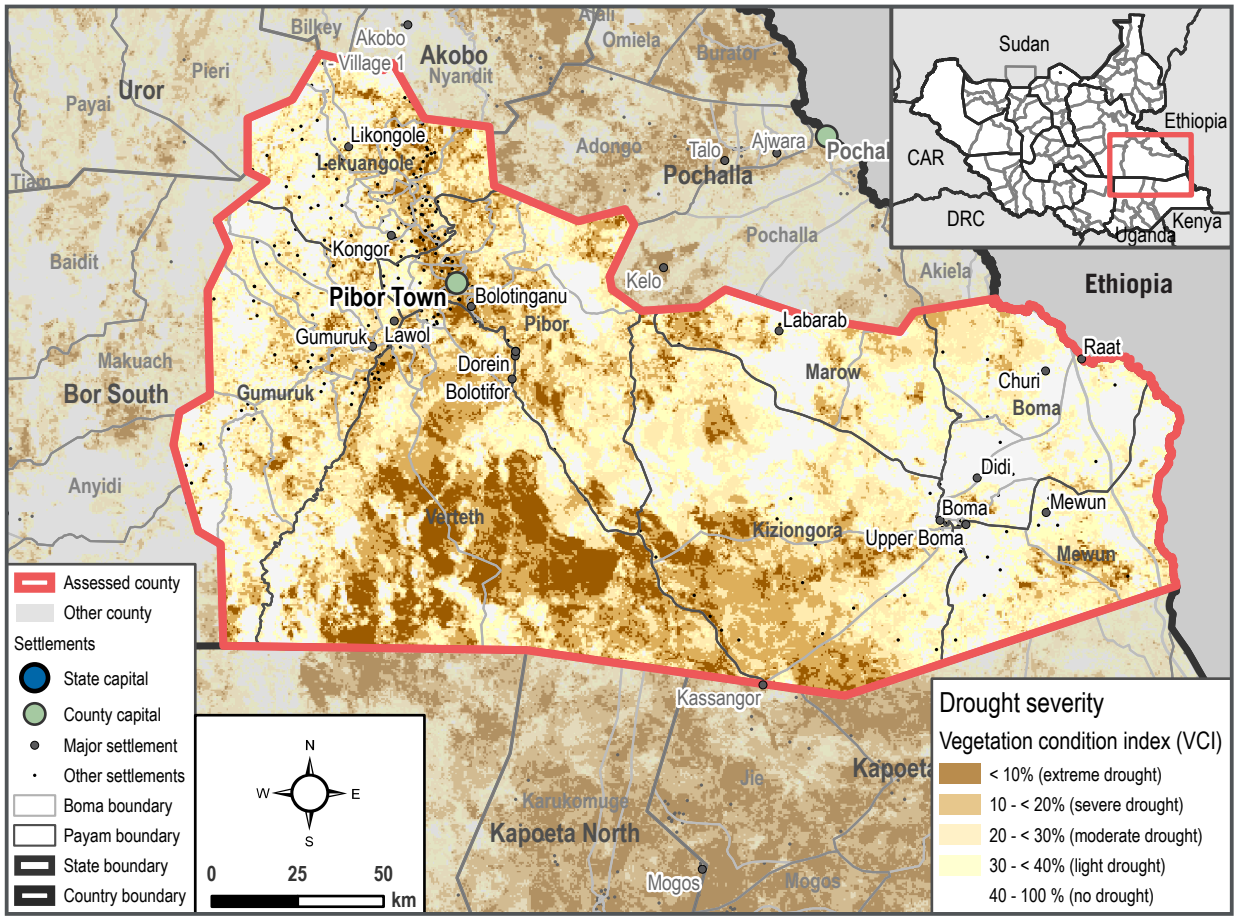
Map 3.2. Estimated maximum annual flood extent (2017-21), Pibor Town



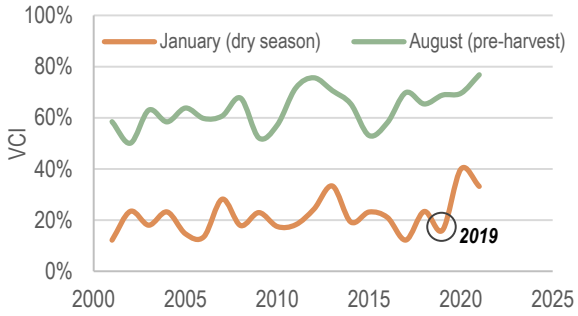
This county profile has been made possible by the generous support of the Global Facility for Disaster Risk Reduction and Recovery (GFDRR)

4. HYDROMETEOROLOGICAL HAZARDS - DROUGHT AND DRY SPELLS

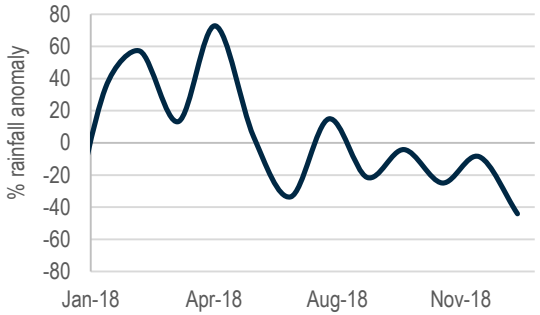
Map 4.1. Vegetation condition index (VCI), indicator of drought severity, in January 2019 - a detected drought period[i]



Graph 4.1. VCI (2000-2021) - drought index



Graph 4.2. Rainfall anomaly (Jan 2018 - Jan 2019)[21]



i Vegetation condition index calculated in Google Earth Engine based on MODIS EVI data

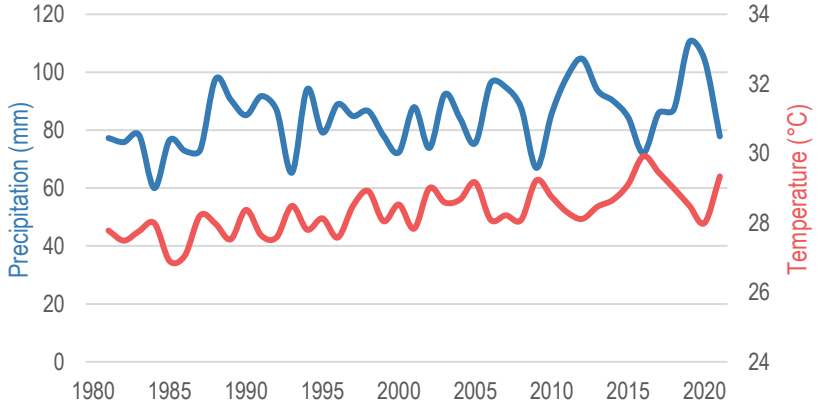
Similar to other parts of South Sudan, Pibor County has historically been exposed to droughts and dry spells, driven by erratic rainfall and a changing climate. Remote sensing and rainfall data indicate there was a **drought in parts of Pibor County in early 2019.** This is corroborated by one report,[17] although data on drought impacts in Pibor remains limited and further research into the impact of this hazard may be needed.

The 2019 **drought appears to have been driven by a sustained rainfall deficit from the middle of 2018.** Map 4.1 shows the vegetation condition index (VCI) in January 2019, which indicates vegetation health compared to the long-term mean. The map clearly shows large areas of severe and extreme drought, potentially affecting crop harvests, and wild food and surface water availability. The **combination of dry spells followed by excessive rainfall, as observed in Pibor, has been known to lead to crop damage.**[18]

As Graph 4.3 indicates, **whilst relatively erratic, temperatures and precipitation have been progressively increasing in Pibor County in recent decades.** Future climate projections (based on the Shared Socioeconomic Pathway 370 emissions scenario[ii]), suggest that precipitation in the wettest month across Pibor County will increase by 16/mm per month by 2060, whilst temperatures in the warmest month could increase by 2.2°C. **These increases in extreme conditions could potentially lead to more intense and frequent climatic shocks, including droughts and floods, in future.**

CLIMATE CHANGE

Graph 4.3. Long-term climatic trends (1981-2021), Pibor County[19,20]



Projected climatic trends by 2060 based on ssp370 scenario, Pibor County[22]

Projected change in precipitation in wettest month by 2060

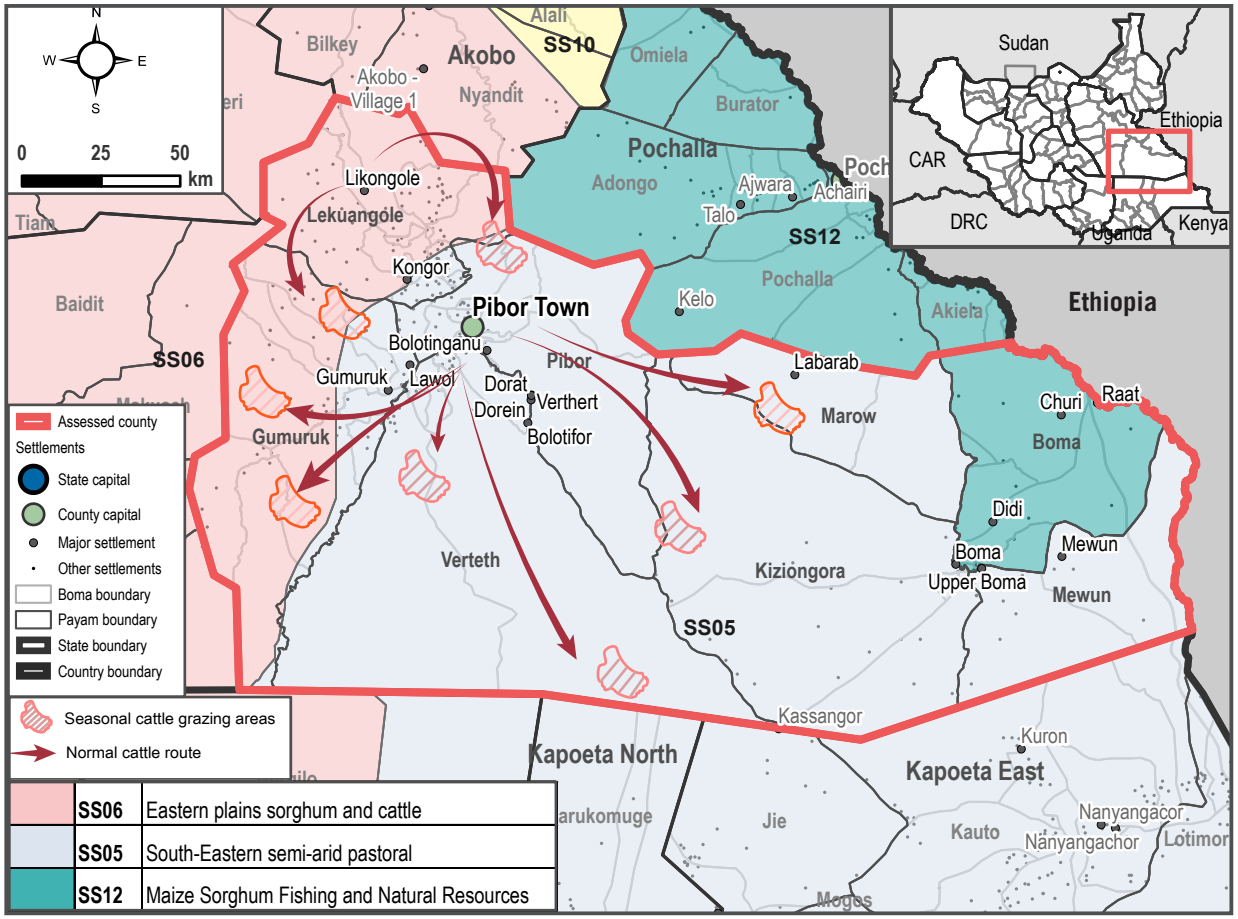
+16mm/month

Projected change in max temperature in warmest month by 2060

+2.2°C

ii. Middle-estimate greenhouse gas emission scenario based on various socioeconomic assumptions.

Map 5.1. Livelihood zones[30] and major cattle migration routes[31] in Pibor County



According to FEWSNET, there are three livelihood zones across Pibor County.[23] The majority of the county falls under the South-Eastern Semi-Arid Pastoral livelihood zone (SS05). The Eastern Plains Sorghum and Cattle livelihood zone (SS06) lies to the west of Pibor Town, whilst the highland riverine environments in the northeast of the county lie within the Maize, Sorghum, Fishing and Natural Resources livelihood zone (SS12).[24]

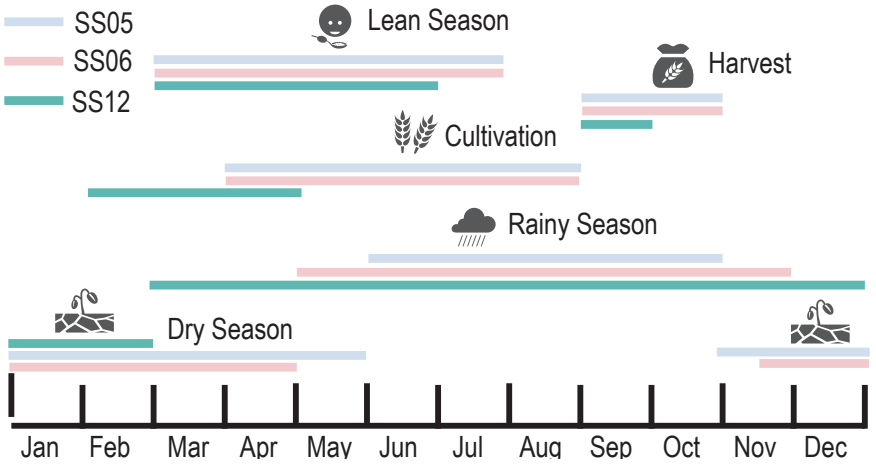
The dominant livelihood zone (SS05) is characterised by **pastoral livelihoods supplemented by wild food consumption and sales. Crop production is limited and apart from the small harvests and consumption of livestock products, most people rely on market purchase for staple goods.** In zone SS06 to the west, crop production is more common, presumably due to more fertile soils. Dominant livelihood activities in zone SS12 are agriculture, supplemented by livestock, fishing, and a small amount of artisinal gold mining.[25]

Map 5.1 also shows **normal dry season cattle migration routes, indicating movements are generally from around Pibor town to grazing areas to the east and south.** Movements from around Likongole to grazing areas to the south are also indicated.[26]

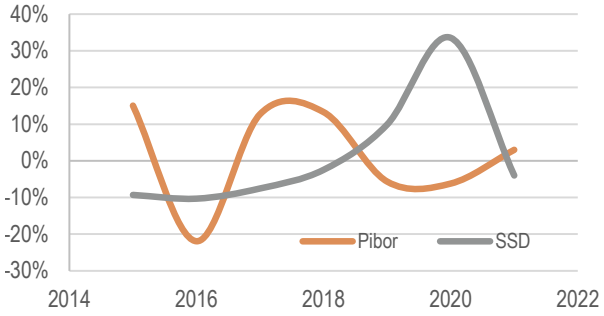
The most recent IPC analysis indicated that **the county was in Phase 4 for both acute food insecurity and acute malnutrition in February-March 2022, with these scores projected until July 2022.**[27] Food insecurity in the county is likely driven by significant underlying vulnerabilities, with atypical flooding and protracted conflict affecting cultivation, livestock, and access to markets and humanitarian assistance in recent years.[28]

The latest WASH Severity Classification[29] flagged the county to likely be in Phase 5 (Catastrophic) in May 2021, likely driven in part by widespread open defecation.

Figure 5.1. Cultivation calendar for Pibor County[33]



Graph 5.1. Year on year change in net cereal production (CFSAM)[32]



IPC Scores - 2022[34]

Acute malnutrition

February - March	April - July (Projected)
PHASE 4	PHASE 4

Acute food insecurity

February - March	April - July (Projected)
PHASE 4	PHASE 4

WASH indicators

80-100% of assessed households reported practicing open defecation (WASH Severity Classification, May 2021)[35]

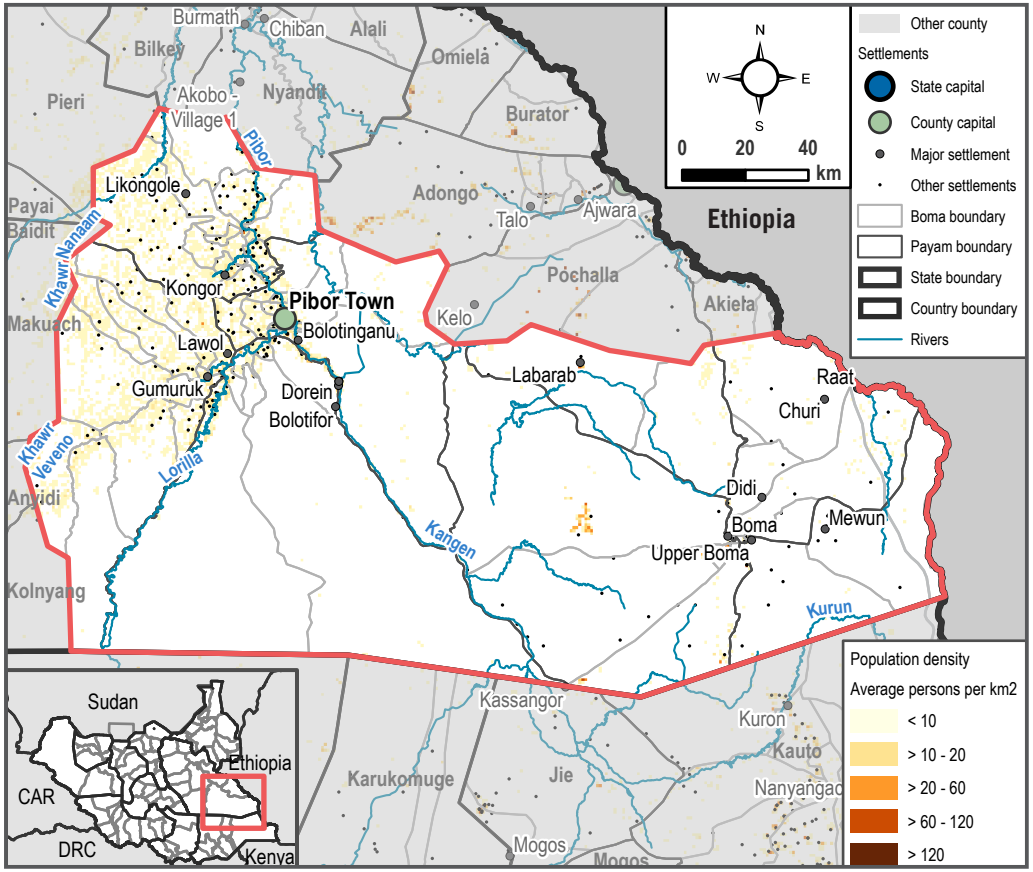
WASH Severity Classification - Likely P5 - Catastrophic) (WASH Severity Classification, May 2021)[36]

GFDRR Global Facility for Disaster Reduction and Recovery

This county profile has been made possible by the generous support of the Global Facility for Disaster Risk Reduction and Recovery (GFDRR)

REACH Informing more effective humanitarian action

Map 6.1. Population density[38] across Pibor County (2020)



Map 6.2. Significant population movements in Pibor County over the past five years (2017-21)

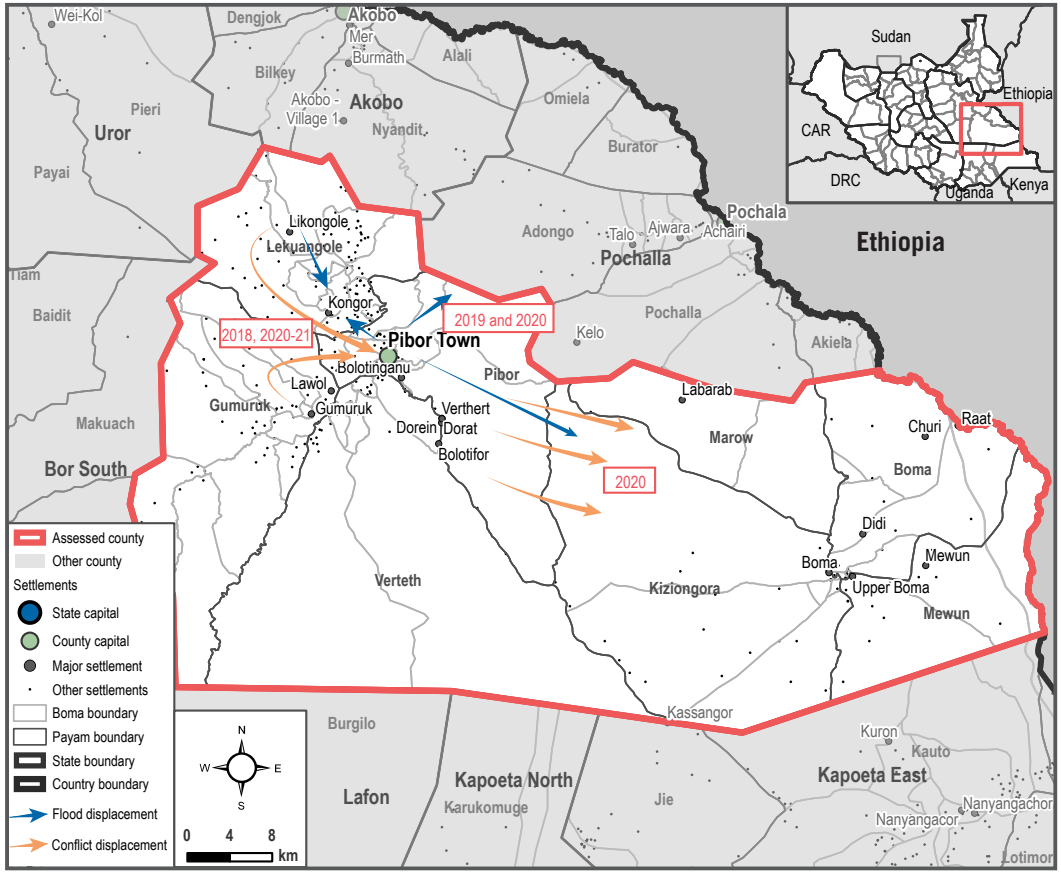


Table 6.1. Est. number of displaced persons by payam (2022)[37]

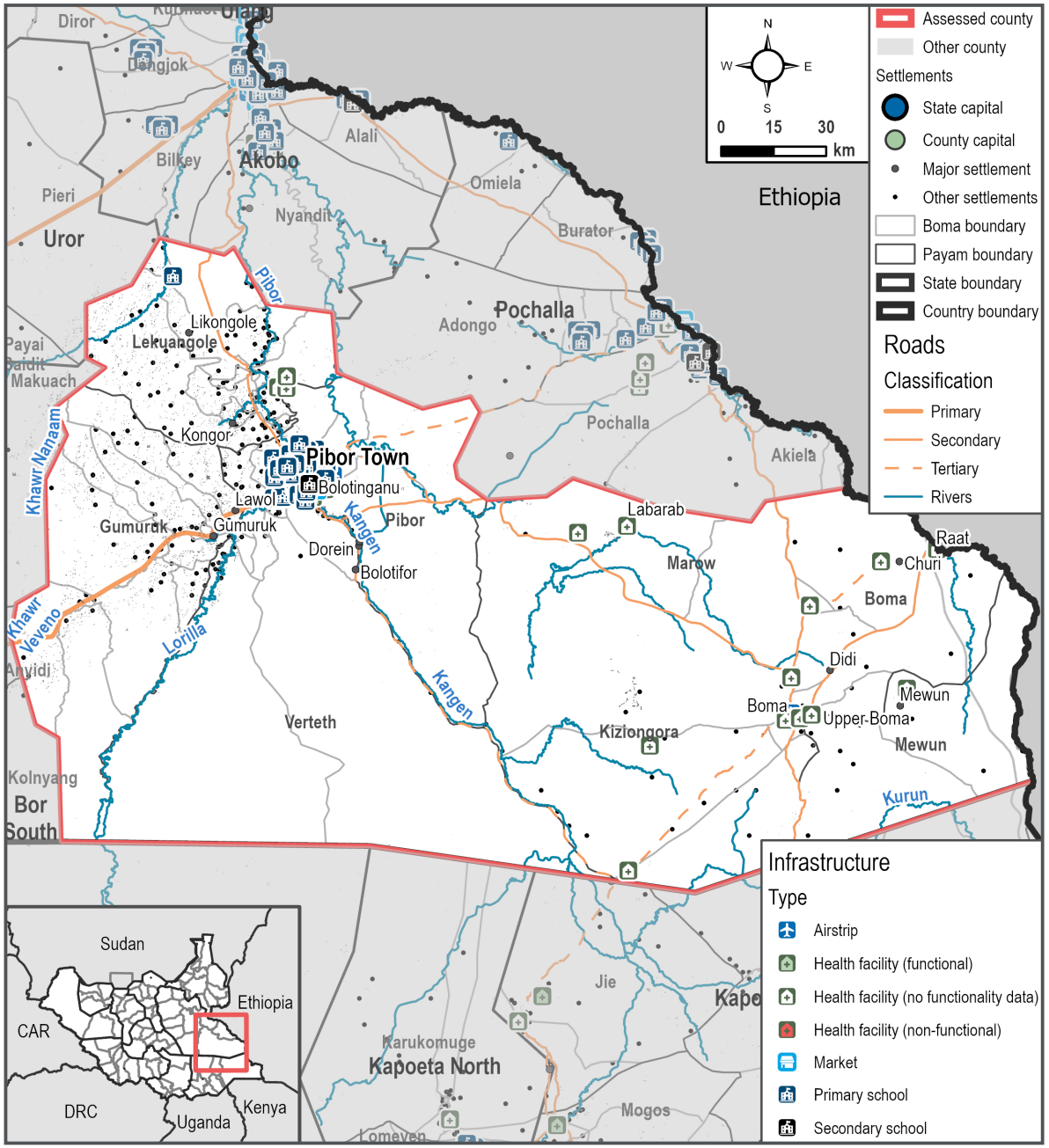
Payam	IDPs	Returnees	Relocated	Total
Boma	5,720	4,275	135	10,130
Gumruk	3,932	14,434	281	18,647
Kizingora	1,790	820	65	2,675
Lekuangole	9,685	1,422	350	11,457
Maruwo	3,726	2,736	90	6,552
Miwono	2,640	755	-	3,395
Pibor	8,015	17,337	2,828	28,180
Verteth	3,274	1,673	-	4,947
County total	**38,782**	**43,452**	**3,749**	**85,983**

As Map 6.1 shows, **population is highest around Pibor town in Pibor payam, as well as in Gumuruk and Lekuangole payams. Within this area, population density is highest along the Pibor, Kangen and Lorilla rivers which have a confluence near Pibor town.** The central area of the county is very sparsely populated, whilst there are some small concentrations of higher population density in the eastern areas, such as around Boma and Labarab.[39]

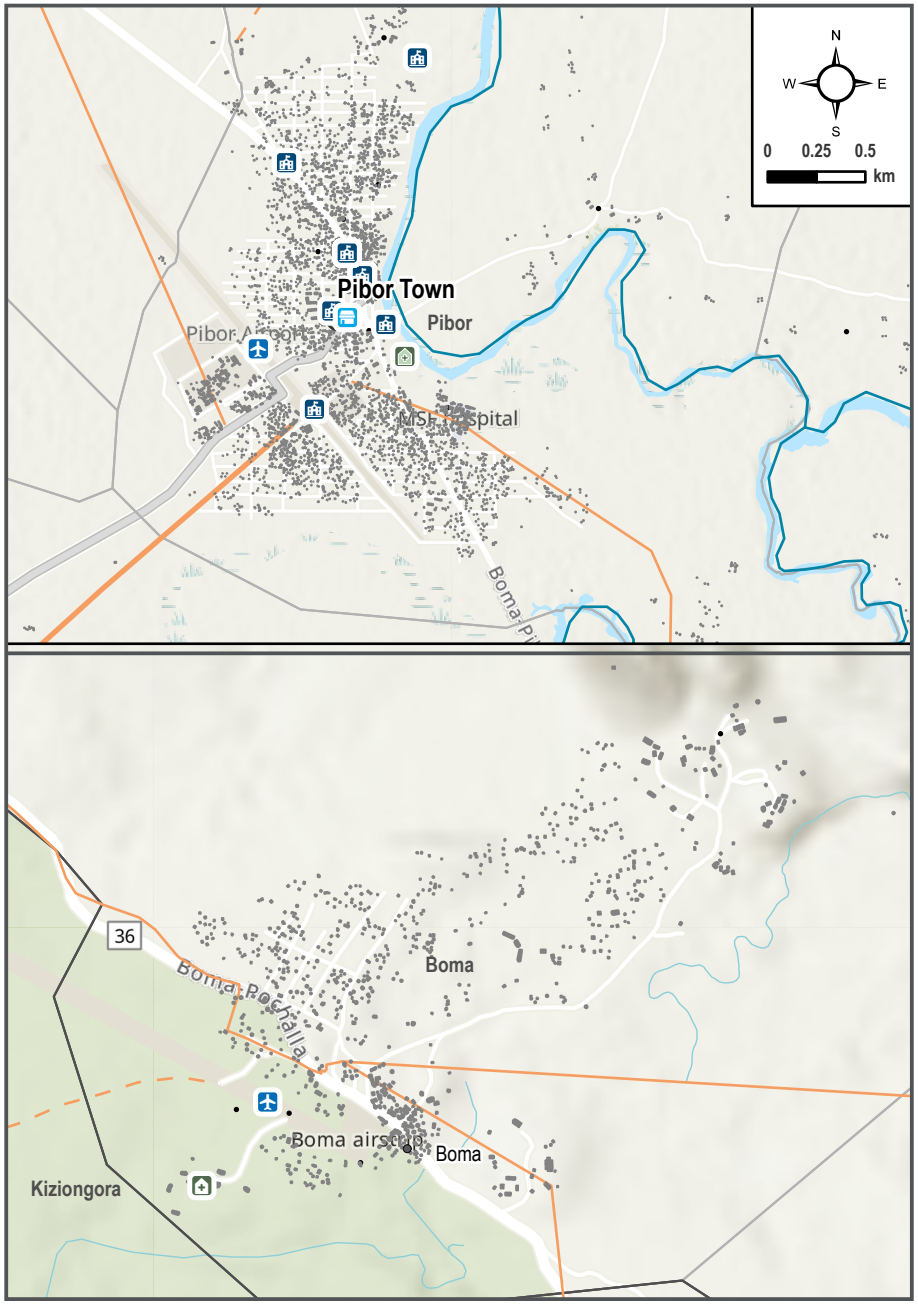
Map 6.2 shows significant population flows across Pibor County in recent years. **Insecurity across the Greater Pibor Administrative Area (GPAA) caused displacement in 2018, 2020 and 2021, mostly from rural settlements into Pibor Town.** In 2021, almost 9,000 people from Gumuruk and Lekuangole payams were displaced by insecurity to Pibor Town,[40] whilst in 2018, cattle raiding forced the displacement of around 15,000 people in Likuangole payam.[41] Meanwhile, a combination of conflict and flooding shocks at the sub-national level **displaced an estimated 147,000 people in the GPAA, as well as in Bor South, Duk, Nyirol, Twic East, and Uror counties between February and July 2020.**[42]

Table 6.1 indicates the **estimated number of internally displaced persons (IDPs), returnees and relocated persons per payam in 2022,** according to a 2022 International Organisation for Migration (IOM) Displacement Tracking Matrix (DTM) Baseline Survey.[43]

Map 7.1. Key infrastructure in Pibor County (2021-22)[i,44,45,46,47]



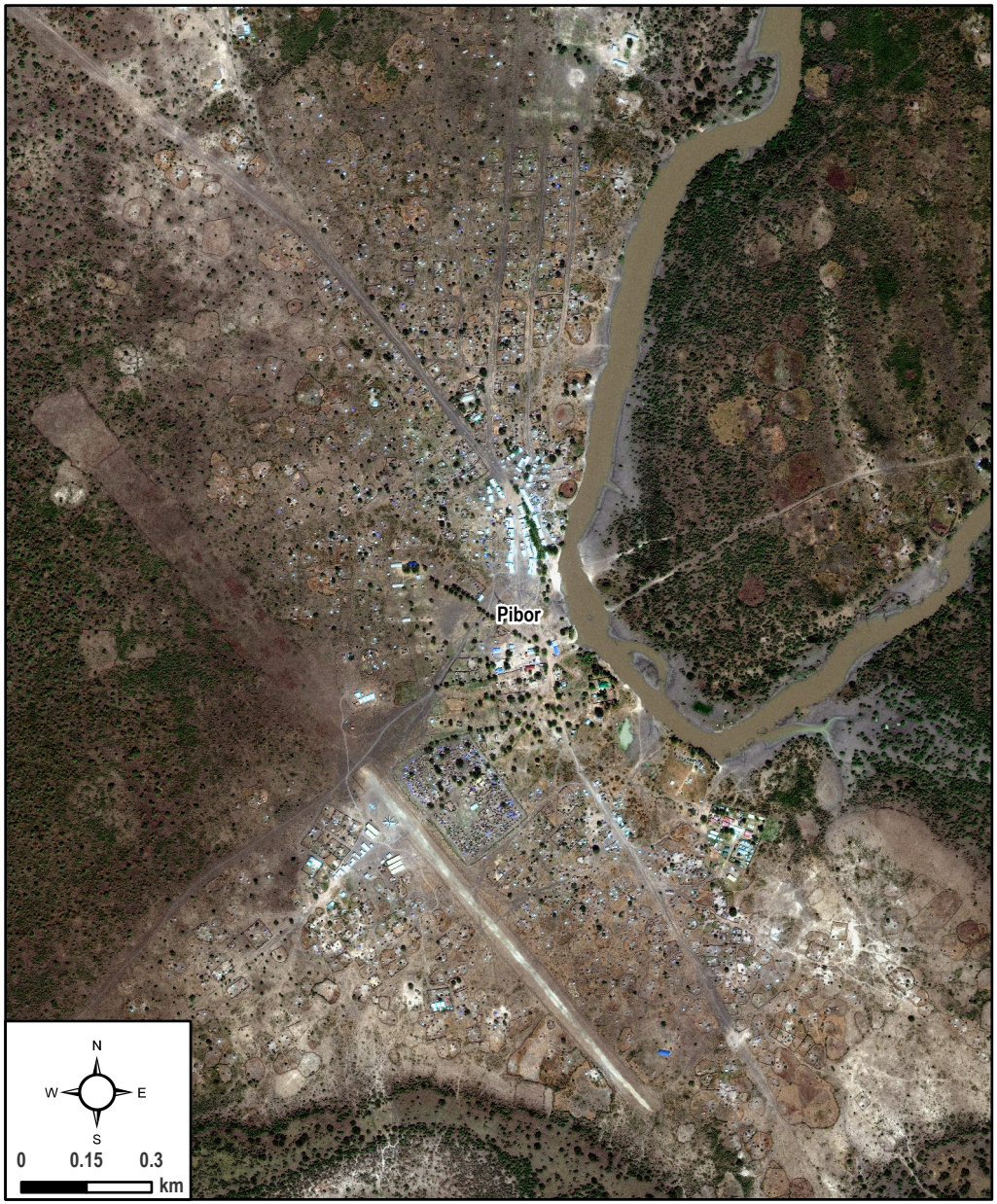
Map 7.2. Community infrastructure in Pibor Town and Boma (2021)



i information on month of data collection is not available for health and education facility infrastructure data; airstrip data from September 2022; market data from August 2022.

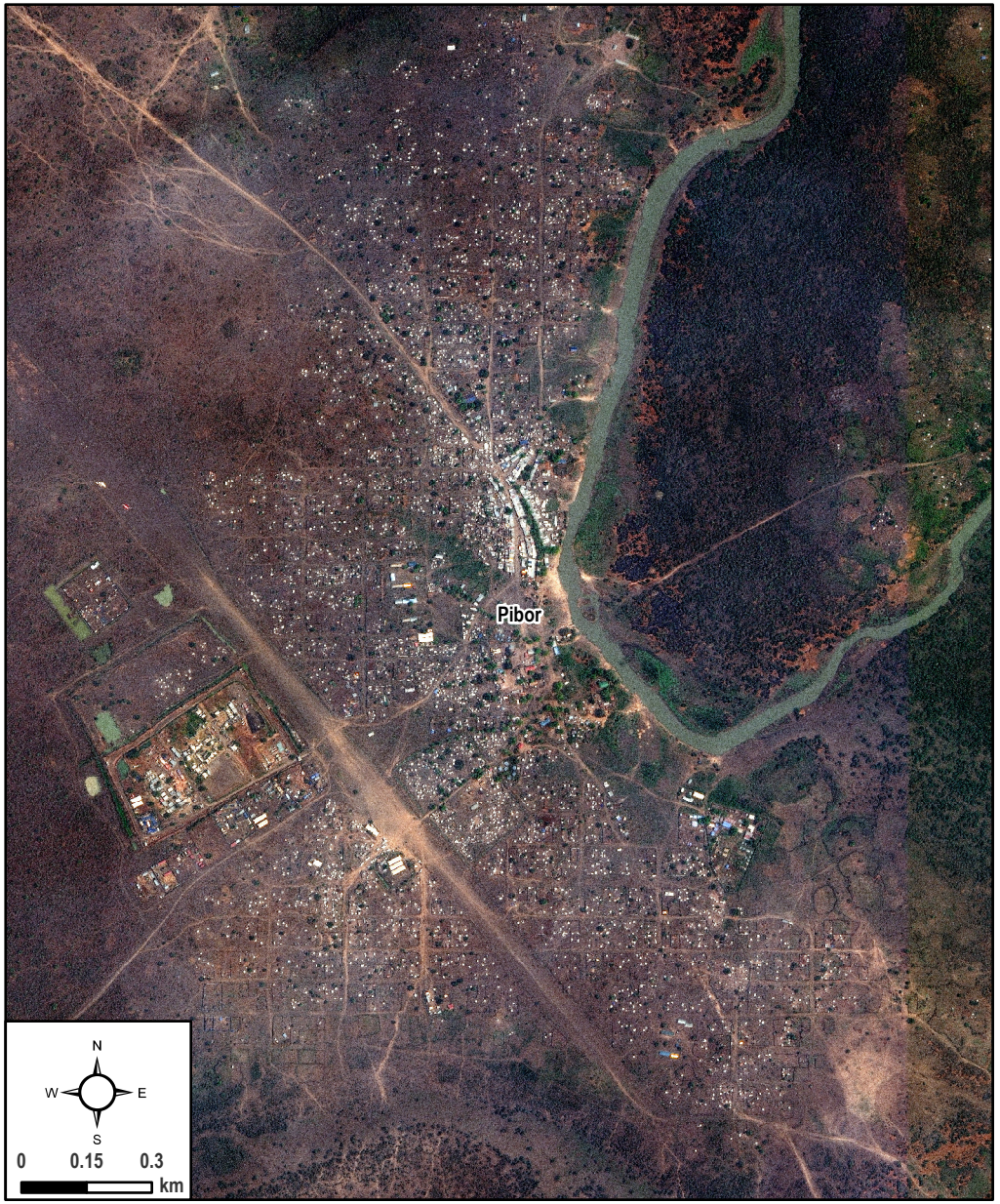
Figure 8.1. Satellite images showing change in built-up area in Pibor Town

Pibor Town, 2011 (26 December 2011, WorldView 2)



Satellite imagery: WorldView 2 from 26 December 2011. Copyright: ©2011 DigitalGlobe. Source: US Department of State, Humanitarian Information Unit, NextView License

Pibor Town, 2021 (16 February 2021, WorldView 3)



Satellite imagery: WorldView 3 from 16 February 2021. Copyright: ©2021 DigitalGlobe. Source: US Department of State, Humanitarian Information Unit, NextView License

GFDRR Global Facility for Disaster Reduction and Recovery

This county profile has been made possible by the generous support of the Global Facility for Disaster Risk Reduction and Recovery (GFDRR)

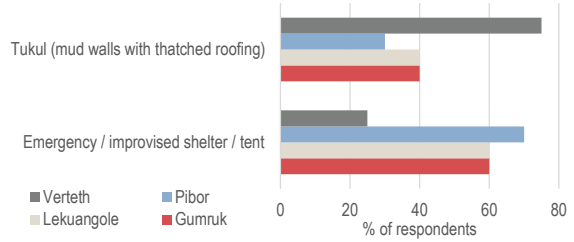
REACH Informing more effective humanitarian action

SETTLEMENT STRUCTURE

The **county headquarters are located in Pibor Town, in the northwest of the county.** Other major towns include Gumuruk, Likongole and Kongor, as well as Boma.

According to a 2022 IOM survey, the **most common shelter types in assessed payams were reportedly emergency/ improvised shelters/tents, followed by tukuls (Chart 9.1).**[48] Pibor Payam reportedly had the highest proportion of emergency shelters compared to other assessed payams.

Chart 9.1. Most common shelter types by payam[60]



TRANSPORT

A primary road runs from Pibor Town southwest to Juba via Bor, whilst secondary roads run from Pibor Town north to Akobo and east to Boma. From Boma, secondary routes run northeast into Ethiopia, north to Pochalla and south to Kapoeta East.

According to the Logistics Cluster, as of September 1st 2022, none of the main routes through Pibor County were passable[50] and accessibility by road is a challenge during the rainy season due to poor road conditions.[51]

Airstrips are located in Pibor Town and Boma. Whilst **Pibor airfield was severely damaged by flooding in 2019, it was restored to functionality in 2020.**[52]

INFRASTRUCTURE

Nineteen health facilities[i]**, including 4 public health care centres (PHCCs) and 14 public health care units (PHCUs), are spread across Pibor County, whilst the county hospital is located in Boma.**[53] It is estimated that **14 of these health centres were damaged by flooding in 2019.** The Médecins Sans Frontières (MSF) Compound in Pibor Town, one of the main health care providers in the area, became unusable in October 2019, resulting in significant impacts on community health.[54] Table 9.1 indicates key settlements located furthest from a potentially functional health centre (excludes facilities marked as non-functional, but includes those with no functionality data).

i Data from 2021. Information on date of data collection not available

According to a recent IOM village assessment survey,[55] **the population in Kongor and Nuer settlements reportedly had to walk between 2-3 hours to reach the nearest health centre**, whilst those in Wunngony (Lekuangole payam) would need to walk more than 6 hours. **In the 6 settlements assessed that stated a health centre was available, 4 reportedly did not use them due to long distances, lack of drugs or insecurity.**[56] This is likely to be indicative of health care access across other parts of the county.

According to IOM in 2021, **there were 31 primary schools throughout the county, and 1 secondary school in Pibor Town.**[57] Findings from the IOM Village Assessment Survey,[58] indicated that **41% of assessed settlements did not have any education facility, whilst access barriers persisted due to long distances and insecurity.**

Similarly, the assessment found that **drinking water was most commonly accessed using rivers,** with boreholes only reported as the main water access point used by most of the population in Pibor Town and Kavachoch in Pibor payam.[59] Of assessed settlements, **respondents in 38% reported that water availability was insufficient,** whilst many reported **access issues including long distances required to reach water sources, as well as poor water quality.**

Table 9.1. Key settlements located the furthest from a potentially functioning health centre in Pibor County[49]

Settlement	Distance (km)
Bolotifor	31.7
Gumuruk	30.6
Likongole*	30.2
Dorein	26.6

*No functionality data was available at time of assessment

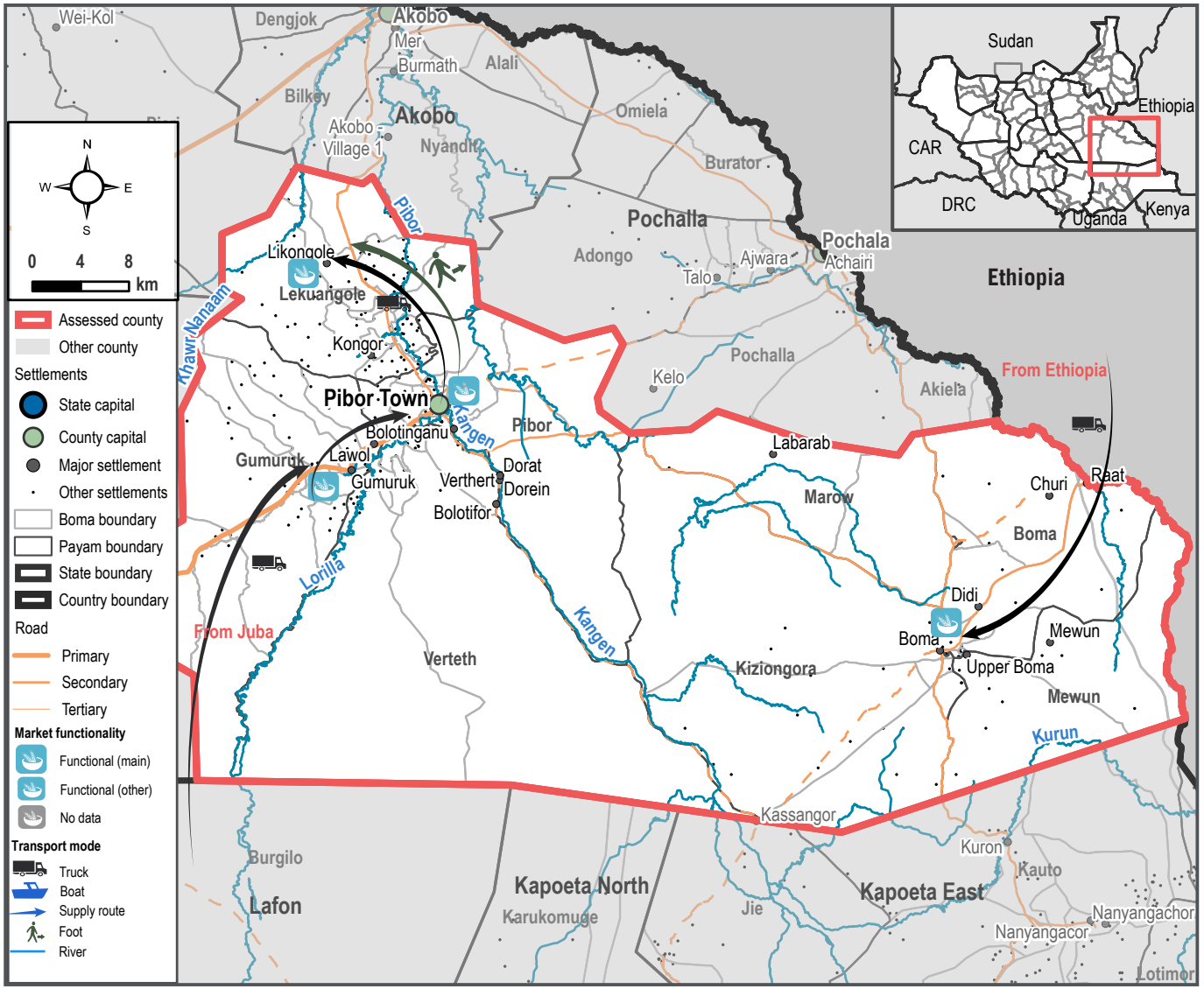
SETTLEMENT CHANGE

Figure 9.1 shows large-scale zooms of the same area of central Pibor Town from the images on page 9. **Urban expansion can clearly be seen, with a significant increase in the density of temporary shelters in the town.** There also appears to be an increase in permanent shelters in some areas, whilst the airstrip has also been expanded.

Figure 9.1. Central Pibor Town in 2011 and 2020 (largescale zooms from images on page 9)

10. MARKETS, TRANSPORT AND ACCESSIBILITY

Map 10.1 Markets in Pibor County, indicating primary supply routes



Market name	Primary supply route
Pibor Town	Uganda > Juba > Pibor Town (by road) / by air from Juba
Boma	Ethiopia > Boma (by road)
Gumuruk	Uganda > Juba > Gumuruk (by road)
Likongole	Uganda > Juba > Pibor Town (by road) > Likongole (by road / on foot)

Rice price (June 2022)
48% above South Sudan median

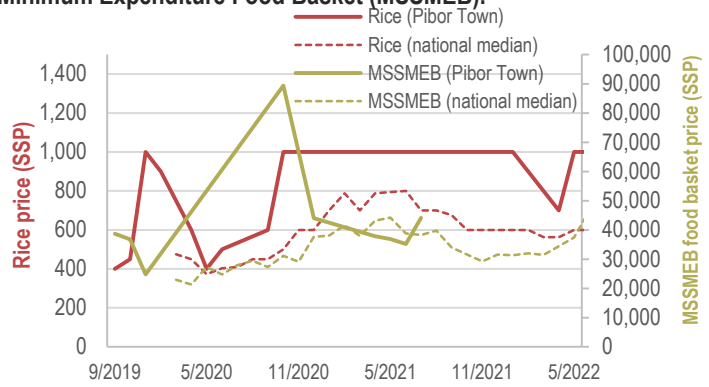
< Table 10.1. Market supply routes, Pibor (Feb 2021)[68]

The primary market in the county is located in Pibor Town. This market is generally supplied by road from Juba. However, **some roads can become impassable in the rainy season, meaning that goods often have to be flown in.** During exceptional flooding, such as in 2019, Pibor Airstrip was dysfunctional and goods were flown into Gumuruk, then taken to Pibor Town via canoe.[61] A REACH market assessment in **October 2019 found that flooding was disrupting market access, whilst also causing physical damage to stalls.**[62]

Reports from a recent REACH assessment indicated that, until 2019, **some goods were supplied to Pibor Town by road from Ethiopia via Akobo. However, this had reportedly been stopped due to insecurity.**[63] There were additional markets located in Likongole, Kongor, Bolotinganu, Gumuruk which were supplied from the main market in Pibor by road and on foot. **There was also a market located in Boma, generally supplied by road from Ethiopia.**[64] Data on current market functionality in the county is unfortunately limited.

According to the REACH Joint Market Monitoring Initiative (JMMI) in June 2022[65], **Pibor Market was running with reduced functionality,** meaning many items were unavailable. **Findings indicate that prices are generally higher than the national median and susceptible to shocks.** Graph 10.1 shows prices of rice and the Multi-Sector Survival Minimum Expenditure (MSSMEB) Food Basket in the county (for when data is available), plus national median prices. Findings suggest that, in 2019, there was a **large increase in the MSSMEB price in Pibor Town, likely due to flooding** which led to access constraints in supplying goods to markets, as well as negative impacts on harvests.[66]

Graph 10.1. Market price trends for rice[i] and Multi-Sector Survival Minimum Expenditure Food Basket (MSSMEB).[67]



i Rice selected as JMMI data was limited for sorghum in Pibor

GFDRR Global Facility for Disaster Reduction and Recovery
This county profile has been made possible by the generous support of the Global Facility for Disaster Risk Reduction and Recovery (GFDRR)

ENDNOTES

1 IOM. County Population data. 2022.

2 Conflict Sensitivity Resource Facility (CSRF). Pibor county profile

3 ibid.

4 REACH. South Sudan WASH Severity Classification. April 2021.

5 WFP. Hunger deepening in South Sudan as floods follow drought and unresolved conflict. December 2019.

6 Google Earth Engine. NASA SRTM Digital Elevation Model. 2000.

7 Famine Early Warning Systems Network (FEWSNET). Livelihood Zone Map and Descriptions for the Republic of South Sudan. Issued August 2018.

8 ibid.

9 Google Earth Engine. CHIRPS Daily Rainfall Data. 1981-2022.

10 Google Earth Engine. ERA5-Land Monthly Average Dataset. February 2022. Google Earth Engine. ESA WorldCover v100. 2020.

11 Google Earth Engine. ESA WorldCover v100. 2020.

12 Digitize Africa. Building footprints. 2017.

13 REACH. Greater Kapoeta Climate Impact & Displacement Profile, Eastern Equatoria State, South Sudan (March 2022).

14 Conflict Sensitivity Resource Facility (CSRF). Pibor county profile

15 REACH. South Sudan Shocks Monitoring Index (SMI). 2017-22.

16 Google Earth Engine. CHIRPS Daily Rainfall Data. 1981-2022.

17 WFP. Hunger deepening in South Sudan as floods follow drought and unresolved conflict. December 2019.

18 ibid.

19 Google Earth Engine. ERA5-Land Monthly Average Dataset. February 2022.

20 Google Earth Engine. CHIRPS Daily Rainfall Data. 1981-2022.

21 ibid.

22 WorldClim. Bioclimatic variables.

23 Famine Early Warning Systems Network (FEWSNET). Livelihood Zone Map and Descriptions for the Republic of South Sudan. Issued August 2018.

24 ibid.

25 ibid.

26 REACH Seasonal cattle grazing areas and migration map. 2020.

27 Integrated Food Security Phase Classification (IPC). South Sudan Acute Food Insecurity and Acute Malnutrition Analysis. Feb - July 2022.

28 ibid.

29 REACH. South Sudan WASH Severity Classification. April 2021.

30 Famine Early Warning Systems Network (FEWSNET). Livelihood Zone Map and Descriptions for the Republic of South Sudan. Issued August 2018.

31 REACH Seasonal cattle grazing areas and migration map. 2020.

32 FAO/WFP. 2021 Crop and Food Security Assessment Mission (CFSAM) to the Republic of South Sudan. June 2022.

33 Famine Early Warning Systems Network (FEWSNET). Livelihood Zone Map and Descriptions for the Republic of South Sudan. Issued August 2018.

34 Integrated Food Security Phase Classification (IPC). South Sudan Acute Food Insecurity and Acute Malnutrition Analysis. Feb - July 2022.

35 REACH. South Sudan WASH Severity Classification. April 2021.

36 ibid.

37 IOM - DTM Baseline Survey 2022.

38 Google Earth Engine. WorldPop Global Project Population Data. 2021.

39 ibid.

40 WFP. WFP Condemns Looting of Food Assistance in Greater Jonglei. May 2021.

41 OCHA. South Sudan: Humanitarian Snapshot (April 2018).

42 OCHA. Jonglei and Greater Pibor Administrative Area, Humanitarian Update (as of 8 December 2020).OCHA.

43 IOM - DTM Baseline Survey 2022.

44 IOM. Education facilities. 2021.

45 WHO. Health facilities. 2021.

46 REACH. Joint Market Monitoring Initiative (JMMI). August 2022.

47 Humanitarian Data Exchange (HDX). Airports in South Sudan. 2022.

48 DTM. South Sudan - Village Assessment Survey - Akobo and Pibor Settlements (March - April 2021).

49 WHO. Health facilities. 2021.

50 Logistics Cluster. South Sudan - Access Constraints Map. 1 September 2022.

51 REACH. Pibor County Flood Assessment Brief. December 2019.

52 Conflict Sensitivity Resource Facility (CSRF). Pibor county profile

53 WHO. Health facilities. 2021.

54 Conflict Sensitivity Resource Facility (CSRF). Pibor county profile

55 DTM. South Sudan - Village Assessment Survey - Akobo and Pibor Settlements (March - April 2021).

56 ibid.

57 IOM. Education facilities. 2021.

58 DTM. South Sudan - Village Assessment Survey - Akobo and Pibor Settlements (March - April 2021).

59 ibid.

60 DTM. South Sudan - Village Assessment Survey - Akobo and Pibor Settlements (March - April 2021).

61 REACH. Pibor Rapid Markets Assessment: Markets in Crisis. February 2021.

62 REACH. Pibor County Flood Assessment Brief. December 2019.

63 REACH. Pibor Rapid Markets Assessment: Markets in Crisis. February 2021.

64 REACH. Joint Market Monitoring Initiative (JMMI). June 2022.

65 ibid.

66 REACH. Pibor Rapid Markets Assessment: Markets in Crisis. February 2021.

67 REACH. Joint Market Monitoring Initiative (JMMI). June 2022.

68 REACH. Pibor Rapid Markets Assessment: Markets in Crisis. February 2021.