

Brief

SOUTH SUDAN SERIES

**BRIEF ON PARTICIPATORY
GRAZING LAND MAPPING**

**MABAN COUNTY
UPPER NILE STATE
SOUTH SUDAN
JUNE 2013**

REACH

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ACTED



UNHCR
The UN Refugee Agency

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1. EXECUTIVE SUMMARY

Competition for limited resources in humanitarian emergency contexts is one major cause of conflict between refugee and host community populations. In order to better understand the demands on resources in Maban County, a combined team of REACH assessors and ACTED livestock specialists worked with refugee populations to map grazing land patterns in Maban County and beyond. This was accomplished through participatory map drawing sessions with key stakeholders. Hand-drawn maps were then transferred to computer-drawn images on satellite images of the area. Major natural features were used to verify the area in addition to identified areas of high vegetation.

OBJECTIVE

Identify trends in grazing land, including distances that herders regularly travel, shifts between rainy and dry season, and overlapping land use which may lead to conflict.

KEY FINDINGS

- Livestock is being grazed up to 40 km away from the camp for Gendrassa refugees, while in

Jamam camp, the livestock is only 10-15 km away. Gendrassa refugees take their livestock this far due in large part to limited available water points.

- Host community members graze their livestock in grazing areas approximately five kilometers from their villages during the dry season and keep livestock in the village during the wet season when grazing vegetation is abundant.
- In both Jamam and Gendrassa camps, the majority of grazing areas are north of the camp areas. This could be due to more accessible water points and grazing land to the north, or it could be due to Falata (nomadic Arab peoples) and Mabanese communities bringing their livestock south of the camps.

Some host community members have moved their livestock to family land away from the refugee camps out of fear that the refugees will steal their animals

2. BACKGROUND

With the arrival of approximately 110,000 refugees from Blue Nile State in Sudan between February 2012 and the present, the population of Maban County, South Sudan has grown nearly tenfold. Many of these refugees are traditional herders and agro pastoralists who brought their livestock with them from Blue Nile. According to a rapid assessment of the livestock situation in Maban County conducted by FAO in September 2012, the total livestock population of the host community pre-influx was approximately 61,000 heads, while refugees brought an additional 210,000 heads of livestock.ⁱ The massive increase in both human and livestock populations have strained already limited natural resources in the area. As has been noted in many refugee contexts around the world, conflict

over access to land both for agricultural and grazing purposes is both a major cause of conflict between refugees and host communitiesⁱⁱ and a limitation on refugees' ability to recover livelihoods after relocation.ⁱⁱⁱ A rapid assessment of the livestock situation in Maban County conducted by FAO in September 2012 found that potential conflict and risk of overgrazing rangelands in Maban County were of particular concern with the influx of new livestock.^{iv} Due to these concerns, a need to analyze the competing demands for land in Maban County was recognized.

3. PARTICIPATORY MAPPING

In initial interviews with livestock owners, surveyors learned that parts of some refugee-owned herds were being kept near the border with Sudan. This was done to keep livestock away from host community herds and thereby reduce tensions with the host community. However, this presented a challenge for mapping the rangelands. Because the border between Sudan and South Sudan remains insecure, it was not prudent to send surveyors to follow herds to the border with GPS handsets. Therefore, a participatory map-drawing process was designed to obtain this information without physically mapping the routes with GPS. In many cases, a participatory mapping process has a specific conflict-mitigation goal. As part of the participatory mapping process, no direct conflict mitigation activities were undertaken, although conflict frequently became part of the conversation regarding grazing land.

Map drawing was conducted with livestock owners, herders, and community animal health workers from both Jamam and Gendrassa camps and host communities. The camp sheikhs were asked to

notify stakeholders of the meeting time, those who came were self-selected based on interest in the process. Each meeting included 15-25 participants, along with REACH field surveyors and in most cases ACTED livestock or livelihoods specialists. The overall concept of the participatory mapping process was explained to the larger groups. At early meetings, the group first drew a map of the path they took to arrive in Maban County from Blue Nile before splitting into small groups to draw grazing areas. A REACH team-member drew the map based on input from the group. This was done to improve the familiarity and comfort level of the group with maps in general and with drawing. However, in later meetings it was found that this was not necessary to encourage drawing of the map and that more individuals would participate in small group work rather than in the larger group. When working in the large group, it was generally 2-3 very vocal community members who drove the discussion and the other attendees did not participate. In later meetings the process and intent of the mapping exercise was explained.



Jamam Camp herders and livestock owners draw their map with a REACH surveyor.

On some occasions it was difficult to explain the mapping exercise without giving a concrete intervention which would result. Unlike many participatory mapping exercises, there is no immediate conflict mitigation or natural resources management goal for the process. However, both of these issues invariably were introduced by participants. Both refugee and host communities have legitimate concerns regarding the health of their animals, the availability of vital resources, and ongoing conflicts between the two groups. The refugee groups complained that due to conflict and scarce water resources, they are forced to keep their animals far from their homes where there are no veterinary services available and water points are difficult to locate. The host community complained that the refugee community steals their animals and that they too are in need of vaccines and medicine for the livestock. All participants were told that the resulting maps were for informational purposes for themselves and for all humanitarian actors. Although no activities were discussed, participants were told that humanitarian actors could use the maps for planning future interventions. While this was not an entirely satisfactory reason to some, participants did remain to complete the exercise.

After this initial discussion, the meeting was split into groups of five to six persons, each group having their own paper on which to draw their grazing territory. Groups were assisted by one to two staff members, although staff members were encouraged to only intercede to ask clarifying questions, not to direct the process. First, groups were asked to identify a place on the map as their current location. From there, groups identified the direction that their herds traveled from the camp and marked the number of hours of walking between grazing or

watering points. Groups were encouraged to identify water points, villages, roads, rivers, agricultural lands, and any other points the group deemed important to their practice of livestock grazing. Some groups marked areas where conflict has occurred without prompting, others did not. The groups were also asked for the difference between their grazing practices in the rainy and dry seasons. Finally, each small group map was presented to the larger group so that any discrepancies could be discussed and the surveyors could clarify anything that was unclear.

The individual maps were then combined into a single map drawn by REACH surveyors to combine all elements into one map and resolve any conflicts existing between drawn maps. Finally this map was translated into a computer-drawn map on a satellite image. Known natural landmarks, such as rivers, villages, and water points, in addition to the approximated distances given by the participants, were used to estimate grazing areas on the maps. The size of grazing areas was determined both by the participants' reports and by identified areas of vegetation in the satellite images.

The identification of the vegetated areas through the analysis of satellite images was done using a NDVI (Normalized Difference Vegetation Index). This is a standard process that uses NIR (Near Infrared) radiation as well as visible light radiation to identify vegetation. This was an important step in the mapping process because the participatory mapping sessions of grazing land areas provided distances in hours of walking and not as a distance measurement. However, the combination of the satellite analysis and the participatory mapping produced a clear picture of where the people are grazing their livestock.

4. DISCUSSION

The map produced from information provided by Jamam refugees and host communities and Gendrassa refugees and host communities is included below.

The map shows that Jamam refugees generally keep their livestock north of the camp, although they do have livestock in one area south of the camp. The distance from the camp to the grazing area is approximately 10-15 km. The host community

villages are south of the camp. These villagers keep their cattle closer to their villages than do the refugees - approximately 5 km - and stated that in the rainy season they are able to keep cattle within the village because there is more available vegetation. Further east, communities along the Jamam road are able to graze livestock near the river north of the villages.

In Gendrassa, members of the refugee community graze their livestock very far north, near the border with Sudan. These grazing areas are up to 40 km away. This is because there are no available water points for livestock north of the camp until the river during the dry season. The herders reported that they walk one day to get to the water point and then stay there for a few days before returning to the camp. Similarly to the Jamam host community, the

Gendrassa host community keeps livestock closer to the villages. During the rainy season they also report keeping the livestock within the village. However, in some cases the Gendrassa host community moved livestock to family living further from the camp out of concern that the refugees would steal the livestock.

The map provides a basic tool for understanding natural resources management and conflict challenges facing both refugee and host communities in Maban County. More work is needed to further develop and contextualize the information, including mapping of Kaya, Yusif Batil, and Doro camp livestock and host communities.

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Production date: 20 Jun 2013



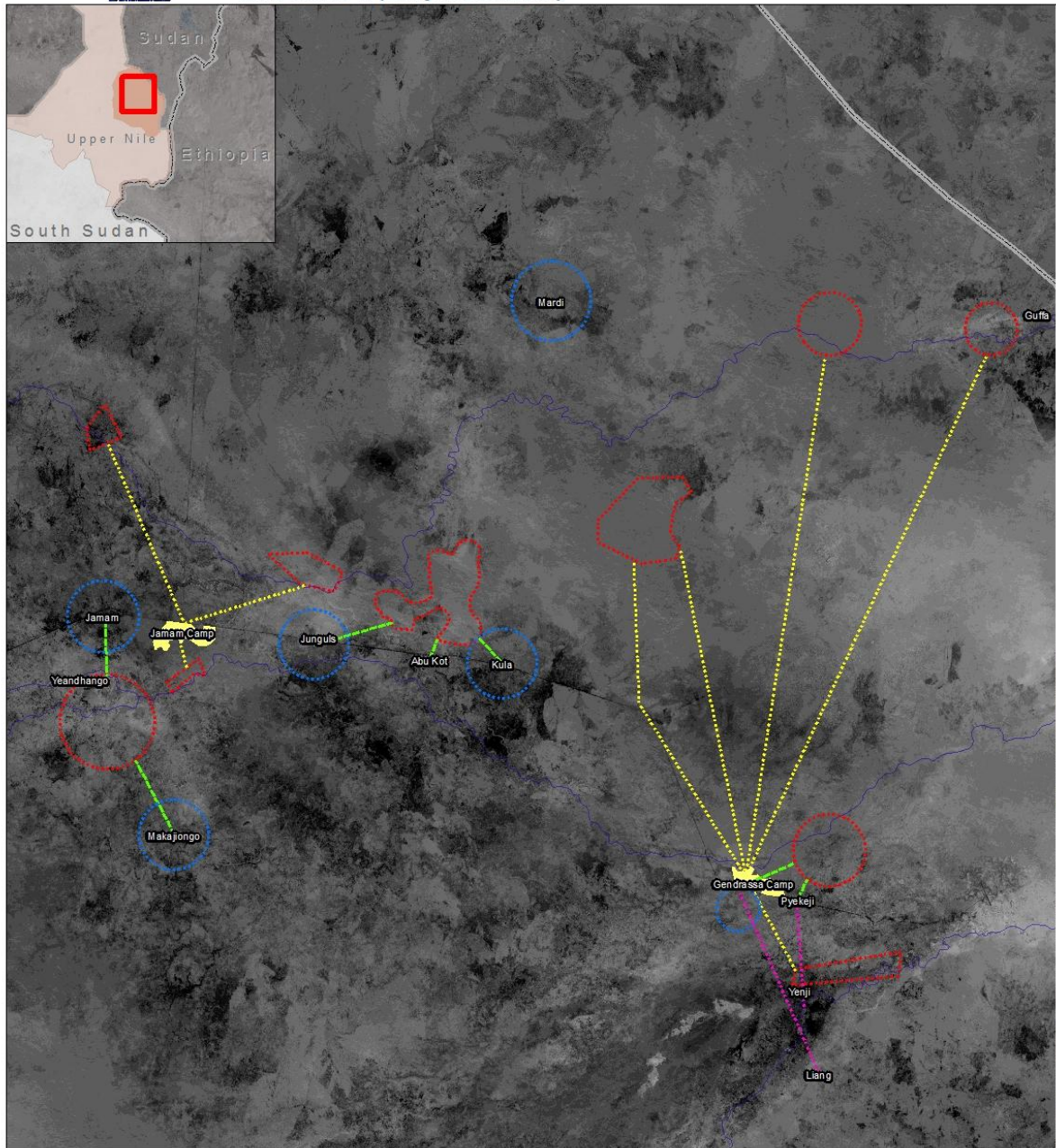
Refugee Response in Upper Nile

Grazing Patterns for Jamam and Gendrasa Populations

Inverted NDVI (Early Wet Season)



Funding Provided
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REACH Informing
more effective
humanitarian action

A program of

In partnership with

IMPACT Initiatives



Map Scale for A3: 1:240,000

0 5 10
Kilometers

Data Sources: Vector Data - ACTED;
Satellite Image - USGS
Coordinate System: GCS WGS 1984

Contact:
michael.hopfensperger@acted.org

Note: Data, designations and
boundaries contained on this map are
not warranted to be error-free and do
not imply acceptance by the REACH
partners mentioned on this map.

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Legend

- Host Community Path
- Grazing Area
- Wet Season Grazing Area Host Community
- Host Community Wet Season Animal Migration
- Refugee Grazing Path
- Camp Area
- Country boundary

NDVI
High
Low

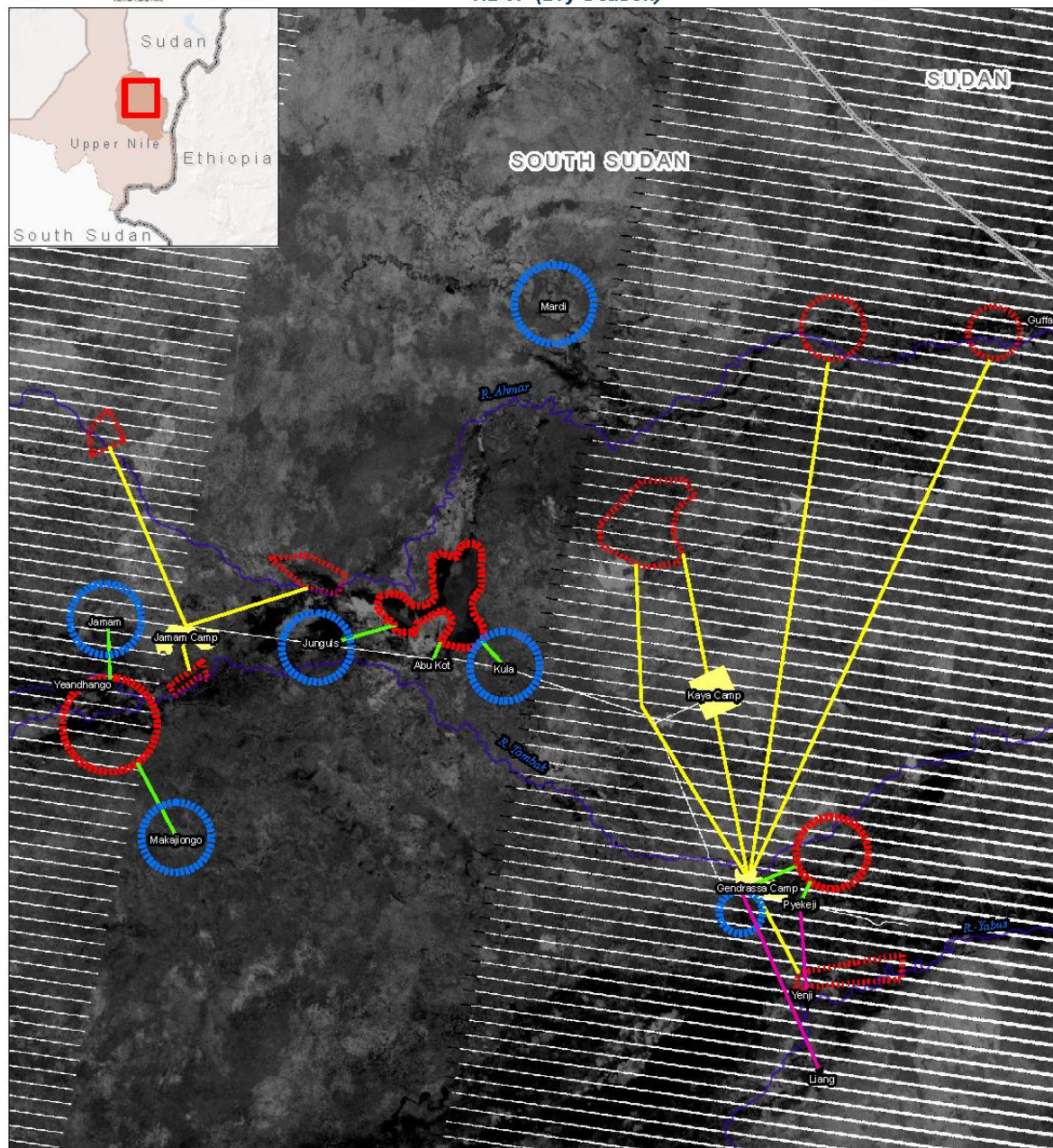
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Refugee Response in Upper Nile

Grazing Patterns for Jamam and Gendrasa Populations

NDVI* (Dry Season)



REACH Informing more effective humanitarian action

A program of

In partnership with

IMPACT Initiatives



Map Scale for A3: 1:240,000



Data Sources: Vector Data - ACTED; Satellite Image - USGS
Coordinate System: GCS WGS 1984
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* Normalized Difference Vegetation Index

Legend

- Multi Season Grazing Area
- Wet Season Grazing Area Host Community
- Host Community Wet Season Animal Migration
- Host Community Path
- Refugee Grazing Path
- Maban Road
- River
- Camp Area
- Country boundary

NDVI
High
Low

Path: D:\ReachGIS\06_mxd\Upper Nile\SS_maban_landsat_grazing_24June2013.mxd

REACH BRIEF SERIES

The REACH Brief is published on a semi-regular basis with the goal of informing the greater humanitarian community about critical issues in some of the world's humanitarian 'hotspots'. The REACH Brief is intended for humanitarian aid practitioners and international donors to provide greater clarity on some of the issues often overlooked in emergency settings. The information is mostly based on primary data collected in the field, with some secondary data to enrich the analysis.

In 2010 IMPACT launched REACH, a program that supports humanitarian and development planning through the provision of assessment, evaluation, management information systems (MIS) and geographic information systems (GIS) mapping services. REACH has been active in South Sudan since February 2012. Beginning with Jamam refugee camp, REACH has provided static maps, databases and analysis reports that have contributed to the operational set-up and management of the camp. Additional assessments and interactive web mapping efforts aimed at improved coordination among aid actors, consolidated information management systems and geo-tracking of aid provision have been rolled-out in the other Maban County refugee camps, as well as in Yida.

ⁱ "Maban Assessment Report: Livestock Livelihood based assessment," Charles Hopkins and Nimaya Mogga, FAO, September 2012, pg 3.

ⁱⁱ "Livestock-keeping and Animal Husbandry in Refugee and Returnee Situations," UNHCR, pg 20

ⁱⁱⁱ Kalyango Ronald Sebba, "Land Conflicts and their Impact on Refugee Womens' Livelihoods in Southern Uganda," New Issues in Refugee Research, No 127, UNHCR, July 2006.

^{iv} "Maban Assessment Report: Livestock Livelihood based assessment," Charles Hopkins and Nimaya Mogga, FAO, September 2012, pg 8.