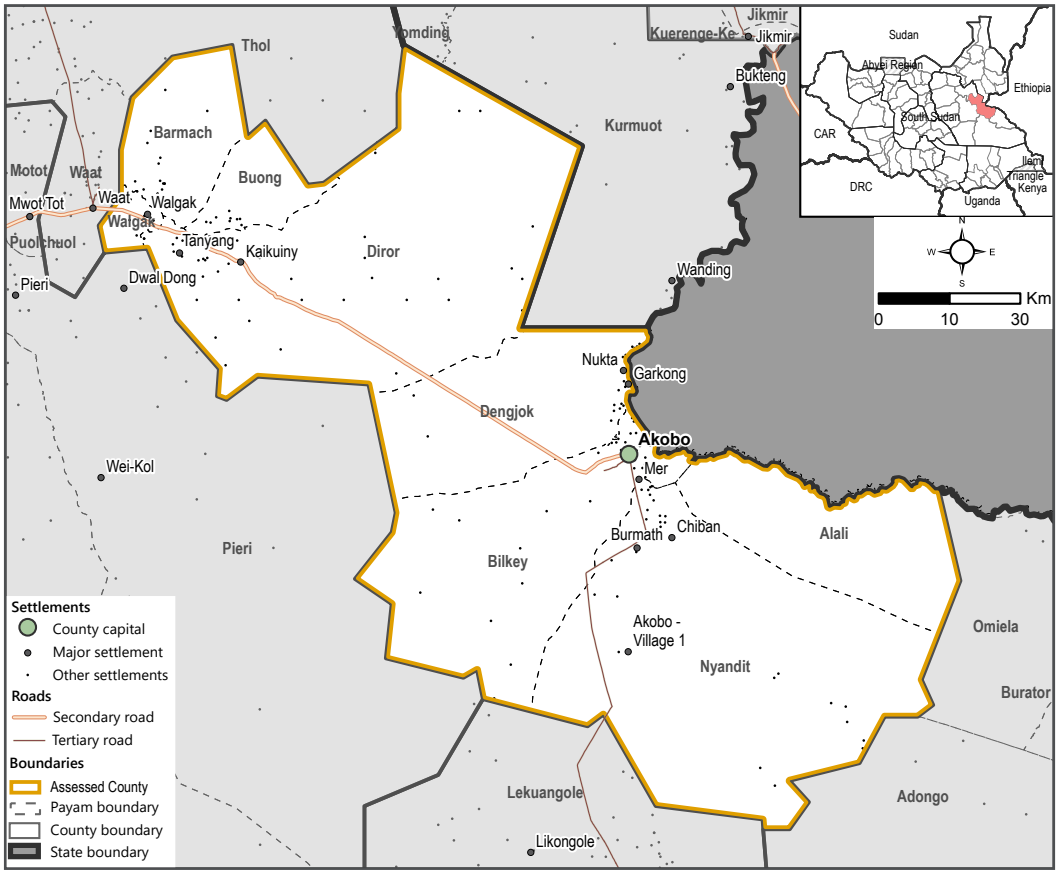
AKOBO COUNTY - JONGLEI STATE

Map 0.1. Location of Akobo County within South Sudan indicating boundaries, settlements and roads[1]



About REACH

REACH is a leading humanitarian initiative that collects primary data and produces in-depth analysis to help aid actors make evidence-based decisions in support of crisis-affected people. With this in mind, our flagship research programmes aim to inform the prioritisation of aid according to levels of need - both crisis-level planning and targeted rapid response - as well as decisions around appropriate modalities of aid. Through our team of assessment, data, geospatial, and thematic specialists, we promote the design of people-centred research and set standards for collecting and analysing rigorous, high quality data in complex environments. Visit www.reach-initiative.org and follow us @REACH_info.

AKOBO - KEY FACTS

- **2023 National Bureau of Statistics (NBS) and United Nations Population Fund (UNFPA) population estimate: 90,839** (based on the 2008 census and the 2021 Population Estimation Survey)[2]
- **2024 United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA) population estimate: 238,042** (based on the 2008 census, annual growth and attrition rates and displacement adjusted estimates)[3]
- **Area: 9,024** square kilometers[4i]
- **Population density: 26** persons per square kilometer
- **County capital: Akobo Town**
- **Payams: Alali, Barmach, Bilkey, Buong, Dengjok, Diror, Nandi, Walgak**[5]

Situated in the north-eastern part of Jonglei State, Akobo County shares borders with Ulang and Nyirol Counties to the north, with Uror County to the west, with Pibor and Pochalla Counties to the south, and with Ethiopia to the east. **Proximity to Ethiopia has historically shaped human geography and economic dynamics in Akobo County**. Communities living on both sides of the border have long cultivated ties, facilitated by well-established cross-border trade, as well as dry season or distress migration coping strategies and opportunity-seeking mobility.[6] Pastoral communities on both sides of the border have long migrated towards the floodplains around the major transboundary rivers in search of grazing land during the dry season.[7] While cross-border movements have largely been nurtured by family ties, access to services and business opportunities, forced displacement on both sides of the border has represented a key strategy to deal with cyclical waves of violence and food insecurity.[8,9]

Akobo County has seen intermittent conflicts since the 1960s. Longstanding disputes over land access, and ownership and competition over water resources have historically fuelled localised cycles of violence exacerbated by cattle raids and abductions.[10] Localised violence in Akobo frequently overlapped with nationwide crises, namely the second Sudanese civil war (1983-2005) and the South Sudanese crisis (2013-2018), with local rivalries often following patterns of alliances at the national level.[11] Violence reduced between 1994 and 2012, partly thanks to the signing of peace agreements – including land-sharing agreements – at the national and local level.[12] However, the number of violent events in Akobo County substantially increased in 2021 – in the framework of heightened violence in Jonglei State – and continued to account for a remarkable proportion of all violent events occurred in Jonglei State in the following years. In 2020, 3% of all violent events in Jonglei State (146) occurred in Akobo. This proportion increased to 19% (55 out of 287) in 2022, continuing with a rate of 14% in 2022 (50 out of 367) and 2023 (52 out of 364) and 17% (51 out of 298) in 2024.[13] **Akobo has also been affected by natural hazards largely fuelled by erratic rainfall**. Severe flooding events caused by heavy rainfall and river overflows have hit the County particularly since 2019. **As of December 2024, 97,730 individuals were affected by floods in Akobo**.[14] Concurrently, rising temperatures and lower-than-usual precipitation have increased the County's exposure to drought conditions. As a result of the disruptive effects of conflict and natural hazards on livelihoods – coupled with rising inflows of returnees from Sudan and Ethiopia (18,790 as of September 2024, an increase of +30% since 2023)[15,16] – **the County faces a dire food security situation (IPC Phase 3 - Crisis in late 2024)**,[17] with pockets of population having faced catastrophic food security conditions (IPC Phase 4) in 2020 and 2022.[18,19] According to the inter-sectoral needs analysis conducted for the 2025 Humanitarian Needs and Response Plan (HNRP), **Akobo County was classified among the Counties showing severity of needs at level 4 – Extreme**.[20]

[i] Calculations using population figures in this County profile use the 2024 OCHA estimates.

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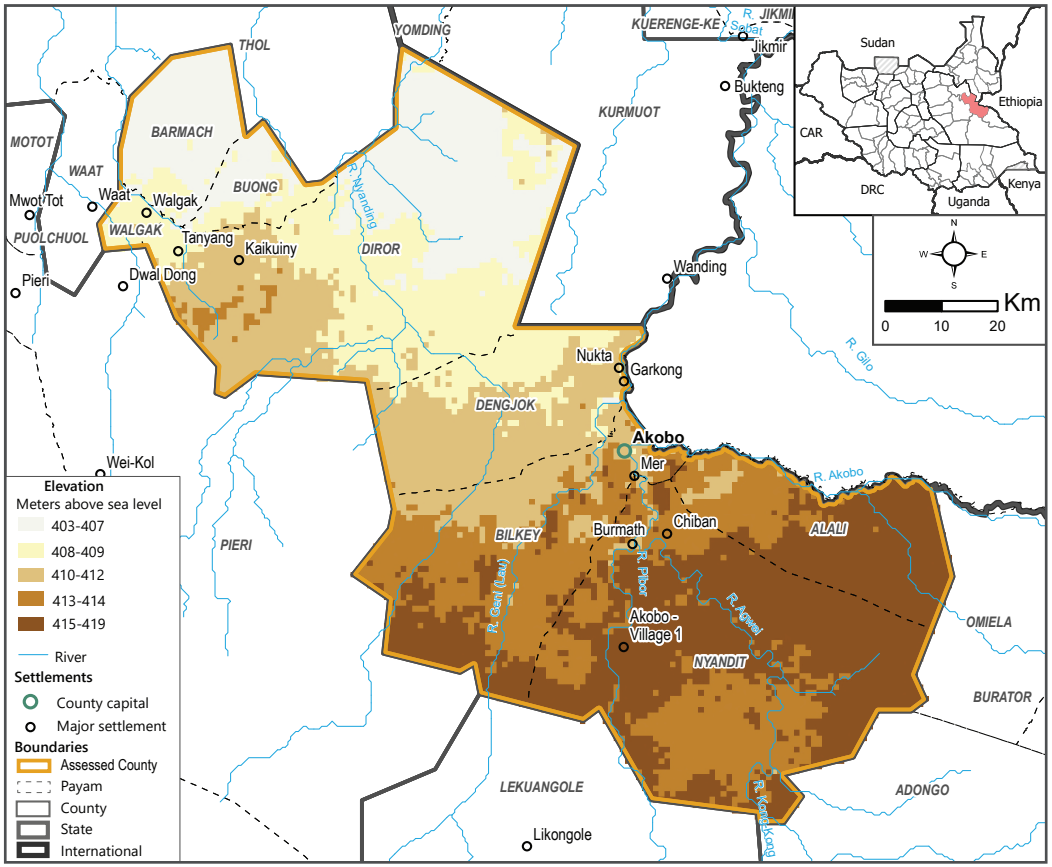
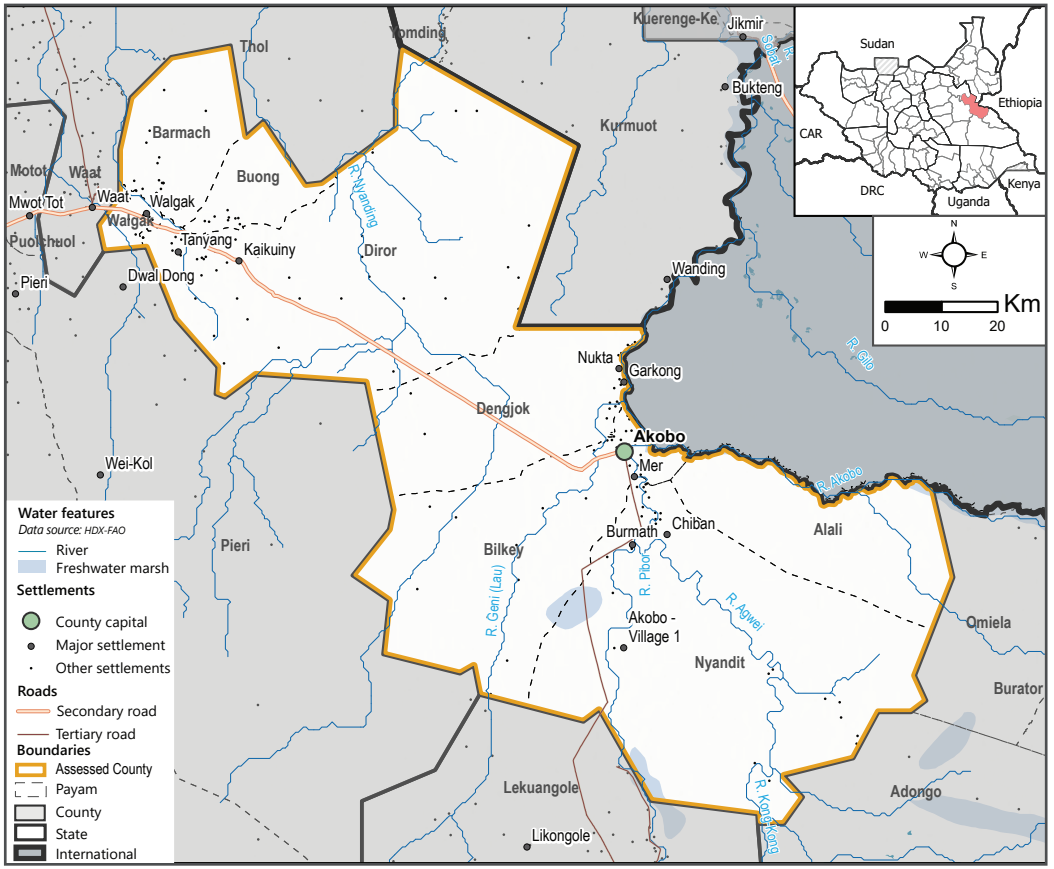
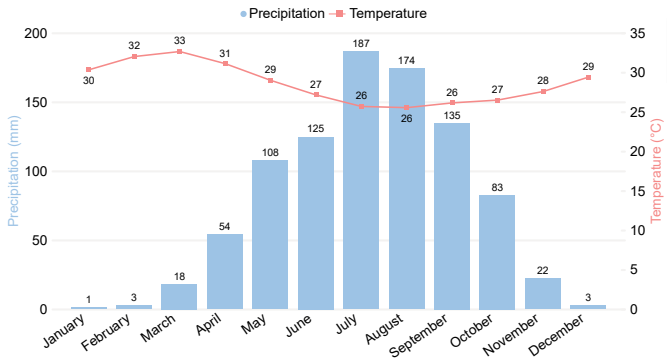
Map 1.1. Elevation in Akobo County[21]



Map 1.2. Hydrological features including rivers, marshes and lakes in Akobo[24,25]



Graph 1.1. Average monthly precipitation and temperature, Akobo County (1981-2024)[22,23]



Highest point
419 m
Average elevation
411 m
Elevation range
16 m

Annual precipitation
913 mm/yr
Average temperature
29°C

Wettest month
July
Driest month
January

As depicted in Map 1.1, **Akobo features a predominantly flat topography, with an average elevation of 411 meters above sea level.** Elevation is subject to moderate variation amounting to 16 m. The zones with the highest elevation are mainly in the southern strip of the County. Elevation progressively diminishes moving northward from Bilkey payam. **The County's territory is crossed by multiple rivers, including the Pibor River** – flowing through Akobo Town from the Pibor County – **and the Akobo River**. Both rivers intersect on the border with Ethiopia, after which the Pibor river runs through the Ulang County and then empties into the Sobat River on Luakpiny/Nasir County's territory within Upper Nile State. In years with adequate levels of precipitation, the major waterways represent key resources for agro-pastoral activities, whilst insufficient annual rainfall jeopardizes the availability of pasturelands.[26] **Rainfall data from 1981 to 2024** (Graph 1.1) **show that the County has an annual average rainfall of approx. 913 mm**. Consistent with a unimodal rainfall pattern, the County's average precipitation levels usually register their peak during the month of July. For the larger livelihood zone (SSD06) in which most of the County's territory falls (Section 5), the rainy season spans between May and mid-November.[27] However, as shown in Graph 1.1, April's precipitation levels exceed those normally registered in November. The dry season lasts from December to April,[28] and January typically represents the driest month. Average annual temperature normally amounts to approx. 29°C, with March usually recording the highest temperature (33°C), while the rainy period between July and September normally has the lowest average temperature (26°C).

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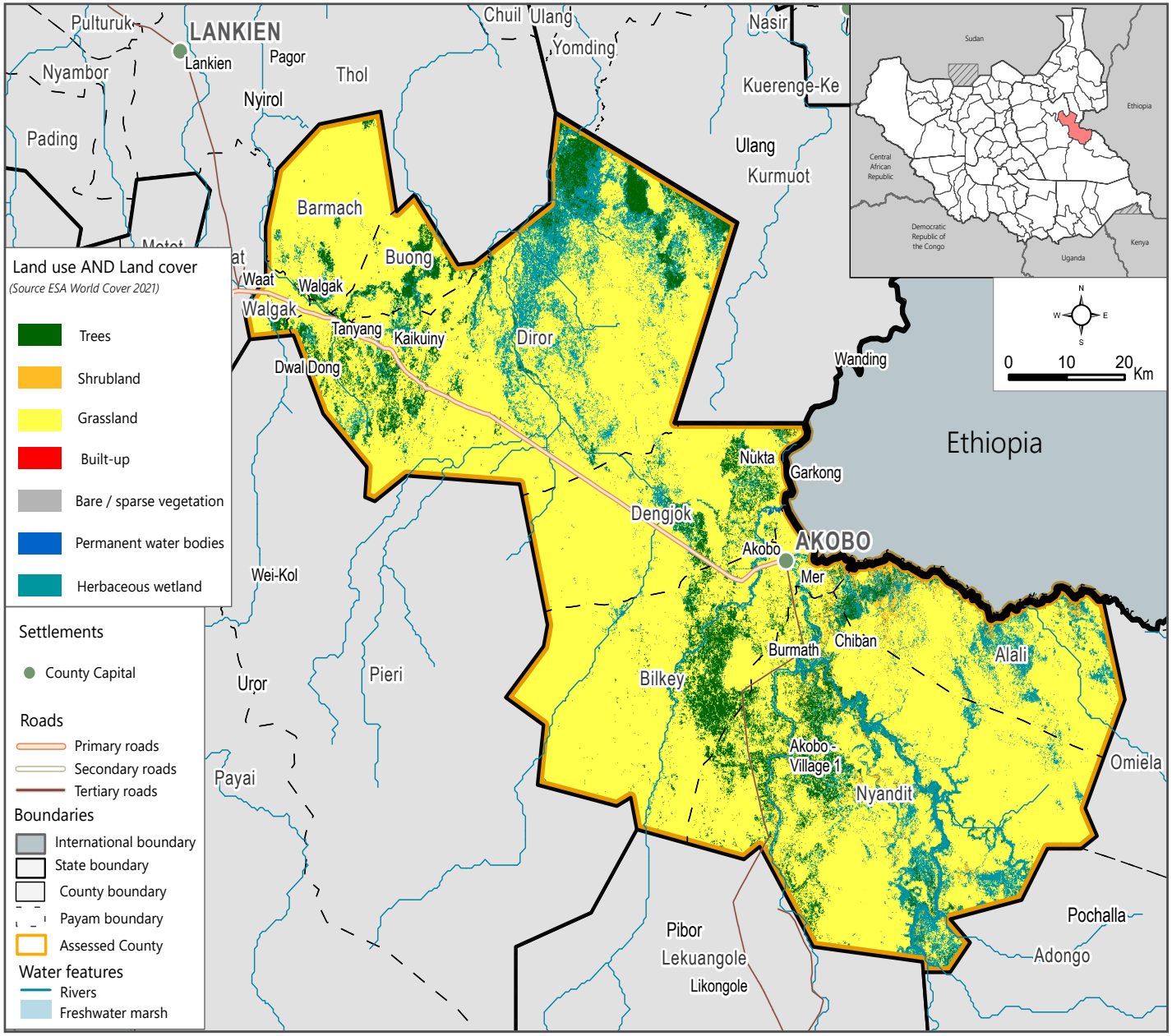
Map 2.1. Land use and land cover in Akobo County[29]

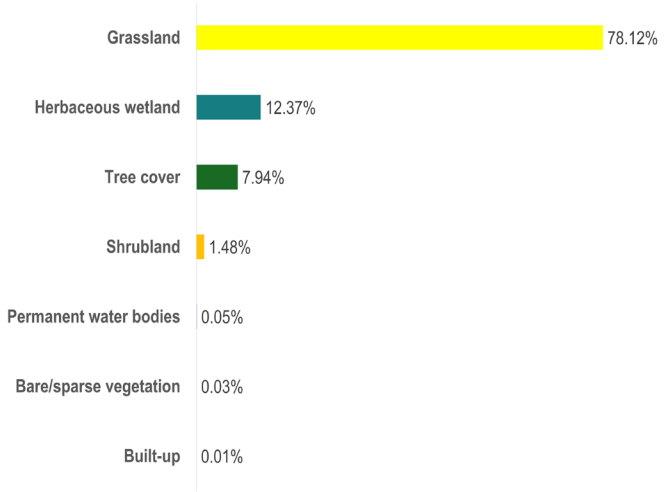


As spatially shown in Map 2.1 and numerically detailed in Graph 2.1, **Akobo's land cover predominantly consists of extensive, sparsely inhabited grassland**, which accounts for 78.1% of its total land cover, encompassing all the payams in the County.

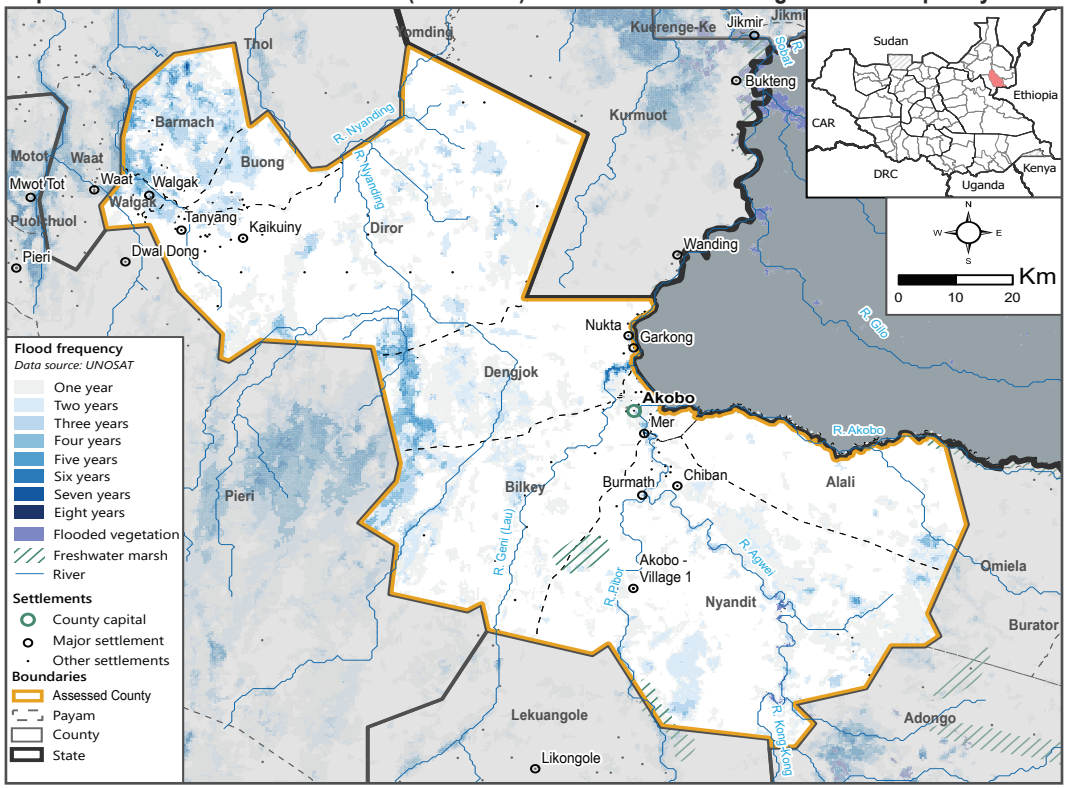
Amidst the prevalence of grassland, **considerable pockets of herbaceous wetlands (12.37%) and open woody vegetation consisting of trees (7.94%) are also present** and mostly distributed around the County's rivers in its northern and eastern parts. Some of these areas provide vital opportunities for livelihood activities including agriculture, livestock rearing and fishing. These areas also represent key flooding hotspots (see Sections 3 and 5).

Minority land cover features in Akobo County include permanent water bodies (less than 1%) and less than 2% is comprised of shrublands, bare vegetation and built-up areas.

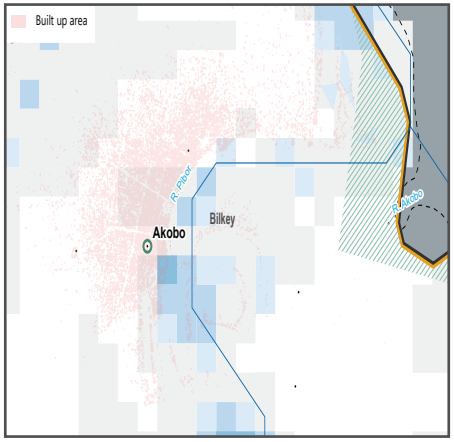
Graph 2.1. Main land cover features as proportions of Akobo County area[30]



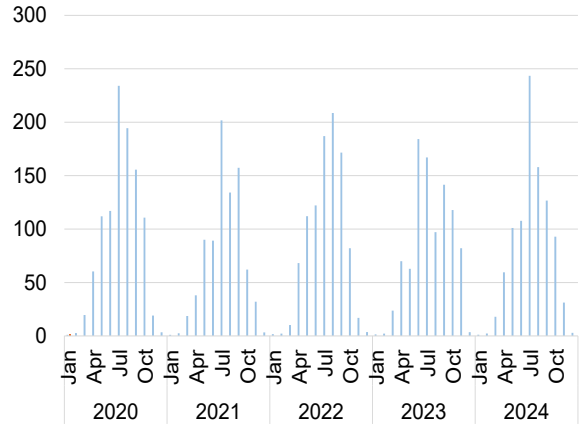
Map 3.1. Est. max. annual flood extent (2017-2024) and settlements with higher flood frequency[i]



Map 3.2. A zoom-in on Akobo Town, highlighting the built-up area[i]



Graph 3.1. Rainfall from 2020 to 2024[31]



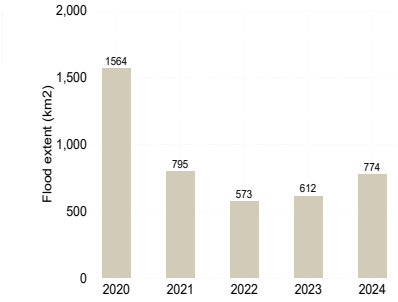
i Estimated flood extent calculated based on analysis of UNOSAT, NOAA-20/VIIRS. Data is indicative only and has not been validated in the field.

Akobo County is annually affected by floods triggered by the combination of heavy rainfall, river overflows, and a prevailing flat topography. As depicted in Map 3.1, Barmach and Buong payams – among the County's areas with the highest population density (Map 6.1) – as well as parts of Diror, Dengjok and Bilkey payams have shown a high frequency of flooding over the last eight years. Lower elevation could be among the contributing factors to the high flood susceptibility of these areas (Map 1.1). The eastern flank of the County crossed by the Geni Lau, Pibor and Akobo rivers and stretching along the border with Ethiopia represents another key flood-prone zone. Within this area, **considerable pockets of buildings situated along the Pibor River in eastern Akobo Town are exposed to flooding** (Map 3.2).

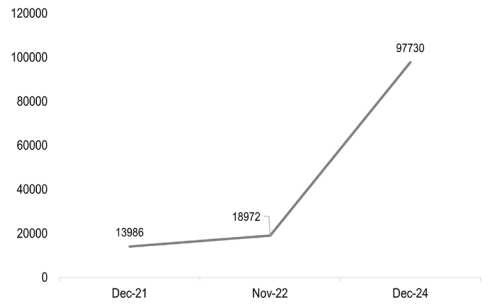
Data on rainfall annual distribution from 2020 to 2024 (Graph 3.1) **reveal a decrease in annual precipitation from 2020** (1030 mm) **to 2021** (830 mm), **followed by a consistent pattern of annual rainfall** between 2022 (986 mm) and 2024 (945 mm), **albeit marked by erratic monthly rainfall** (Section 4). Floods had already severely hit the low-lying areas around Akobo Town in 2019, when annual rainfall reached 1150 mm. The 2019 floods **damaged shelters, basic infrastructures and crops**, putting especially heavy pressure on households returned in the wake of the 2018 peace deal.[33] Flooding in 2019 also prompted **population outflows towards Gambella (Ethiopia)** and **disrupted households' access to wild foods**, a supplementary source of food and income for households.[34] In 2020, floods affected multiple settlements along the Pibor and the Akobo rivers, resulting in the **destruction of the shelters of approx. 5,000 people in Alali payam**.[35] As per the February 2021 IRNA, the 2020 floods - coupled with the effects of previous flooding and dry spells - caused **significant displacement and crop losses in Alali payam**, and **increased population's reliance on wild animals and fishing to meet their food needs**.[36] The 2020 extreme rainfall was reflected in the considerably high extent of flooding documented in that year compared to subsequent years (Graph 3.2).

The decrease in precipitation from 2021 onwards was not echoed by a reduction of the negative effects of flood events. Exceptional flooding also occurred throughout the 2021 rainy season and its immediate aftermath. Similarly to previous flooding events, the 2021 floods **severely affected crop and livestock activities**, but also **impaired access to safe drinking water and major health facilities**, as the floods submerged several water sources and compromised the accessibility of key road infrastructures. Bilkey, Nyandit, Dengjok, Gakdong areas were among the zones hit by the 2021 floods in Akobo.[37] The same zones were also highly impacted by floods in 2022.[38] **In late 2024, floods in Alali payam overlapped with preexisting food shortages** induced by insecurity to further exacerbate the conditions of incoming returnees from Ethiopia.[39] In the same period, floods **left between 2,000 and 3,000 people with no other option than evacuating their homes in Walgak payam**.[40] Overall, **data on the population affected by floods in Akobo County suggest a worsening impact of flooding events**. As of November 2021, 6,786 individuals had been affected by floods,[41] the same figure rising to about 14,000 people the following month. Afterwards, the number of individuals affected by floods in Akobo rose from 13,986 persons as of December 2021 to 97,730 persons as of December 2024 (Graph 3.3).

Graph 3.2. Maximum Flood extent (2020-2024)[i]



Graph 3.3. Number of flood-affected persons by year (2021-2024)[32]



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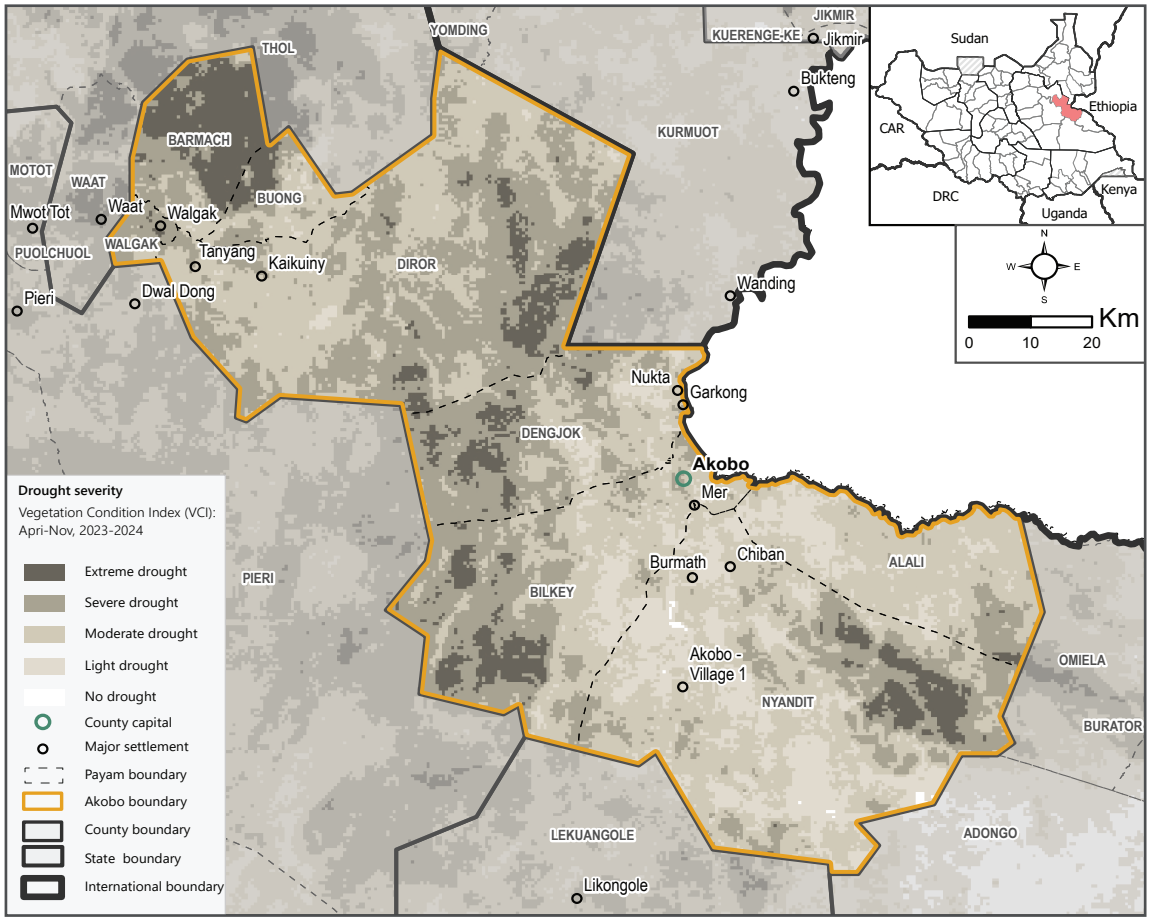
4. HYDROMETEOROLOGICAL HAZARDS - DROUGHT AND DRY SPELLS

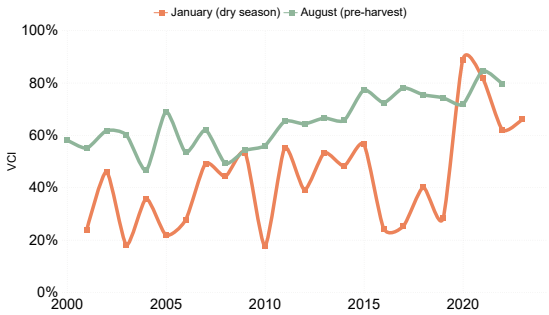
Map 4.1. Vegetation Condition Index (VCI), an indicator of drought severity, in Akobo (2023-2024)[i]



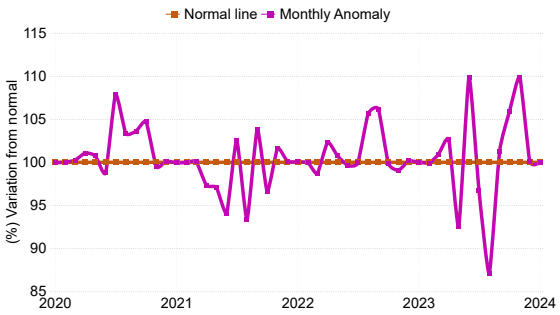
Akobo is exposed to droughts and dry spells, largely due to rainfall anomalies and increasing temperatures. As shown in Map 4.1, in 2023 and 2024 large areas of the County were subjected to light-to-moderate drought conditions between April and November of each year, when vegetation is supposed to be in good condition and favourable to the growing season. During the same periods, significant pockets in northwestern as well as in central and southeastern Akobo faced severe-to-extreme drought. Data on the effects of drought conditions remain limited. However, the WFP/FAO Crop Assessment for 2018 revealed the occurrence of prolonged dry spells at the onset and throughout the peak phase of the rainy season (mid-May to the end of July), when a large part of the cultivation work is usually done. This imposed the need for replanting and gap filling sorghum two to three times that year.[42] According to the February 2021 IRNA, consecutive climatic shocks including floods and droughts from 2015 to 2020 had severely affected Alali payam, prompting population displacement towards Ethiopia and the disruption of livelihood activities.[43]

The comparison between the pre-harvest phase (August) and the dry season peak (January) using the Vegetation Condition Index (VCI) from 2020 to 2023 reveals **an overall increasing pattern in vegetation health in the pre-harvest phase and a considerable record of poor vegetation health in the dry season peak**, with two major dips in 2003 and 2010 (Graph 4.1). However, a divergent pattern emerged in 2020 when vegetation conditions were better in January than in August. This could be the result of the persistence of the flood extent resulting from the exceptional flooding that hit the County in 2019. Indeed, by mid-December 2019, low-lying and riverine areas in Akobo were reportedly still submerged.[44] Graph 4.2 depicts **significant anomalies in rainfall over the last four years, with particularly sudden swings from below-average precipitation to above-average rain in 2021 and 2023**. In 2021, lower-than-expected rainfall fell between April and June and in August that year, meaning at the onset of the planting season and during the expected annual wettest period. A similar pattern occurred in 2023, with even more significant peaks and dips than in 2021. The erratic pattern of rainfall is also confirmed by the examination of data on precipitation on a longer timespan stretching from 1981 to 2024 (Graph 4.3). Over the same period, the average temperature increased from about 28°C in 1981 to approx. 30°C. More generally, the comparison between future climate projections with the 1981-2024 averages suggests that **by 2060 precipitation in the wettest month (July) will decrease by - 7.8%**, while **the average temperature in the warmest month (February) will surge by +8.1°C**.

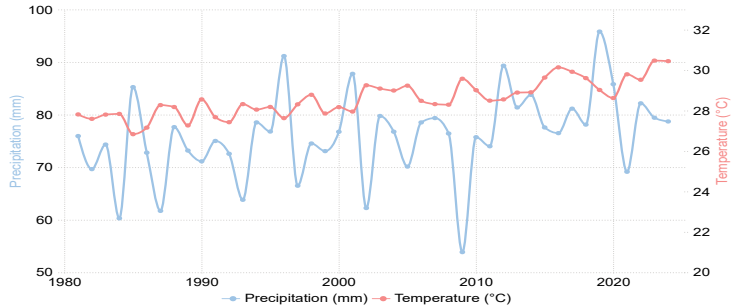
Graph 4.1. VCI (2000-2023) - drought index[i]



Graph 4.2. Percentage rainfall anomaly (2020-2024)[ii45]



Graph 4.3. Long-term climatic trends (1981-2024), Akobo County[46,47]



Projected climatic trends by 2060 based on SSP3-7.0 scenario,[iii] Akobo County

Projected change in precipitation in wettest month by 2060	Projected change in max temperature in warmest month by 2060
-14.5mm	+8.1°C

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

ii. 100% is defined as the average value for the same month between 1981 and 2024

iii. 2060 projected climatic trends from 1995 - 2014 baseline with high green house gas emissions scenorio based on Share Socio-economic Pathways (SSP) 3-7.0

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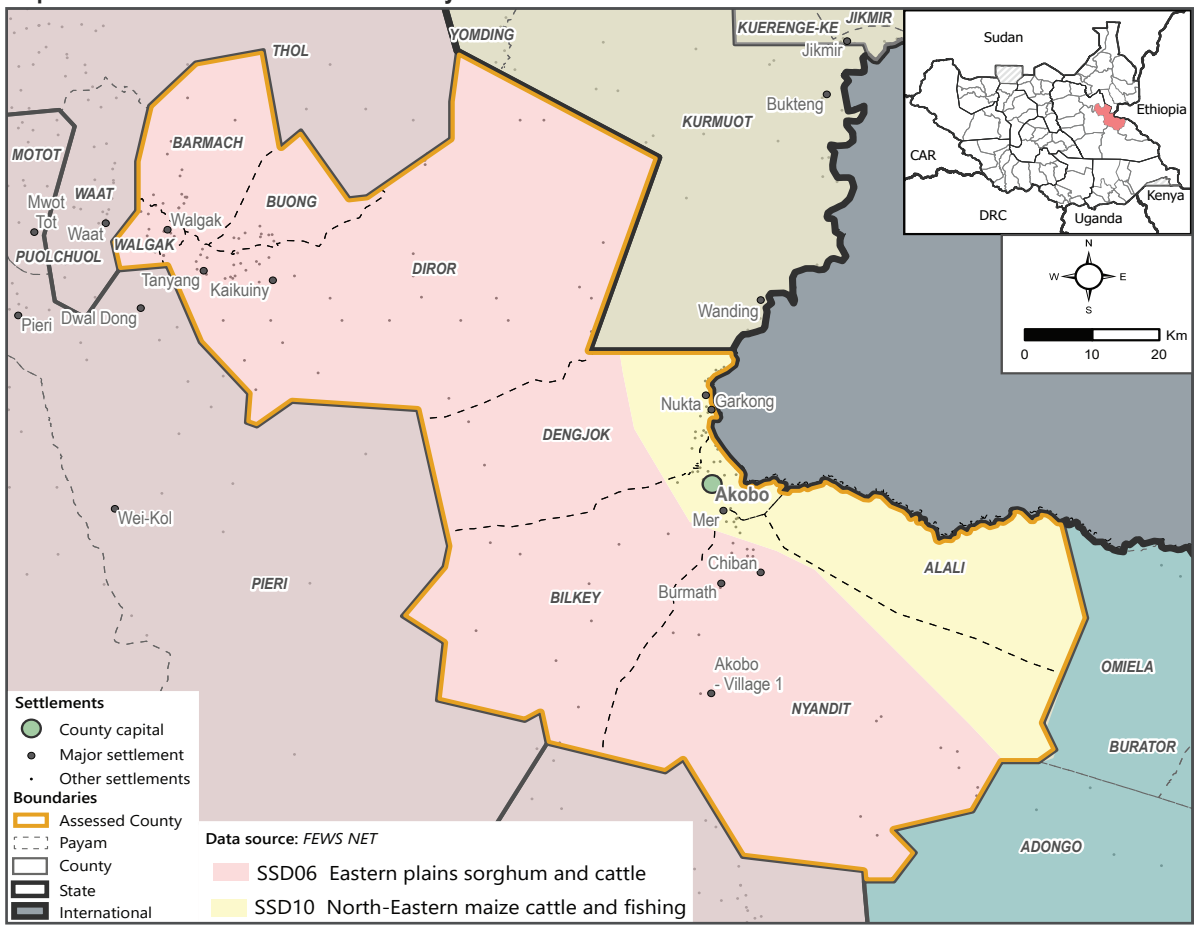
Map 5.1. Livelihood zones in Akobo County[48]



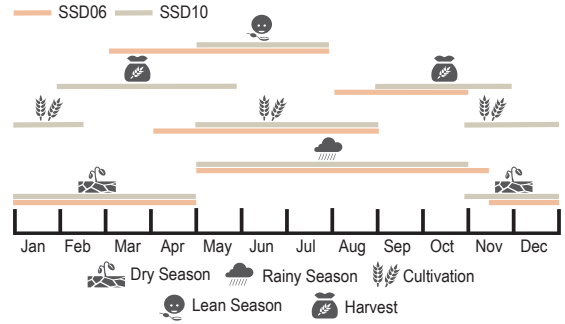
Most of Akobo's territory falls within the "Eastern plains sorghum and cattle" livelihood zone (SSD06), while **the easternmost sections of Dengjok and Bilkey payams and the whole Alali payam are part of the "North-Eastern maize, cattle and fishing" livelihood zone** (SSD10).[49]

SSD06 is mainly composed of flat, low-lying floodplains, and defined by the predominance of agro-pastoral livelihood schemes, as rain-fed agricultural activities and livestock rearing constitute the primary pillars of the local productive system.[50] Around the transboundary basin of the Akobo River, households highly depend on seasonal riverine floods for farming, fishing and livestock rearing.[51] In Akobo East, the profitability of farming along the river banks has reportedly prompted farmers to organize themselves into groups created with the aim of increasing both agricultural productivity and farmers' ability to make savings.[52] In this zone, poorer households' income generation relies on agricultural labour, brewing, as well as sale of natural products and livestock, particularly during the lean season. Better-off households are able to generate income through surplus in crop cultivation, cattle rearing and milk production.[53]

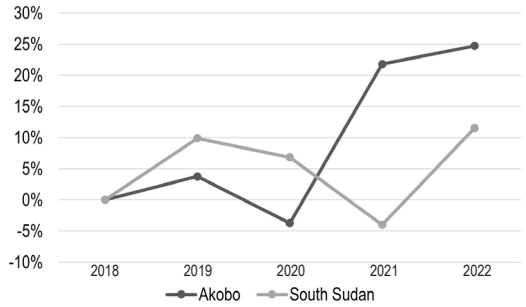
SSD10 is marked by the seasonal overflow of the Sobat River and its tributaries, the Pibor and Baro rivers, into the surrounding floodplains. These floodplains thus become highly exploitable areas for agricultural, livestock and fishing activities.[54] In this zone, agriculture, livestock rearing and sale, and the construction sector represent key sources of labor and income for poor households, alongside the sale of natural products, wild food and fish, and brewing, whilst better-off households largely rely on livestock and crop sales, as well as retail trade.[55]

The main staple crops are sorghum (SSD06) and maize (SSD10), the former cultivated between March and August, while the latter results from two annual cultivation seasons, one (from May to August) being rain-fed whilst the other (from November to mid-February) is based on water recession in previously flooded areas (Figure 5.1).[56] The proportion of households operating in the agricultural sector increased in 2019, partly due to the significant influx of previously displaced returnees induced by the 2018 peace deal, whilst the disrupting effects of the 2019 floods on crops could have played a major role in the 2020 decrease (Graph 5.2). **Net cereal production was subject to positive annual increase for most of the period between 2018 and 2022**, and was considerably above the national level in both 2021 and 2022 (Graph 5.1). **The only exception to this positive trend was in 2020, when cereal production went down by -4%** as compared to 2019. **Climatic shocks have likely played a role in sustaining the downward trend in 2020**, since crop losses were documented that year in Alali payam as a result of extreme rainfall (Section 3).

Figure 5.1. Cultivation calendar for livelihood zone SSD10 and SSD11[58]



Graph 5.1. Relative yearly change in net cereal production (2018-2022)[57]

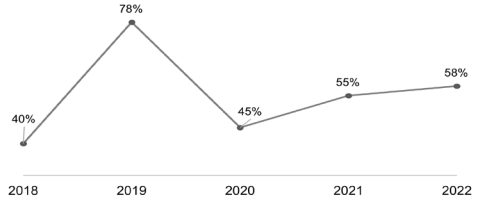


Livelihood indicators[59i]

85% of households declared **having access to land**.

Among those, **73%** reported **owning land or property** used for livelihood activities **without any official documentation**.

Graph 5.2. Proportion of households operating in the agricultural sector (2018-2023)[60]



[i] *All statistics from the IOM 2024 ISNA are representative at County level for the overall population and are drawn on a sampling frame based on the DTM R14 Mobility Tracking, Event Tracking for IDPs and returnees, and WorldPop gridded population estimates.*

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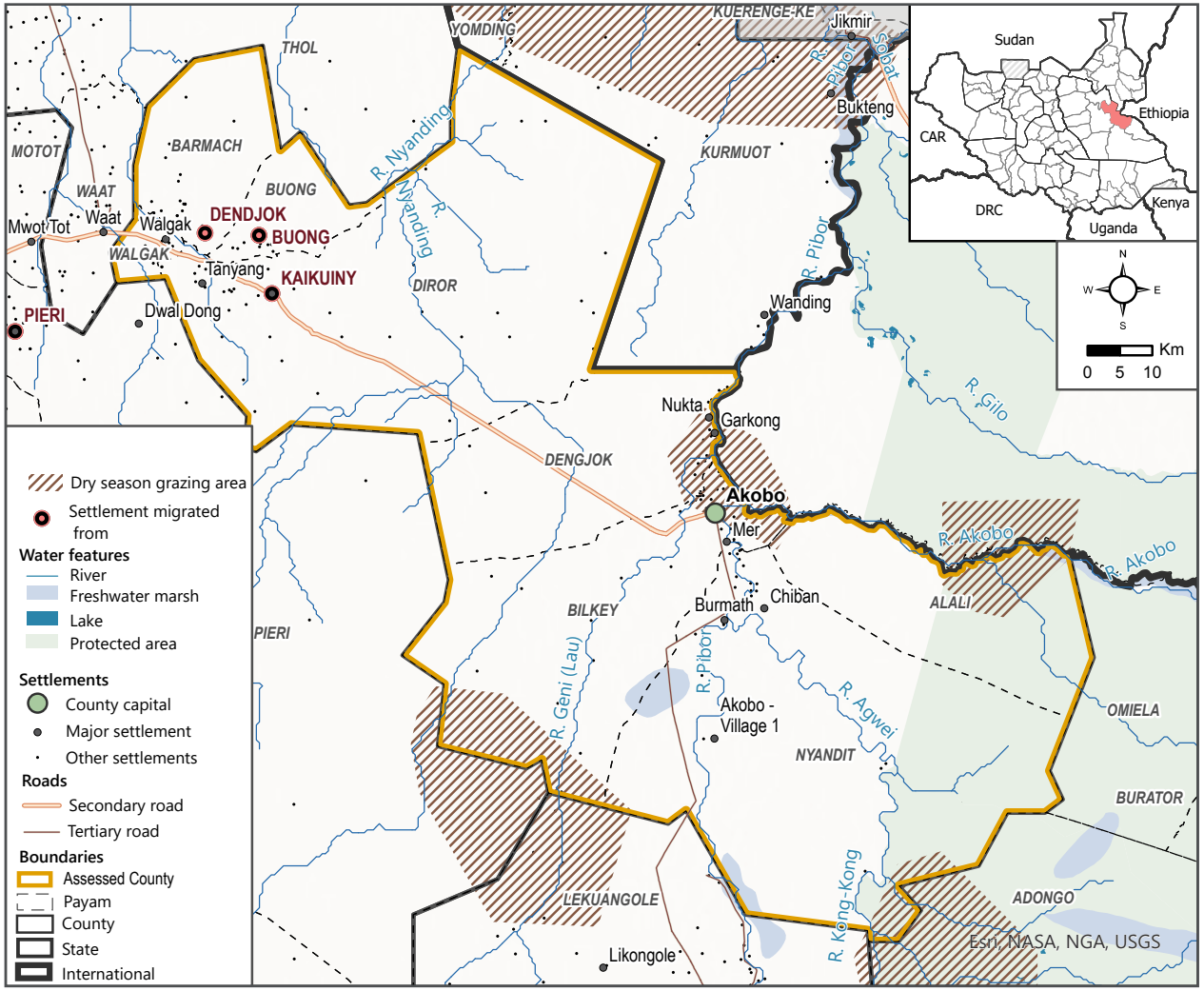
Map 5.2. Dry season grazing areas in Akobo County[61,62]



IPC Scores - 2024/2025[79]

Acute malnutrition

Jul. 2024 - Sep. 2024	Oct. 2024 - Mar. 2025 (Projected)
PHASE 4 - CRITICAL	PHASE 4 - CRITICAL

Acute food insecurity

Sep. 2024. - Nov. 2024	Dec. 2024 - Mar. 2025 (Projected)
PHASE 3 - CRISIS	PHASE 3 - CRISIS

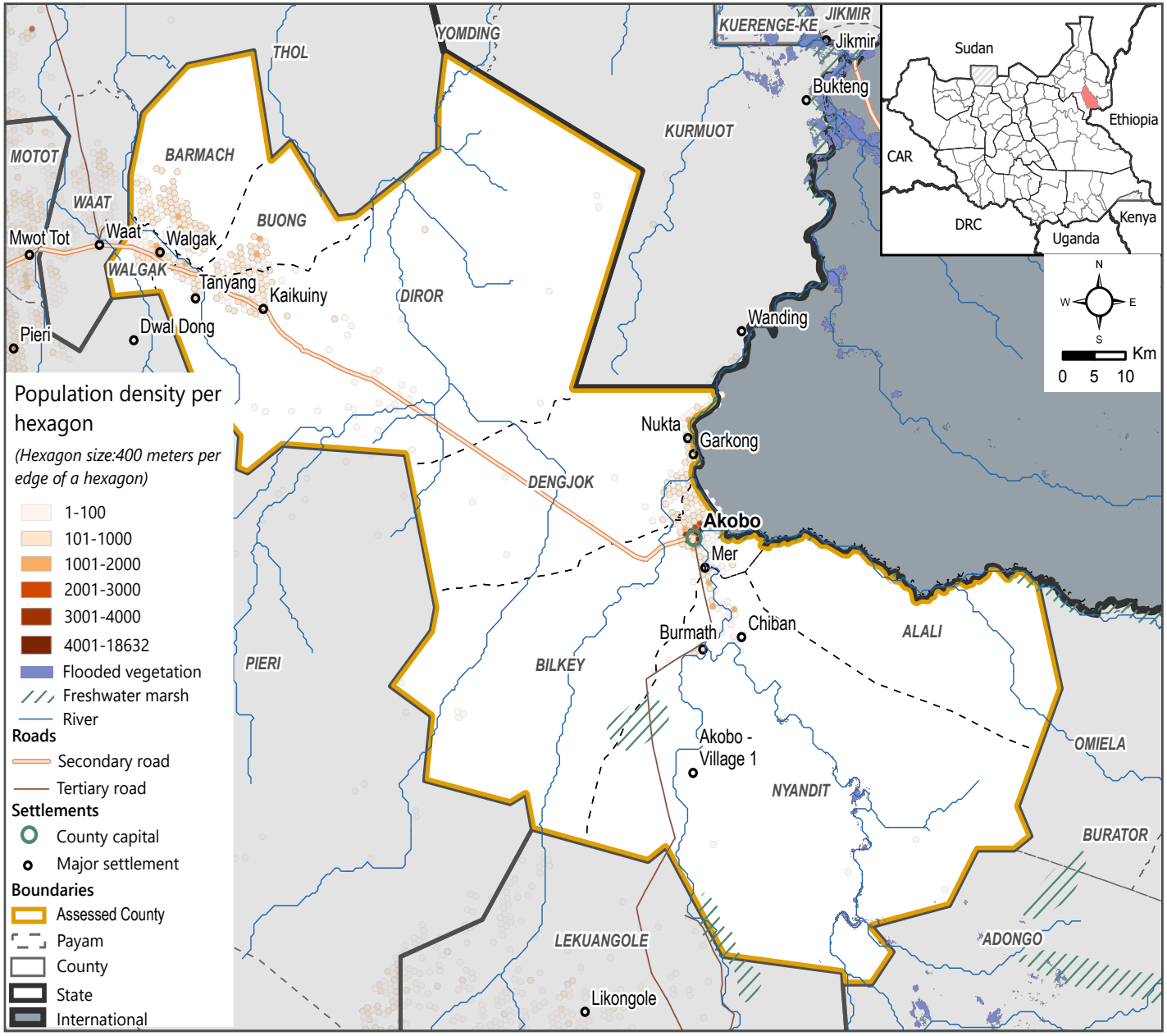
In Akobo, cattle, goats, sheep, and poultry are among the main livestock reared for both consumption and sale. Goats constitute productive assets for both poor and better-off households, whilst cattle is usually owned by better-off households.[63] **During the dry season** – and most prominently from December to April –, **herders migrate with their livestock** (particularly cattle) **towards riverine areas in search of better water and pastureland resources**. As shown in Map 5.2, important grazing areas for the seasonal migration of livestock within the County – and along its southern borders – are located along the Pibor and Akobo rivers, the Geni Lau River and the Kong Kong River. Additionally, pastoralists from the northern payams of Barmach, Buong and Diror move across the County's border to reach the pasturelands nurtured by the flood-prone area around the Sobat River basin. However, longstanding cattle raiding and competition over water resources and pasturelands have historically triggered localized conflicts and jeopardized livestock productivity in Akobo County as is the case in the broader Jonglei State and Pibor Administrative Area.[64,65] Similarly, livestock activities have been severely impacted by multiple shocks – namely floods and diseases – as well as population displacements, which have negatively affected livestock ownership and highly compromised household food consumption and income generating capacities,[66,67] as livestock sale represents a key coping mechanism for poor households during the lean season.[68]

Fishing and the collection of wild foods constitute other major livelihood activities.[69] In general, although access to food primarily relies on agricultural and livestock products, all households complement their own food supplies with wild foods and, especially poor households, with market purchases.[70]However, fishing and wild foods consumption and sale often correspond to strategies solicited in times of distress as essential coping mechanisms for households to meet their food needs. To illustrate this, REACH's rapid assessment in Akobo West and Waat reported that increased consumption of wild foods and migration to fishing areas were among the strategies adopted by households displaced in Akobo West between late 2022 and early 2023 because of insecurity and food shortages.[71] At the same time, disputes over fishing rights have long been a catalyst of localised conflicts.[72]

NGO or charity assistance also do represent key income generating activities for households in Akobo County. As per the October 2024 assessment by REACH on coping with economic hardships, reliance on external assistance was reported by 45% of the surveyed households, as well as by participants to FGDs, as a source of income.[73] Beyond that, the same assessment highlights the impact of economic shocks on employment conditions, since 69% of the households reported having an increased number of their adult members seeking a job due to economic changes.[74]

The disruption of key livelihood activities has consistently fuelled food insecurity in Akobo. According to the Integrated Food Security Phase Classification (IPC), **the County experienced acute food insecurity at the Crisis level (IPC Phase 3) and acute malnutrition at the Critical level (IPC Phase 4) between September and November 2024**, with over a quarter of the County's households depending on assistance to meet up to half of their caloric needs.[75] In particular, approx. 140,000 individuals were considered to be food insecure in Akobo (105,000 in IPC Phase 3 and 35,000 in IPC Phase 4).[76] As per the 2024 Data in Emergencies Monitoring (DIEM), Akobo was among the Counties in which over 50% of households had a poor food consumption score, with a similar proportion adopting emergency livelihood coping strategies to access food or money to buy food.[77,78]

Map 6.1. Population density across Akobo County (2023) with water sources[80,81]



Map 6.1 highlights that **population in Akobo County is unevenly distributed and highly polarized around two major areas**. The first, predominant one centres around the capital, Akobo Town, and the area of Tierguol, along the Pibor River and the border with Ethiopia. The second develops around the settlements of Walgak, Tanyang and Kaikuiny, across Walgak, Barmach, Buong and Diror payams. Due to the highly polarized nature of population distribution in Akobo County, **large sections of its territory are either sparsely populated or completely uninhabited**.

Several factors seem to contribute to the reproduction of this pattern of population distribution. **The areas with the highest population density developed around essential natural resources**, including key waterbodies providing essential fishing spots and seasonal pasturelands. Moreover, **they are situated along the major road** linking Akobo Town to the northwestern part of the County, before moving towards the neighbouring Nyirol and Uror Counties. Additionally, **most of the key existing infrastructures in Akobo County** (Map 7.1), **including its primary markets** (Map 9.1), **converge in these densely inhabited agglomerations**.

On this basis, **population distribution and patterns of displacement and return have frequently overlapped**. Indeed, the strong concentration of key infrastructures in these highly inhabited areas constituted a primary pull factor for multiple waves of population movements. According to the Focus Group Discussions (FGDs) held by REACH in 2019 for its 1983-2019 Population Movement Baseline, urban centres or towns were preferred destinations of displacement over rural areas because of the perceived greater availability of resources, income-generating opportunities as well as protection facilities.[82] However, population inflows towards major urban centres have also entailed increased pressure on existing resources and infrastructures, as reported by the household survey conducted by REACH in Walgak Town following the massive displacement driven by conflict and food insecurity in late 2022 and early 2023.[83]

Estimated population in areas with the highest density (2023)[84]

Akobo Town	Tierguol Town
83,963 individuals	40,644 individuals

Map 6.2. Key insecurity-driven population movements in Akobo County (2017-2023)[85]

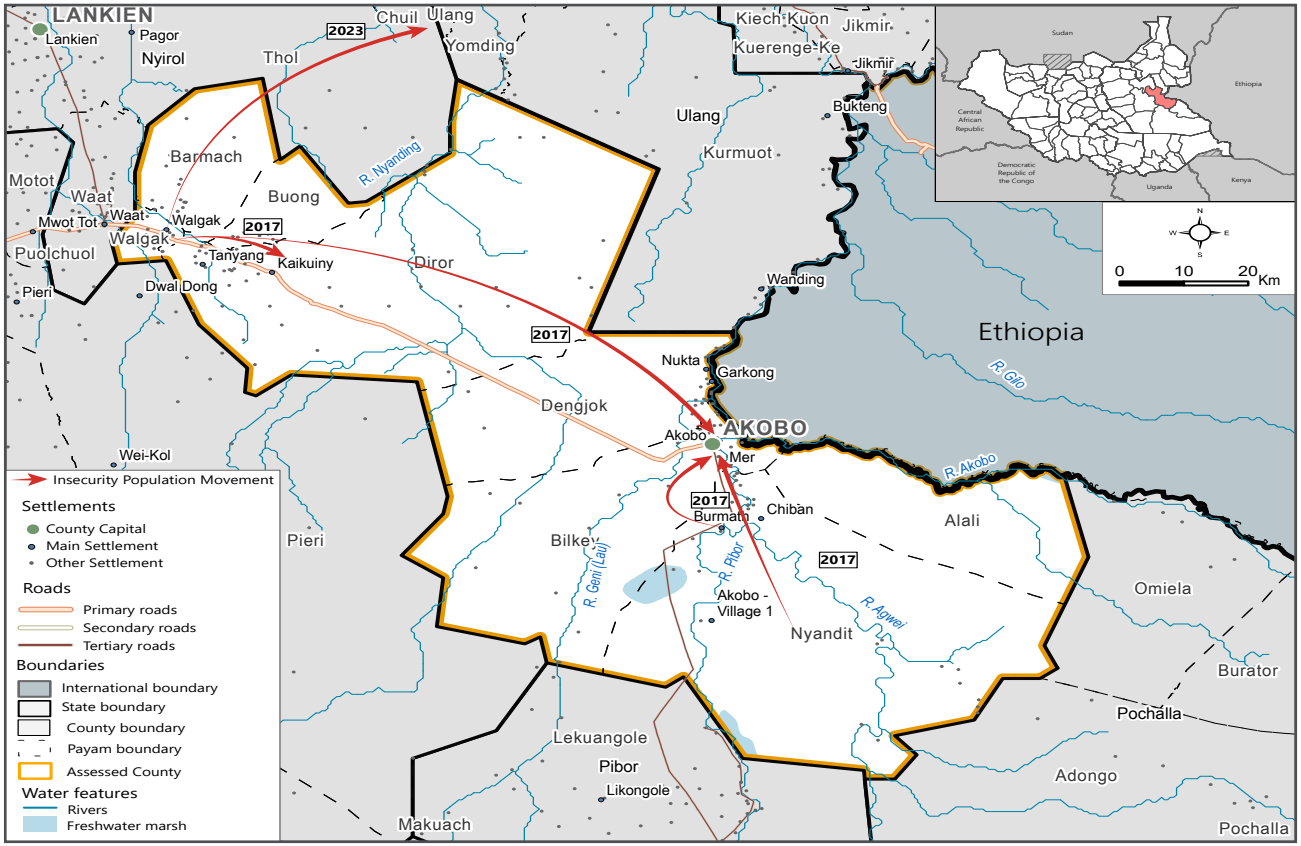
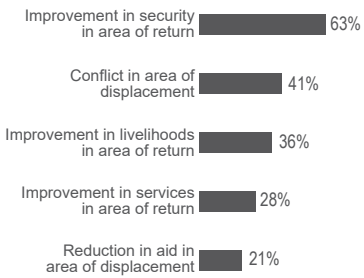


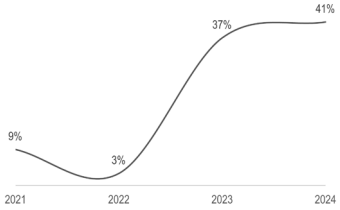
Table 6.1. Est. number of displaced persons by payam (2024)[86]

Payam	IDPs		Returnees		Relocated		Total	
	n.	%	n.	%	n.	%	n.	%
Alali	875	6%	4325	23%	150	5%	5350	15%
Barmach	2071	14%	1395	7%	404	13%	3870	10%
Bilkey	3913	26%	6493	35%	1157	36%	11563	31%
Buong	1771	12%	808	4%	43	1%	2622	7%
Dengjok	1369	9%	2080	11%	398	12%	3847	10%
Diror	2095	14%	951	5%	204	6%	3250	9%
Nyandit	810	5%	1155	6%	215	7%	2180	6%
Walgak	1968	13%	1583	8%	633	20%	4184	11%
Total	14872	100%	18790	100%	3204	100%	36866	100%

Graph 6.1. Main factors shaping households' decision of returning to Akobo (Oct. 2024)[104]



Graph 6.2. IDPs arrived in Akobo from Sudan per period of arrival (Sept. 2024)



Akobo County has experienced considerable population movements in the last decade, mostly triggered by conflict and insecurity. As shown in Map 6.2, in 2017 conflict in the Greater Akobo area (including Akobo, Nyirol and Uror Counties) displaced about 100,000 individuals from several zones, including Walgak Town, towards Akobo Town and Kaikuiny.[87] Between late 2022 and early 2023, increased insecurity in the Greater Akobo area caused the displacement of about 30,700 individuals initially to swamps in Akobo West and Waat (Nyirol County), and later to fishing areas in Southern Ulang, Akobo East, Malakal and the Sobat River basin.[88] Map 6.2 captures key insecurity-driven population movements, though not in an exhaustive way. Other major events include displacement from Uror County and Akobo West towards Akobo Town and Bor Protection of Civilian (PoC) site in early 2018, triggered by the conflict in Pieri (Uror County) and exacerbated by limited access to food and services.[89] **As of September 2024, Akobo County was home to 14,872 IDPs, 18,790 returnees and 3,204 relocated individuals** (Table 6.1).[90] Among the IDPs, 50% and 22% were displaced respectively because of conflict and clashes.[91] The latter were also reported as the reasons behind the movements of most of the returnees arrived in 2023 (98%) and 2024 (96%).[92] As compared to 2023, the number of IDPs decreased, whilst the figures of returnees and relocated people increased by 30% and 25% respectively.[93] As for the returnees, the 2024 IOM ISNA indicated that improvements in security in areas of return and conflict in areas of displacement were among the major factors influencing the decision to return (Graph 6.2).[94]

Flooding has also displaced communities in Akobo, particularly in the key flood-prone area along the Akobo and Pibor rivers. As per the February 2021 IRNA in Alali, population outflows towards refugee camps in Ethiopia resulted from multiple, consecutive climatic shocks such as floods and droughts occurred between 2015 and 2020.[95] Flooding in 2020 displaced 10,745 individuals from multiple settlements in Dengjok and Bilkey payams to more elevated areas.[96] The 2021 and 2022 floods in Bilkey, Dengjok, Nyandit and Gakdong areas displaced 4,986 and 18,792 individuals, respectively.[97,98]

Proximity to Ethiopia has historically shaped population inflows and outflows in Akobo. The 2020 Population Movement Baseline by REACH highlighted that the most prevalent cross-border movement from a single County in South Sudan was from Akobo County to Ethiopia between 1989 and 2004, as well as in 2009, 2014, and 2017.[99] Conflict was the main push factor behind these movements, while essential pull factors included the perception of better services and resources in the refugee camps located in Gambella (Ethiopia) and the presence of more secure routes than the in-country ones moving westward.[100] Akobo's location also made it a key route for displaced people from other Counties within South Sudan fleeing towards Gambella.[101] On the same basis, Akobo constitutes a major recipient of IDPs previously fled in Ethiopia. Out of the IDPs coming from abroad (33%) identified as of September 2024, most of them came from Ethiopia over the period between 2016 and 2024.[102]

Since the eruption of the crisis in Sudan in April 2023, the County has also received significant influx of returnees fleeing the war-torn Country (Graph 6.2). Of all the returnees coming from abroad (47%) identified as of September 2024, the majority arrived in 2023 (28%) and 2024 (32%), the bulk of these arrivals being from Sudan (62% in 2023 and 74% in 2024).[103]

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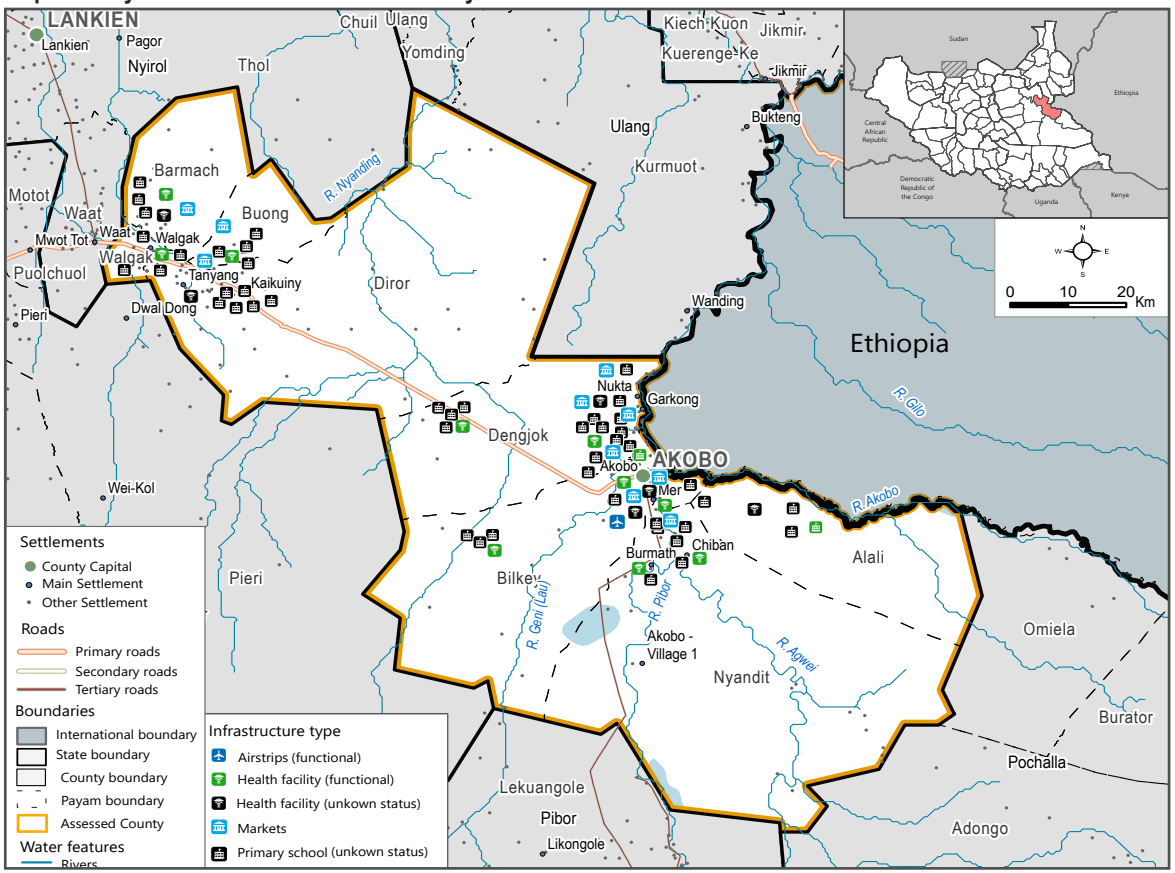
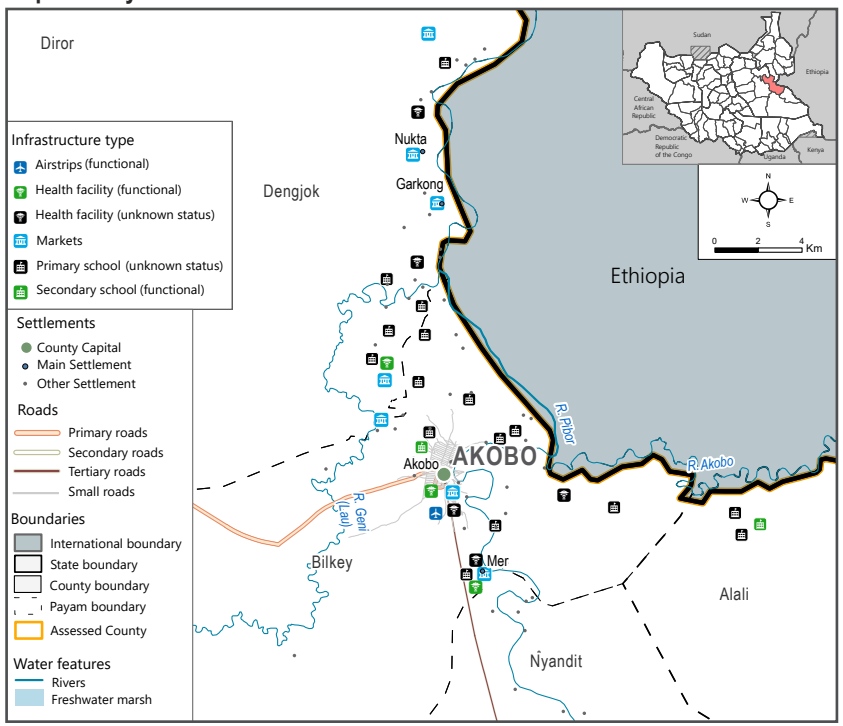
7. COMMUNITY INFRASTRUCTURE AND SERVICES

Map 7.1. Key infrastructures in Akobo County as of 2024[105,106]



Map 7.2. Key infrastructures in Akobo Town and its environs as of 2024[115,116]



WASH indicators[117]

65% of households taking between 30 minutes to < 1 hour (48%) or 1 hour to < half a day (17%) to **fetch drinking water**

28% of households felt **unsafe while collecting water** in the 2 weeks preceding data collection

59% of households **practice open defecation**

89% of households (with children < 5 y.o.) reported **open defecation as a sanitation strategy for their children < 5 y.o.**

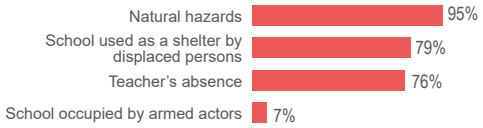
Education indicators[118]

24% of children in Akobo experienced **disruptions in their education** during the 2023-2024 school year

Health indicators[119]

73% of households reported **barriers to healthcare** in the 3 months prior to the ISNA data collection

Graph 7.1. Main disruptive events in children's education during the 2023-2024 school year (among the 24% of children affected)



Graph 7.2. Main barriers to health care reported (by the 73% of households affected)

Infrastructures in Akobo are concentrated around Akobo and Walgak towns (Map 7.1). **The County has a total of 48 schools**, including 46 primary schools whose functionality is unknown and 2 secondary schools which are functional and located in Akobo Town and Alali payam.[107] Existing data show that **the County's educational facilities have been severely affected by flooding**. The 2021 floods left many schools destroyed and others occupied by displaced populations.[108] In February 2021, key informants interviewed by the IRNA team in Alali payam reported their reliance on educational facilities situated in Ethiopia around 24 km away from Alali, as a consequence of the severe floods that had hit the payam.[109] **Conflict also played a role in disrupting the functionality of existing educational facilities in Akobo** and prompted population movements to other locations – including refugee camps in Gambella (Ethiopia) – equipped with functional schools.[110,111] According to the 2024 ISNA, 27% of school-aged children did not attend formal education programs during the 2023-2024 school year, due to insufficient usable classrooms (25%), damage to educational facilities (22%), households' inability to afford education costs (15%) and child's work at home or at the household's own farm (21%).[112] **The County's health infrastructure network is composed of 16 health facilities**, including 12 Primary Health Care Centres (PHCCs), 3 Primary Health Care Units (PHCUs) and one hospital, with 10 of these facilities reportedly functional.[113] About 3 in 4 households surveyed during the 2024 ISNA declared that access to the nearest, functional health centre by walking took 30 minutes or more (76%).[114]

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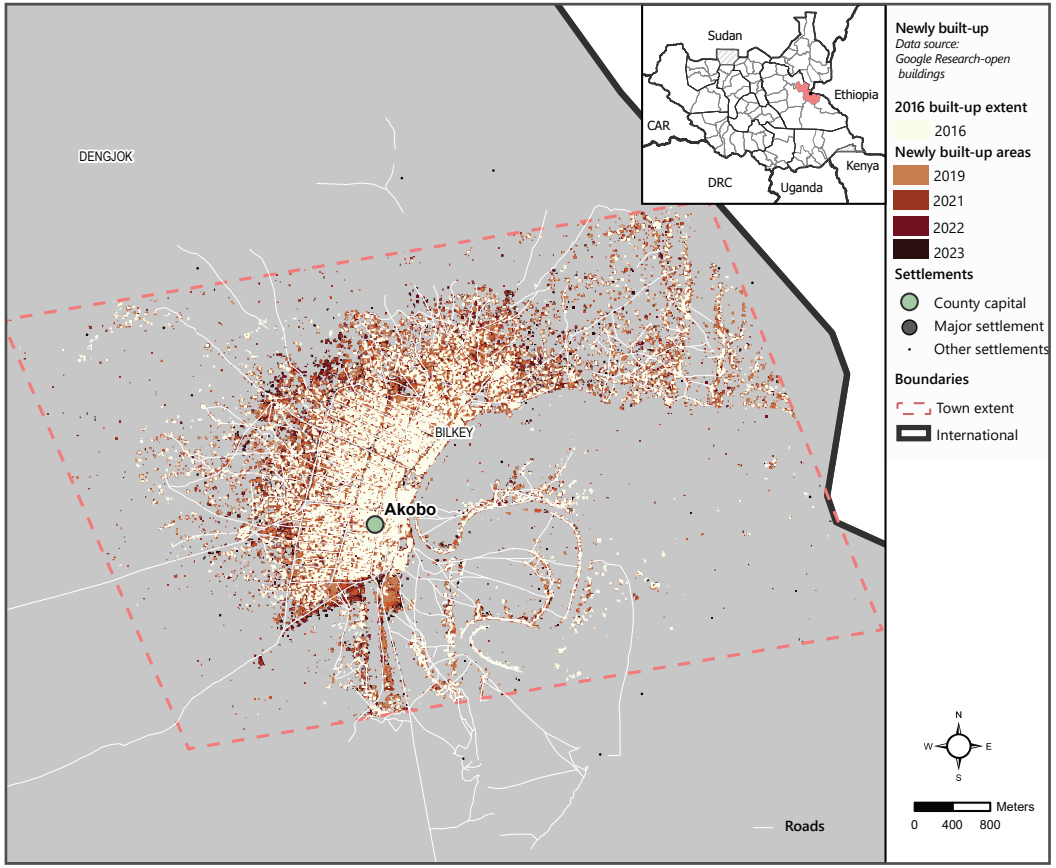
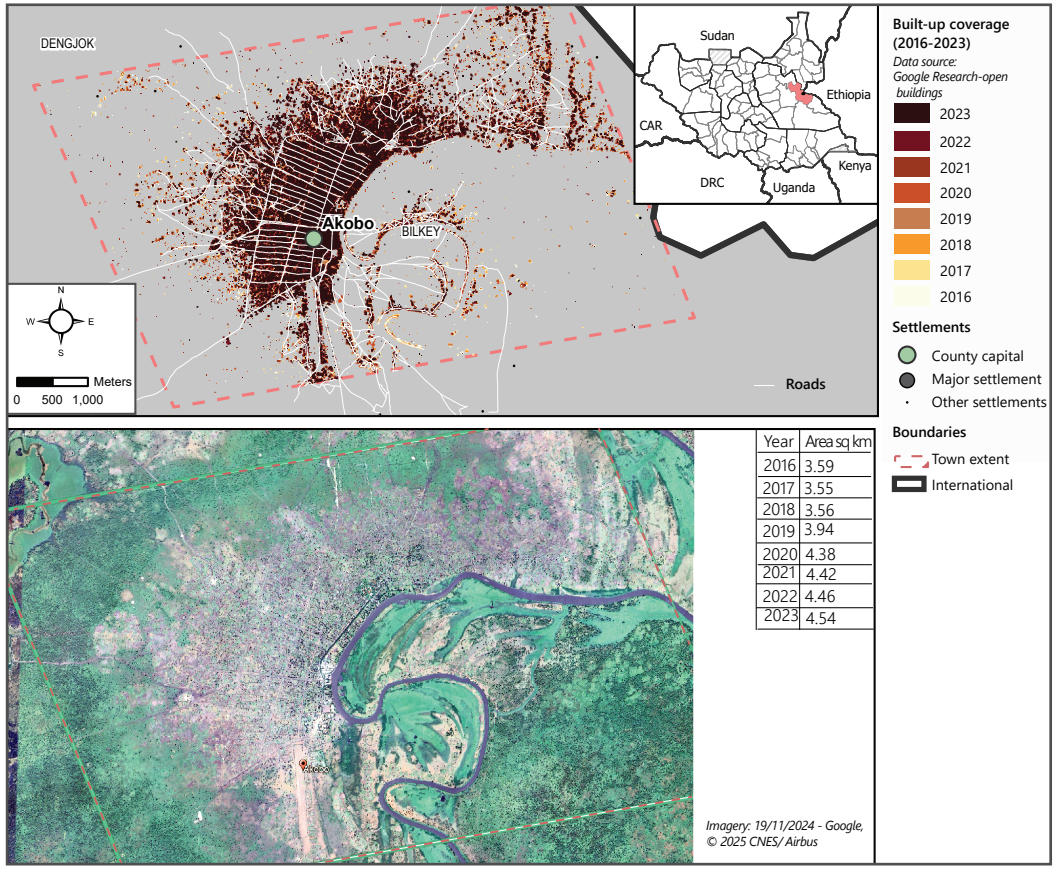
Map 8.1. Built-up extent in 2016 and newly built-up areas in Akobo Town (2017-2023)[121]



Map 8.2. Built-up coverage in Akobo Town (2016-2023)[120]



Year	Area sq km
2016	3.59
2017	3.55
2018	3.56
2019	3.94
2020	4.38
2021	4.42
2022	4.46
2023	4.54

SHELTER

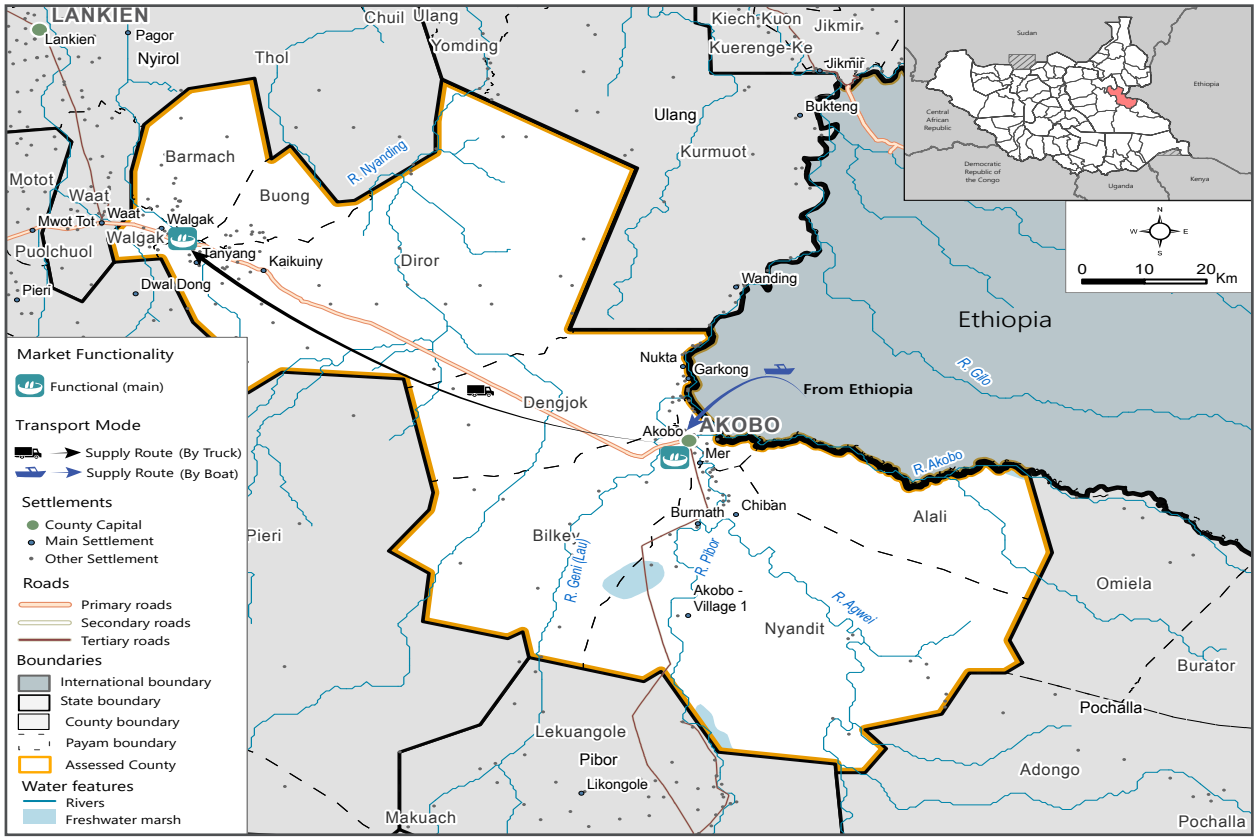
As in other parts of South Sudan, the 2024 IOM ISNA highlighted the primacy of **tukul as the most common shelter type in Akobo County**, with 88% of households reporting living in it.[122] A considerable proportion of shelters had either minor damage (48%) or were severely damaged to destroyed (18%).[123] The main reported reasons of shelter damage were ascribed to the effects of natural climate events including floods, landslides and storms (63%) and of shelter occupation by other groups or individuals (29%), as well as to households' inability to ensure shelter maintenance.[124]

SETTLEMENT CHANGE: AKOBO TOWN

Located at the easternmost side of South Sudan – with Gambella Town in Ethiopia being the closest major urban centre at about 200 km away – **Akobo Town serves as Akobo County's capital and**, with its high concentration of population as well as of key infrastructures and services, **incorporates the largest built-up area in the entire County**.

Maps 8.1 and 8.2 zoom into Akobo Town to display the evolution of its built-up area over time. On one hand, map 8.1 shows the extent of the building footprint in 2016 (lighter colour) and the progressive incorporation of newly built-up areas along its peripheral outskirts in the following years up to 2023 (darker colours). As synthetized in the table included in Map 8.2, **Akobo Town went through a process of sustained urban expansion, moving from 3.59 km² in 2016** – following the signing of the Agreement on Resolution of the Conflict in South Sudan (ARCSS) – **to 4.54 km² in 2023**. A decrease in the built-up area was documented in 2017. However, as reported by REACH, by June 2017 multiple settlements across the Greater Akobo area had suffered from shelter damage due to conflict.[125] On the other hand, map 8.2 highlights the last year buildings were seen in Akobo Town on satellite imagery. It therefore evidences that the destruction of scattered pockets of buildings was mainly located in the outskirts of the city. However, the steady growth of the town's built-up area suggests that by 2023 this was compensated by the mostly continuous expansion of the city's building footprint.

Map 9.1 Primary markets in Akobo County, indicating key supply routes and major roads[126]



MARKETS

In Akobo, the areas of Akobo Town and Walgak Town serve as the main marketplaces, surrounded by 8 additional satellite markets (Map. 7.1). According to the February 2025 Joint Market Monitoring Initiative (JMMI) by REACH, **Akobo Town's market was operating with full functionality**, while **accessibility of key supply routes was characterized by considerable disparities.**[127] Cross-border trade from Gambella (Ethiopia) to Akobo – accounting for a large amount of incoming goods for the County – benefitted from the opening of the border crossing throughout the month.[128] This allows the transit of commodities from Ethiopia not only within the County, but also to inner parts of Jonglei State, thus making Akobo Town a key commercial hub for County-level and State-level trade. The riverine transportation route from Gambella was reportedly fully open in February 2025. Access to the primary road from Waat (Nyirol County) to Akobo Town passing through Walgak Town was also open. However, other important land supply routes were either subject to irregularities in transit (Bor-Akobo road) or fully closed due to poor road conditions and insecurity (Pibor-Akobo road).[129]

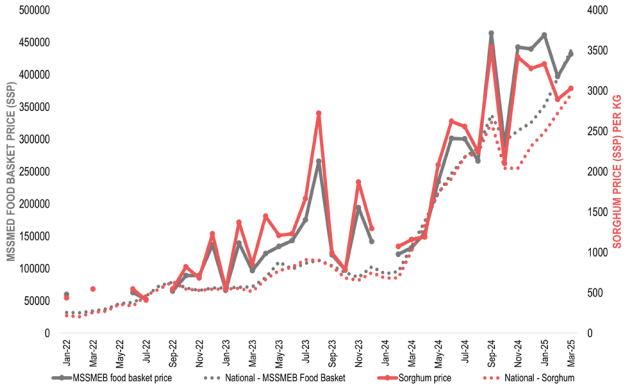
A close look at the evolution of market prices between 2022 and early 2025 (Graph 9.1) shows that **price trends for sorghum** – the main staple crop cultivated in most of the County – **and the broader food basket follow similar, erratic trajectories**. With a few exceptions, **the prices of both sorghum and the overall food basket were above the national median**, with major peaks in August 2023, November 2023, September 2024 and from November 2024 to January 2025. The downward trend in net cereal production in 2023 could have played a role in the considerable rise in food prices in November 2023, by contributing to the scarcity of locally produced crops and thus to the increase in their prices on local markets. At the same time, high reliance on food imports from Ethiopia – amid the rapid, significant depreciation of the South Sudanese Pound (SSP) and high inflation in the neighbouring Country – suggests a surge imports cost and further scarcity of commodities on local markets.[130,131] Additionally, market activities appear to be highly exposed to disruptions induced by insecurity.[132] Overall, REACH's October 2024 economic hardships assessment found that 95% of the households in Akobo rely on market purchases to meet their food needs.[133] Therefore, high market prices tend to dramatically reduce access to food for most of the County's population, while also substantially affecting vendors' capacity for income generation.

TRANSPORT

Key water bodies constitute essential transportation routes for in-County and cross-border mobility of goods and people in Akobo. The Akobo and Pibor rivers link Akobo Town to a network of strategical port towns through the river route moving northwards via Nasir and westward to Canal Town (Canal/Pigi County).[134]

Land transport is favoured by the presence of a major road connecting Akobo Town to the western part of the County through Walgak Town, before passing through neighbouring Counties, as well as by other roads, including the tertiary road connecting the County's capital to Pibor Town (Map 9.1). However, **road accessibility can be highly fluctuating and subject to seasonality**. On top of that, **road infrastructure coverage appears to be uneven distributed across the County's territory**, with large areas remaining relatively far from the main land routes, as is the case for Alali payam, for example.[135] The whole County is considered to be quite isolated as compared to other areas in Jonglei State,[136] while road infrastructures are perceived to be better in neighbouring Ethiopia.[137]

Graph 9.1. Market price trends for sorghum and the Multi-Sector Minimum Expenditure Food Basket (MSSMEB)[138]



Market prices (latest data)[139]

Sorghum price (Kg) - Akobo Town (Mar. 2025)
3% higher than the national median

MSSMEB price - Akobo Town (Mar. 2025)
1% higher than the national median

Trends in South Sudanese Pound (SSP) to United States Dollar (USD) exchange rate[140]

Countrywide
Feb. 2024 - Feb. 2025
SSP depreciated by 72.84% relative to US dollar

Akobo Town's market
Feb. 2025
SSP-USD exchange rate 25% higher than the official one

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PROJECT BACKGROUND

Building on outreach of previously realized county profiles,[i] IMPACT produced three area-based outputs focusing on Luakpiny/Nasir, Akobo and Lafon/Lopa Counties, based on pre-identified information gaps and humanitarian partners' needs, as well as return patterns and exposure to natural hazards. By means of secondary data review, the outputs highlight key features of the targeted areas, namely their climatic conditions, hydro-meteorological hazards, population and displacement patterns, existing infrastructures and services, as well as key socio-economic characteristics supported by IMPACT's JMMI in South Sudan.

[i] In 2024, IMPACT produced five County profiles in South Sudan. You can refer for example to Aweil South County Profile (March 2024).